

# Health & Hospitals in Italy

19<sup>th</sup> ANNUAL REPORT 2021



COLLANA

**Aiop**

Associazione Italiana  
Ospedalità Privata

**FrancoAngeli** 

This Report has been edited by **Nadio Delai**, in close collaboration with Ermeneia – Studi & Strategie di Sistema in Rome and AIOP – Italian Association of Private Hospitals.

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A.I.O.P.

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# Contents

|   |      |    |
|---|------|----|
| <b>Note</b>   | page | 9  |
| <b>Presentation</b><br>by <i>Barbara Cittadini, National President of AIOP</i>  | »    | 11 |
| <b>Part One</b>   |      |    |
| <b>THE DIFFICULT BALANCE (THAT NEEDS<br/>TO BE FOUND) BETWEEN COVID PATIENTS AND<br/>NON-COVID PATIENTS</b>   |      |    |
| <b>1. The Further Development of a “Dual-Nature” Hospital System</b>  | »    | 19 |
| 1.1. The successful experience of Italy’s mixed public and private NHS system, and how this has contributed to dealing with the pandemic through advantageous alliances | »    | 19 |
| 1.2. The continual increase of the average values of the complexity and effectiveness of hospital services  | »    | 28 |
| 1.3. Two tension factors present in the system: one pre-Covid and one in the Covid period   | »    | 45 |
| <b>2. A pandemic experience that cuts across the emergencies experienced by both Covid and non-Covid patients</b>   | »    | 50 |
| 2.1. A challenging treatment path declared by Covid patients, with some “regret”  | »    | 50 |
| 2.2. Divergences and convergences of behaviors, attitudes and priorities of care between Covid patients and the general public  | »    | 55 |

|   |      |    |
|---|------|----|
| 2.3. The penalization of non-Covid patients in terms of access and, therefore, the postponement of regular services   | page | 60 |
| 2.4. A more mature socialization of the pandemic by the general public and by Covid patients, but with a marked polarization across the board                     | »    | 66 |
| <b>3. The importance of knowing how to invest resources to rethink the National Health Service, enhancing the contribution of public and accredited operators</b> | »    | 72 |
| 3.1. The (slow) progress of the alliance between public and private hospitals brought about by the pandemic   | »    | 72 |
| 3.2. The extraordinary impact of Covid-19 on the financial statements of public Hospital Centers as part of the annual monitoring of the related budgets          | »    | 83 |

## Part Two STATISTICAL INDICATORS

|   |   |     |
|---|---|-----|
| <b>1. Facility data</b>   | » | 107 |
| 1.1. The presence of the public and private component institutions of the National Health Service | » | 107 |
| 1.2. Bed distribution   | » | 108 |
| 1.3. Medical equipment  | » | 109 |
| <b>2. Activity data</b>   | » | 123 |
| 2.1. In-hospital days and patient bed occupancy rate  | » | 123 |
| 2.2. Types of admissions and discharges   | » | 124 |
| 2.3. Prevalent DRGs   | » | 125 |
| 2.4. Activities classified according to major diagnostic categories                               | » | 125 |
| 2.5. Activities classified according to specialty   | » | 126 |
| 2.6. A brief summary of the “waves” of the Covid-19 virus   | » | 127 |
| 2.7. Services lost  | » | 130 |
| 2.8. Patient mobility   | » | 132 |
| <b>3. Staff information</b>   | » | 177 |
| 3.1. Staff fluctuation over the years   | » | 177 |
| 3.2. Staff distribution throughout Italy  | » | 178 |

|  |      |     |
|--|------|-----|
| <b>4. Spending data</b>                  | page | 184 |
| 4.1. Economic flow trends over the years | »    | 184 |
| 4.2. Health expenditure comparisons      | »    | 185 |

#### **Appendices**

|   |   |     |
|---|---|-----|
| 1. Methods applied                                  | » | 193 |
| 2. The complete list of contents of the 2021 Report | » | 232 |





## *Note*

This text is an abstract of the Report on “Ospedali & Salute”, 19<sup>th</sup> edition 2021.

The primary objective of AIOP (Italian Association of Private Hospitals) is to contribute to improving knowledge of the Italian health system at an international level, by providing European institutions, professionals and scholars with data and assessments which in some cases also relate to 2021.

Following the introduction written by the President of AIOP, Mrs. Barbara Cittadini, Part One of the abstract highlights major health issues which have emerged in the last year, and analyzes supply and demand issues, focusing in particular on the quality of services and on citizens' opinions, as expressed in a special survey.

Part Two provides a set of indicators regarding equipment, information on hospital activities and expenses, as well as a complete sample of data for the Italian hospital system as a whole.

Finally, details of the method used to conduct the survey of Italian families and a complete list of the contents of the 19<sup>th</sup> Report are also provided.



# *Presentation*

by *Barbara Cittadini, National President of AIOP*

This 19<sup>th</sup> edition of our Report can only begin with an observation: the dramatic Covid-19 pandemic made 2020 quite an extraordinary year, and 2021, with the subsequent waves of the virus, was no less exceptional.

The year 2021, however, was distinguished first by the discovery of and then the possibility of using vaccines, thanks to scientific research, and by the activation of an efficient process for their administration; additionally, the first anti-Covid drugs began to be used.

The diligence of healthcare facilities during these two years was exceptional.

AIOP facilities played an important and incontrovertibly decisive role in combating the disease in this situation, along with some other private institutes, which, during the most dramatic moments, provided a significant number of patient beds for Covid patients: almost 1,000 for intensive and sub-intensive care and 9,400 for acute and post-acute care.

Facilities not designated to operate as Covid-hospitals by regional planning offices took care of non-Covid patients from the ERs and public Covid hospitals, and thus the private facilities of the NHS were fundamental in keeping the public facilities decongested.

Today, we are experiencing an evolutionary phase of the virus, which is expected to continue – although hopefully in a less aggressive manner – also in 2022.

This further cycle of the pandemic, however, is occurring with a health organization that has greater experience and is better organized to deal with the situation.

So far it has been extraordinary.

However, the situation in place from 2020 to now has and continues to coexist with the ordinary management of the NHS which, without prejudice to the founding principles of universal and inclusive health care on which it

is based, is in a position to manage and deal with its own critical issues so abundantly apparent in the last decade.

In particular, Italy's National Health System, comprised of both public and private institutes, has to deal with four commitments which can be summarized as follows:

- respond to the needs arising from the pandemic, giving priority to Covid patients; a condition seen to be affecting mainly people who are not yet vaccinated or who have not completed the vaccination cycle;
- respond to the screening, care and intervention needs for non-Covid patients, who for two years have suffered from an interruption/deferral of inpatient services (even for urgent cases), required regular visits, scheduled interventions and those linked to chronic illnesses;
- respond to the inconveniences of citizens and users, highlighted several times by this Report in the years before the pandemic; these are inconveniences relating to the objective differences, in quantity and quality, of the services provided in the various territories throughout Italy; differences that have resulted in the creation of 21 Regional Health Services rather than spawning a more homogeneous, singular and balanced National Health Service; this is a condition that has inevitably led to lengthier waiting lists and consequent healthcare mobility flows that travel up the peninsula in search of faster and more appropriate responses;
- rethink the public financing of healthcare facilities, which have suffered heavily from the years of the spending review onwards, and which has led to an approach being adopted that has exclusively focused on what we have defined in this Report as “financial healthcare” (i.e. attentive to cost-cutting), setting aside “real healthcare” (of necessity attentive to services for citizens and users), and resulting in the creation of an implicit process of rationing and reducing the same services, a process that has become even more incisive with the arrival of the pandemic, which necessitated that responses be provided to both Covid and non-Covid patients.

Having said that, it is important to take stock of the indications contained in this year's Report.

First of all, there is a lot of evidence to indicate that the 2021 trend of the Italian hospital system witnessed a change in its “dual-nature” image, on the one hand, showing the strength capable to constantly increase the average level of the complexity of services, but on the other hand, not having the capacity to satisfactorily provide healthcare services throughout the various territories of the country.

This is a trait that has been accentuated by the tension, typical of the last two years and as yet unresolved, between the suspended needs, which have

therefore accumulated over time, of non-Covid patients – who, moreover, are mostly vaccinated people –, and the urgent needs of Covid patients who are, of late, mostly unvaccinated or only partially vaccinated.

Two specific surveys were carried out precisely to investigate this second issue.

The first was dedicated to infected patients, who gave weight to the experience they had both in terms of the seriousness of the impact on their health, and as regards the duration of treatment to which a subsequent phase known as *long Covid* was added.

This latter condition has led to a “queue” of outstanding demand for inpatient services by this category of patients, as evidenced by the explosion of the relative waiting lists.

The second survey, on the other hand, investigated the phenomenon of the suspension/postponement of inpatient healthcare services for non-Covid patients, which accumulated during the two years of the pandemic and which affected approximately 40% of the population included on the waiting lists, but with peaks that have reached up to 70% as regards interventions that had been planned and then postponed.

The result of all this is clear: we find ourselves in a very demanding situation, one which requires us to safeguard against the extraordinary and at the same time to reconsider the ordinary.

This is a dual task that can only be faced with great determination and foresight.

In other words, it is a particularly complex condition that demands innovative and courageous solutions and may entail rethinking the National Health Service itself.

At 43 years from the introduction of the NHS, such reconsideration would doubtless have been necessary regardless of the pandemic.

Indeed, the current economic situation has brought attention not only to the problems of the new emergency but also to the previous and longer-lasting ones.

It is for this reason that there is a need to partake in and consolidate a future of development of the health protection system along three main strategic lines.

The first and most immediate of these is that of rebalancing services provided to Covid patients and non-Covid patients.

In fact, the risk of not restarting and perhaps even further postponing inpatient services, with the result of causing an extensive deterioration in public health, with the relative risks of increased mortality, as is happening, for

example with cardiovascular and oncological diseases, is no longer acceptable.

In this context, it is necessary to re-imagine – as is natural – the planning of public health services with a view to potential future pandemic emergencies.

The second strategic line should be aimed at rebalancing the remuneration of the private component of the NHS within the mixed system, recognized and regulated by Legislative Decree 502/1992.

The goal here being to “break free of the single mode of thought”, produced by the spending review of 10 years ago.

This is a stance that has placed spending reduction as its fundamental objective, but not the parallel one of the reorganization of services.

The most immediate example of this is the Legislative Decree 95 of 2012: a measure that indefinitely blocked the ability to provide more services than those offered in 2011; a condition that did not take into account the progressive increase of waiting lists, healthcare mobility and the forgoing of treatment by patients in Italy.

It will similarly be necessary to consider revising Ministerial Decree 70/2015 which relates to the organization of healthcare, number of patient beds/specializations and services, a measure that once again came into being during the cost reduction phase, and without considering the healthcare needs of the individual territories and their characteristics.

To this end what is needed is a return to “innovative thinking” and a true synergy between public and private facilities, as occurred during the first year of the pandemic.

This is a path that must, however, leave room for the principle of healthy competition among different facilities, based on an assessment of the effectiveness of the results achieved and the level of management efficiency.

As always, the results should be measured by a third party to ensure objectivity and equidistance, which has, among other things, always been proposed by AIOP.

The third strategy to be undertaken is that of rebalancing the funding of health care, functionally recovering what was lost due to the double effect of the decline in public healthcare expenditure ratio to GDP and the long-term reduction of the latter during the previous financial crisis.

This ratio (frozen at 6.5%) blocked resources at the lowest level of the OECD average and even more than those of the G7 countries while the demand for healthcare grew and diversified enormously.

Speaking generally, I believe that it is truly necessary to return to the idea of “health as an investment” and no longer purely as a cost.

In this regard, it should be strongly noted that the pandemic itself has allowed us to change our perspective.

The horizon outlined with Italy's Recovery and Resilience Plan (PNRR), which provides for additional resources to be used for the structural modernization of the system through an extraordinary investment plan, also helps us to view the near future with optimism.

These three strategies that seek to bring back a balance of thought and action can, and indeed, must, be used as a start to the revision of our National Health Service. We believe we can fully contribute to this system as AIOP facilities, not only with a view to making the necessary improvements to the mixed system we enjoy, but above all to responding to the needs and expectations of the country.

This edition of the Report seeks to help us continue in the right direction, mindful, as we are, of Luigi Einaudi's clear and still valid indication: "Know in order to decide".





*Part One*

*The difficult balance (that needs to be found)  
between Covid patients and non-Covid patients*



# *1. The Further Development of a “Dual-Nature” Hospital System*

## **1.1. The successful experience of Italy’s mixed public and private NHS system, and how this has contributed to dealing with the pandemic through advantageous alliances**

The fact that for the past two years we have been dealing with the extraordinary Covid-19 situation, which entered into a fourth wave at the end of 2021, should be even further reason to appreciate the fundamental value of our mixed public and private hospital system.

Yet, this value has been evident for a long time (i.e. beginning with its establishment and regulation with Legislative Decree 502/1992) and has been borne out in this Report, by means of an objective examination (which has led to an improved response to the continually increasing demand for services and in parallel the opportunity for patients to choose the facilities most suitable for them), and, similarly through a subjective assessment that has shown clear appreciation of the mixed hospital system by citizens and users.

The arrival of the pandemic has given the already long-established coexistence of two types of facilities even greater importance, witnessing the formation of a true alliance between public hospitals and private hospitals which has made it possible to better cope with the impact of the virus through the allocation of patient beds for both Covid patients and non-Covid patients in private facilities under the overall coordination of regional health authorities.

And so – as it does every year – this section begins with a brief overview of the mixed hospital system we enjoy and is followed by two additional sections discussing the evolution of the average levels of complexity of the services, along with two different types of tension in the system, one of which was already present and one which came into being with the pandemic, specifically:

- the tension relating to the contrast between the national average level of the aforementioned services, on the one hand, and the not always consistently homogeneous quality of these in the various territories of the country, on the other;
- and the tension that developed during the pandemic between services for Covid patients, on the one hand, and, on the other, services for non-Covid patients, who have had to deal with more than significant interruptions and/or postponements of treatments and interventions during these past two years, with the relative consequences in terms of the risks of worsening their state of health.

At this point we should provide a general outline of the features of the mixed system that includes the public hospital component (comprised of different types of institutions) and the private component (which itself is made up of various types of accredited hospitals). All of these constitute the entirety of the hospital system that Italian citizens can use without any costs. The second accredited-hospital component certainly cannot be defined as marginal if we consider that it provides 28.4% of in-hospital stays for the proportionately smaller investment of 13.0% of total public hospital expenditure.

It is worth clarifying that when we talk about hospital facilities we are referring to a very complex set of types as just mentioned above.

First of all, its public facilities include hospital centers, hospitals directly managed by local health authorities (ASL, *Azienda Sanitaria Locale*), and hospital centers integrated with universities; the whole of which accounts for the greater part of current state hospital expenditures (77.0%). In addition to these are other facilities, namely public university polyclinics that are not Hospital Centers, public Institutes for Treatment and Research (IRCCS) and Public Foundations, which together account for another 10.0% of current public hospital expenditures.

The above public facilities are augmented by private ones, i.e. accredited hospitals, private university polyclinics, private IRCCS and religiously-affiliated classified hospitals. These make up the remaining 13.0% of the current National Health System hospital expenditures, as just mentioned.

In 2019 (latest available data), there were a total of 187,010 inpatient beds (a decrease of 0.8% compared to the previous year), 69.9% (130,650 units) of which were located in public hospitals and 30.1% (56,360 units) of which were located in accredited hospitals as a whole (Fig. 1). The comparison between the two sets of patient beds shows how the hospital system essentially assumes the characteristics of a mixed system (indeed one that is recognized

and regulated by Legislative Decree 502/1992), one in which the public facilities are more numerous but whose accredited component is also significant.

Public hospitals and private hospitals numbered a total of 997 units in 2019 (-0.3% compared to the previous year), with a greater percentage of the latter (56.3%) compared to the former (43.7%), again as shown in Figure 1. However, the concentration of the two types of facilities differs with respect to geographical areas, as shown by the following data taken from Figure 1 below:

| <i>Distribution %<br/>of public hospitals</i> | <i>Distribution %<br/>of private hospitals</i> |
|---|--|
| First place: South and Islands (49.0%)        | First place: North (41.6%)                     |
| Second place: North (29.4%)                   | Second place: South and Islands (37.4%)        |
| Third place: Center (21.6%)                   | Third place: Center (21.0%)                    |

If we compare the number of hospitals and the number of patient beds (again for 2019), we can see more detailed information as the chart below shows: with the average number of patient beds in public hospitals slightly decreasing compared to the number in 2018 (300 vs 303), but above all decreasing as it goes from the North (531), to the Center (254), and finally, to the South and Islands (181). The trend towards a slight decrease in patient beds is also true for accredited private hospitals as a whole (100 in 2019 compared to 101 in 2018, with a very slight increase in the North, 114 up from 113 and in the Center, 104 up from 103), as well as the average number of beds going from the North (114), to the Center (104) and finally to the South and Islands (84).

| <i>Geographical<br/>distributions</i> | <i>Public hospitals<br/>2019</i> |                                    |  | <i>Private hospitals as a whole<br/>2019</i> |                                    |  |
|---------------------------------------|----------------------------------|------------------------------------|--|--|------------------------------------|--|
|                                       | <i>No. of<br/>hospitals</i>      | <i>No. of<br/>patient<br/>beds</i> | <i>Patient beds<br/>No. of<br/>hospitals</i> | <i>No. of<br/>hospitals</i>                  | <i>No. of<br/>patient<br/>beds</i> | <i>Patient beds<br/>No. of<br/>hospitals</i> |
|                                       | North                            | 128                                | 67,994                                       | 531  | 233                                | 26,582                                       |
| Center                                | 94                               | 23,881                             | 254  | 118  | 12,222                             | 104  |
| South<br>and<br>Islands               | 214                              | 38,775                             | 181  | 210  | 17,556                             | 84   |
| Total                                 | 436                              | 130,650                            | 300  | 561  | 56,360                             | 100  |

Figure 2 depicts aspects relating to in-hospital stay flows and spending flows for the year 2019 (latest available data).

With regard to in-hospital days, it should be mentioned that these have gradually decreased over time, as shown in the list below:

- 67.9 million for the year 2011;
- 65.2 million for the year 2012;
- 62.9 million for the year 2013;
- 61.8 million for the year 2014;
- 61.2 million for the year 2015;
- 59.9 million for the year 2016;
- 58.7 million for the year 2017;
- 58.2 million for the year 2018;
- 57.5 million for the year 2019.

As can be easily calculated, the decrease between 2011 and 2019 is 15.3%, in line with the progressive push towards the reduced hospitalization of patients that the National Health Service has promoted for more than ten years. Again, in 2019 71.6% of these days were in public hospitals and the remaining 28.4% were in accredited hospitals as a whole.

The distribution of in-hospital days, for both the types of structures mentioned, shows a decreasing order of magnitude which places those concentrated in the North in first place, followed by those in the South and the Islands, and those in the Center in third place.

The following chart provides a detailed comparison:

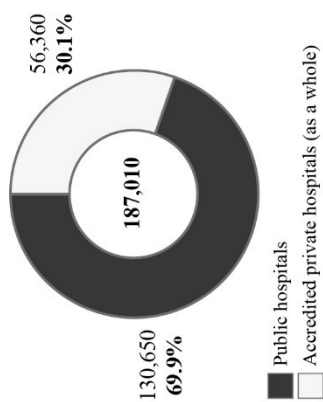
| <i>Geographical Areas</i> | <i>Distribution % of in-hospital days in public hospitals</i> |             |             |             |             | <i>Distribution % of in-hospital days in private hospitals as a whole</i> |             |             |             |             |
|---------------------------|---|-------------|-------------|-------------|-------------|---|-------------|-------------|-------------|-------------|
|                           | <i>2015</i>   | <i>2016</i> | <i>2017</i> | <i>2018</i> | <i>2019</i> | <i>2015</i>   | <i>2016</i> | <i>2017</i> | <i>2018</i> | <i>2019</i> |
| North                     | 51.4  | 48.8        | 49.0        | 49.3        | 50.1        | 47.7  | 42.7        | 43.5        | 44.4        | 45.4        |
| Center                    | 18.7  | 19.3        | 19.6        | 19.7        | 19.2        | 23.0  | 23.5        | 24.0        | 24.2        | 23.7        |
| South and Islands         | 29.9  | 31.9        | 31.4        | 31.0        | 30.7        | 29.3  | 33.8        | 32.5        | 31.4        | 30.9        |
| Total                     | 100.0   | 100.0       | 100.0       | 100.0       | 100.0       | 100.0   | 100.0       | 100.0       | 100.0       | 100.0       |

If we look instead to the flow of resources (see the second part of Figure 2 we can see that:

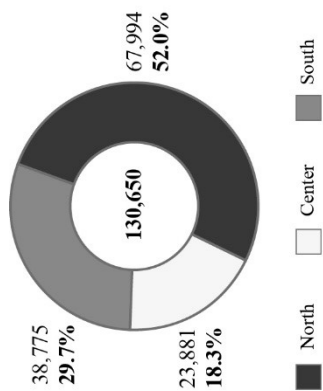
- a) total public health expenditure, equal to EUR 116.9 billion in 2019, flows more to the hospital component (56.3%) compared to the non-hospital component (43.7%). It should be recalled that the incidence of public hospital spending out of total public health expenditure fluctuates around the value just mentioned and saw slight growth from 54.5% in 2011 to 55.7% in 2017, to 55.9% in 2018, up to 56.3% in 2019;
- b) the amount of public health expenditure out of GDP places Italy on a decidedly lower level (6.5%) again in 2019 (which, however, is unchanged from 2017 to 2019 compared to the 6.7% in 2016): while the average of the G7 countries is 9.2% and that of the OECD countries 7.5%, and the average of the European OECD countries is 7.2%. It should also be men-

**Fig. 1 – Executive summary of the aggregates of the Italian hospital system: patient beds and institutions (2019)**

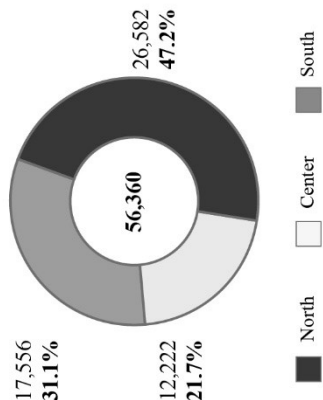
Total number of patient beds in publicly-operated and privately-operated components of the NHS



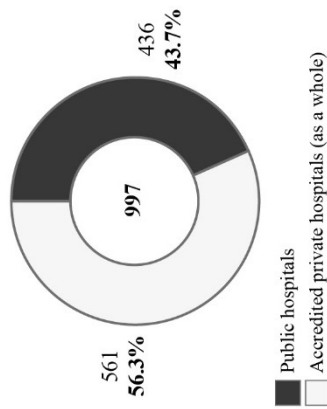
Number of patient beds in the publicly-operated component, throughout the country



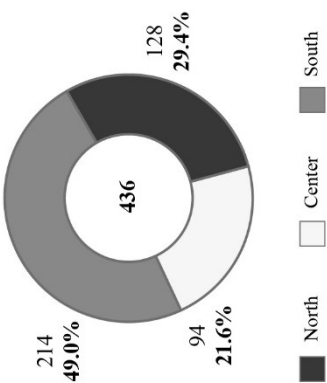
Number of patient beds in the privately-operated component, throughout the country



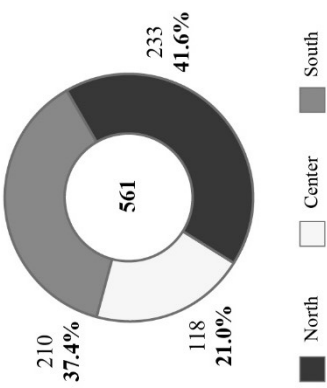
Total number of hospitals in publicly-operated and privately-operated components of the NHS



Number of hospitals in the publicly-operated component, throughout the country



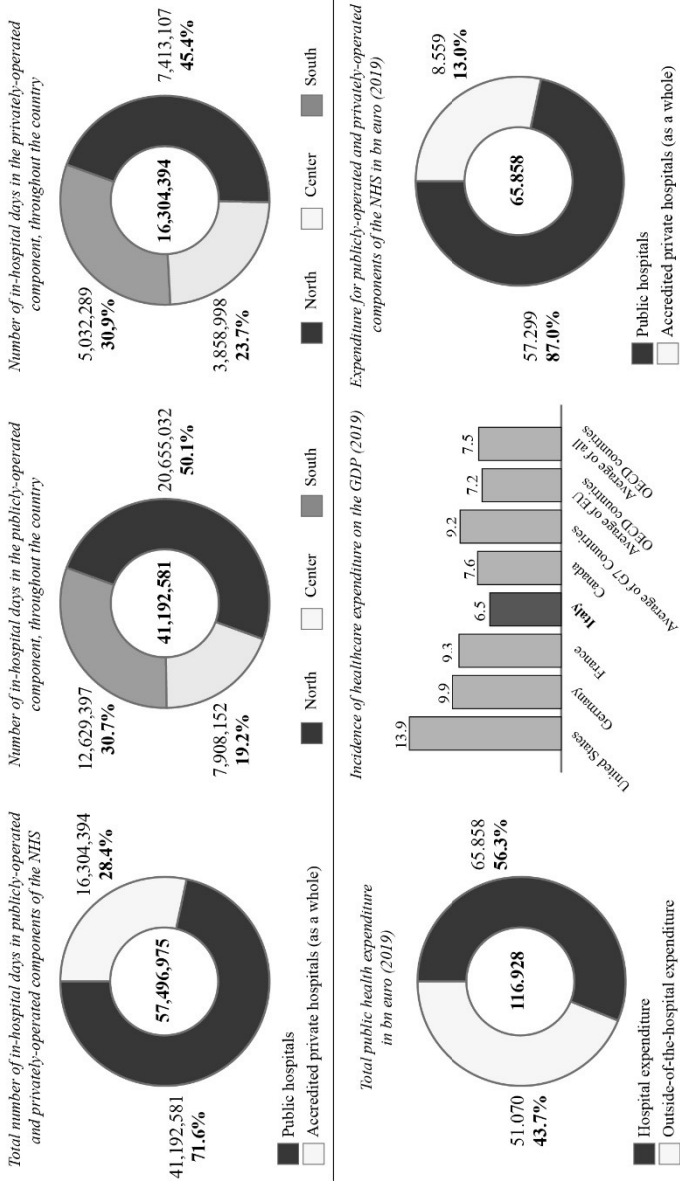
Number of hospitals in the privately-operated component, throughout the country



Source: data processed by *Ermeneta – Studi & Strategie di Sistema, 2021*



**Fig. 2 – Executive summary of the aggregates of the Italian hospital system: in-hospital days and expenses (2019)**



Source: data processed by Ermeneia – Studi & Strategie di Sistema, 2021

tioned that Italy not only had the lowest amount of public health expenditure out of GDP, as just mentioned, but also had to deal with a decrease in GDP during the toughest years of the economic crisis starting from 2008, (thereby obtaining a doubly negative result in the expenditure/GDP ratio, since the absolute values of both decreased)<sup>1</sup>.

Finally, Figure 3 provides an overall idea of all the human resources that conduct their activities within the mixed hospital system between public and accredited hospitals. Unfortunately, the latest data available are again those from 2013. The total number of employees at the time was 632,730, a drop of +0.5% from 2012. Of this, 19.7% was made up of physicians (124,428 units), 42.3% was made up of nursing staff (268,170 units) and finally, 38.0% comprised the remaining personnel (240,132 units).

The distribution of personnel throughout the country shows – approximately – the weight of hospital activities in the North (52.1% of the employees), followed by the South (27.4% of the employees) and finally by Central Italy (20.5% of the employees).

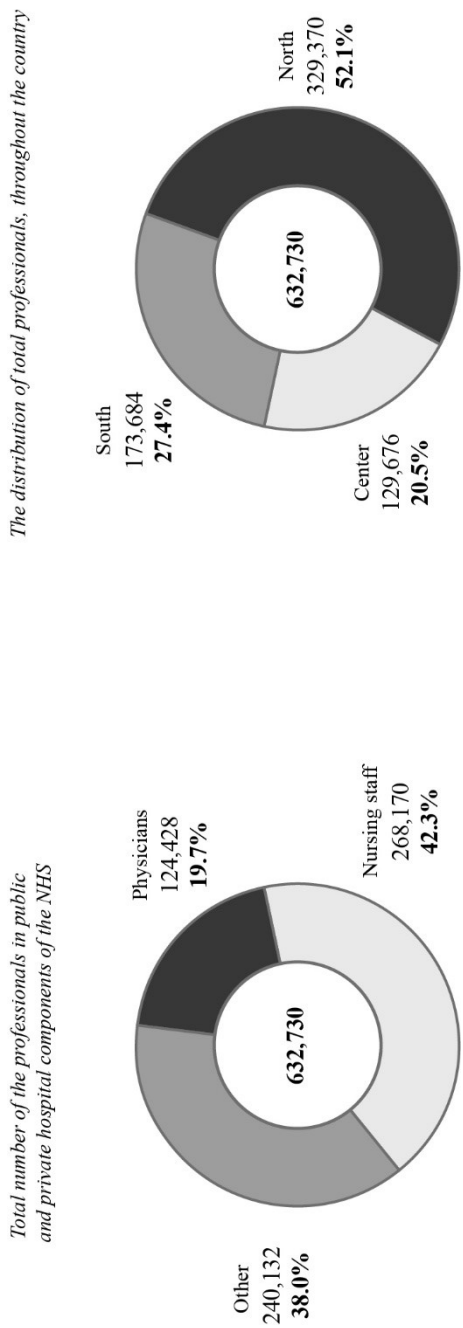
But it is clear that between 2013 and 2021 the number of personnel significantly decreased due to the progressive retirement of operators, who had already begun to leave a few years earlier, and also due to the parallel hiring freeze linked to the provisions of the *spending review* (to which from 2018 onwards may be added the number of retirees induced by the introduction of the well-known “Quota 100” [Translator’s note: Anticipated retirement scheme intended for at least 62 years old workers having accrued at least 38 years of social security contributions]).

Thus the arrival of the pandemic further increased the demand for assistance but in a context of decreasing personnel, thereby further overloading the latter, to which the stopgap response has been to hire temporary workers.

The launch of the National Recovery and Resilience Plan (PNRR) will make it possible to resume hiring and, hopefully, also undertake a truly active personnel policy based not only on the emergency but also on a medium-long term development logic: re-envisaging training, selection, permanent qualification, turnover and reorganization of human resources. And in line with this, it would be desirable to further evolve an increasingly fluid relationship between public hospitals and private hospitals, in order to provide a better overall response to the needs of users: the experience gained during the pandemic in terms of such collaboration could be further augmented.

<sup>1</sup> See Part Four/Table S/71, p. 306.

**Fig. 3 – Summary of the aggregates of the Italian hospital system: total employees (2013)**



Source: data processed by Ermeneit – Studi & Strategie di Sistema, 2021

The observations made so far have come from analyzing objective data (number of public and accredited hospitals, number of respective patient beds and in-hospital days, public expenditure for the two types of facilities, and number of employees) which provides an idea of the complexity of the “actual” hospital services.

At this point it becomes logical to ask what the subjective perception by citizens is, as well as how they behave towards the above mixed system, which is now perceived as a solid and enduring part of the collective culture.

By way of example almost 9 out of 10 citizens<sup>2</sup>:

- believe that “The accredited hospital is now a part of the overall hospital system and that they do not consider whether the facility is public or private when a hospital stay is needed, but rather take into account other factors such as the necessary specialization, the quality of the services provided, the proximity to their home, and so on.” (87.5%);
- state that “The government should make the best use of all the hospitals in the area (public and accredited), in order to allow citizens the best possible choice according to their needs, opportunities and opinions” (87.9%);
- and suggest that “Regions or local health authorities should invest in appropriate information campaigns to make citizens aware of their freedom to choose, since little is known about the various opportunities of admissions that accredited hospitals offer” (80.8%);

Moreover, the high average values of the positive opinions of the mixed hospital system are more pronounced in the case of respondents residing in the North than in the rest of the country, for those who live in medium-sized and especially large cities, for the female component compared to the male component of the population sample interviewed (due also to the fact that women are more likely to perform the role of *caregiver*), as well as for respondents who have a medium or medium-high level of education and who place themselves within a medium-high and high social class<sup>3</sup>.

And again, confirming what was mentioned in the previous point, awareness of the public legislation relating to the National Health Service, which allows the use of both public hospitals and accredited hospitals without charges to citizens, has grown over time, even if not as it might have been

<sup>2</sup> See Health&Hospitals/2020, Part One/Table 1, p. 20.

<sup>3</sup> See Health&Hospitals/2019 Report, Table A14/Population sample, Section 3 of the appendices.

seen, considering that citizens who are clearly aware of the provision that allows access to both public hospitals and accredited hospitals amounted to 41.0% in 2019 (compared to 35.5% in 2009) while 36.1% in 2019 had a vague idea (compared to 43.1% in 2009). Furthermore, the incidence of 41.0% just mentioned dropped to 34.5% with regard to awareness of the possibility of transferring, for reasons of treatment, to hospitals outside the home Region (but it was 31.9% in the 2009). And again, awareness of the possibility to travel to facilities in different countries of the European Union for hospital healthcare services was 20.5% in 2019 compared to 14.1% in 2013<sup>4</sup>.

With regard to the alliance between public facilities and private facilities (i.e. accredited hospital facilities) it bears mentioning again what was stated in the previous Report in this regard. In fact, in 2020, 958 intensive and sub-intensive care beds were made available by accredited facilities for Covid patients together with 9,401 beds for acute and post-acute patients who were infected and in need of hospitalization. These were backed up by 25,103 patient beds for activities potentially aimed at non-Covid patients, given the suspension of services deemed (at least theoretically) deferrable. In this way, a special reserve hospital system was created that can be used in every Region and at any time to address the care needs of both types of patients.

## **1.2. The continual increase of the average values of the complexity and effectiveness of hospital services**

The subjective perception of a mixed hospital system as a positive and useful resource by citizens is confirmed on an objective level if we consider the trend of the national average of statistical indicators relating to the complexity of the services provided, even if there are regional differences evident as relates to the different response capacity to patient needs by the 21 Regional Health Services that actually exist today.

The improvement in the complexity of the services provided can be illustrated first of all through two indicators that measure the aforementioned complexity: that of *average weight* and that of *case-mix*.

<sup>4</sup> See Health&Hospitals/2020, Part One/Table 1, p. 20.

If we consider the *Average weight*<sup>5</sup> we can compare the services of public hospitals to those of AIOP accredited hospitals, which shows that (Table 1):

a) the national average indicator for public institutions and accredited hospitals has continued to rise over the years indicated: even if for the first type of facility, it went from 1.23 in 2016 to 1.27 in 2019; whereas for the second type of facility *Average weight* values are more marked compared to public hospitals, and the growth is more marked, going from 1.35 in 2016 to 1.43 in 2019, and remains essentially stable at 1.42 in 2020 (inasmuch as AIOP data is available for this year);

b) then, if we look at the 2019 indicators Region by Region, we can see that public hospital facilities that manage to find a place above the national average (*Average weight*: 1.27) are concentrated in the Center-North, and specifically, in descending order:

- Tuscany (1.38);
- Piedmont (1.36);
- Marche (1.32);
- Veneto and Lazio (1.31);
- Liguria (1.29);
- Friuli Venezia Giulia and Emilia Romagna (1.28);
- while in the South we find lower *average weight* indicators.

Likewise, the *Average weight* index exceeds the national average of 1.43 in 2019, for AIOP accredited hospitals in the following regions, again in descending order:

<sup>5</sup> The average weight is a synthetic indicator of the level of complexity of the illnesses (cases) treated. It is an average of the relative weights assigned to each group of patients (DRG), weighted with the corresponding discharge numbers. The calculation formula used is the following:

$$\text{Average weight} = \frac{\left[ \sum_{g=1}^{579} (a_g N_{gh}) \right]}{\sum_{g=1}^{579} N_{gh}}$$

where:  $a_g$  = specific relative weight of each DRG;  
 $N_{gh}$  = number of discharged patients for the DRG in a single healthcare facility or in a group of facilities.

- Liguria (3.12);
- Piedmont (1.87);
- Tuscany (1.73);
- Lombardy (1.63);
- Veneto (1.60);
- Molise (1.52);
- Calabria (1.50);
- Apulia (1.49);
- Sicily (1.48);
- while in the South (except for the 4 cases above) we find lower *average weight* indicators.

Thus, in 8 Regions, the national average of the *average weight* indicator for public facilities was exceeded in 2019 and, in 9 Regions, the average for private AIOP facilities. Furthermore, in 9 Regions (mostly located in the Center-North) in addition to six Regions in the South, the *Average weight* in accredited hospitals is higher than in public hospitals. While in 4 cases (Autonomous Province of Bolzano, Autonomous Province of Trento, Lazio and Campania) the *Average weight* in 2019 is higher in public hospitals than in AIOP accredited hospitals. Finally, 4 Regions (Piedmont, Veneto, Liguria and Tuscany) exceeded the national *Average weight* in both public hospitals and in AIOP accredited hospitals: which confirms that a good territorial context positively affects the ability to provide higher quality hospital services in both types of facilities;

- c) and finally, with regard to solely the AIOP hospitals, it may be added that in 2020 the overall *Average weight* value remained that of 2019 (1.42 out of 1.43): evidently the decrease in the number of hospitalizations also affected the indicator. However, in 12 out of 20 regional systems (indicated in Table 1), this value has grown: this occurred in the Autonomous Province of Bolzano, the Autonomous Province of Trento, in Veneto and Friuli Venezia Giulia in the North, in Tuscany, Umbria and Lazio in Central Italy and in Abruzzo, Campania, Apulia, Calabria and Sardinia in the South.

As can be seen from the data mentioned so far, the *Average weight* quite clearly shows a differentiation between the Center-North, on the one hand and the South, on the other, for both types of facilities, but particularly for the public ones: this topic will be taken up again in the discussion of the “average” in section 1.3 of this Chapter 1.

At this point, the level of complexity of services can also be measured by the second type of indicator – as previously mentioned – that of the so-called

Table 1 – The quality of services measured by average weight Years 2016-2020

| Regions                 | Public hospitals |      |      |      |      | AIOP accredited hospitals |      |      |      |      |
|-------------------------|------------------|------|------|------|------|---------------------------|------|------|------|------|
|                         | 2016             | 2017 | 2018 | 2019 | 2020 | 2016                      | 2017 | 2018 | 2019 | 2020 |
| - Piedmont              | 1.30             | 1.33 | 1.35 | 1.36 | 1.84 | 1.64                      | 1.70 | 1.72 | 1.87 | 1.84 |
| - Lombardy              | 1.21             | 1.22 | 1.23 | 1.25 | 1.58 | 1.55                      | 1.59 | 1.61 | 1.63 | 1.58 |
| - A.P. of Bolzano       | 1.12             | 1.08 | 1.08 | 1.10 | 0.90 | 0.78                      | 0.82 | 0.84 | 0.88 | 0.90 |
| - A.P. of Trento        | 1.19             | 1.23 | 1.24 | 1.25 | 1.36 | 1.02                      | 1.09 | 1.14 | 1.12 | 1.36 |
| - Veneto <sup>(a)</sup> | 1.28             | 1.24 | 1.29 | 1.31 | 1.72 | 1.44                      | 1.45 | 1.52 | 1.60 | 1.72 |
| - Friuli Venezia Giulia | 1.26             | 1.27 | 1.27 | 1.28 | 1.32 | 1.27                      | 1.28 | 1.27 | 1.29 | 1.32 |
| - Liguria               | 1.27             | 1.27 | 1.29 | 1.29 | 2.74 | 2.82                      | 2.87 | 3.08 | 3.12 | 2.74 |
| - Emilia Romagna        | 1.23             | 1.25 | 1.27 | 1.28 | 1.35 | 1.36                      | 1.36 | 1.33 | 1.36 | 1.35 |
| - Tuscany               | 1.35             | 1.36 | 1.37 | 1.38 | 1.77 | 1.71                      | 1.71 | 1.81 | 1.73 | 1.77 |
| - Umbria                | 1.24             | 1.25 | 1.25 | 1.24 | 1.44 | 1.61                      | 1.63 | 1.40 | 1.38 | 1.44 |
| - Marche                | 1.26             | 1.29 | 1.31 | 1.32 | 1.29 | 1.28                      | 1.23 | 1.30 | 1.35 | 1.29 |
| - Lazio                 | 1.26             | 1.13 | 1.31 | 1.31 | 1.34 | 1.32                      | 1.30 | 1.21 | 1.26 | 1.34 |
| - Abruzzo               | 1.21             | 1.24 | 1.24 | 1.26 | 1.32 | 1.31                      | 1.32 | 1.32 | 1.31 | 1.32 |
| - Molise                | 1.10             | 1.12 | 1.14 | 1.12 | 1.50 | 1.47                      | 1.46 | 1.51 | 1.52 | 1.50 |
| - Campania              | 1.19             | 1.21 | 1.23 | 1.27 | 1.30 | 1.07                      | 1.13 | 1.20 | 1.23 | 1.30 |
| - Apulia                | 1.11             | 1.13 | 1.16 | 1.19 | 1.69 | 1.50                      | 1.45 | 1.33 | 1.49 | 1.69 |
| - Basilicata            | 1.23             | 1.22 | 1.23 | 1.24 | -    | -                         | -    | -    | -    | -    |
| - Calabria              | 1.12             | 1.14 | 1.16 | 1.20 | 1.51 | 1.44                      | 1.51 | 1.24 | 1.50 | 1.51 |
| - Sicily                | 1.18             | 1.19 | 1.20 | 1.22 | 1.36 | 1.19                      | 1.05 | 1.34 | 1.48 | 1.36 |
| - Sardinia              | 1.14             | 1.16 | 1.18 | 1.20 | 1.44 | 1.19                      | 1.24 | 1.31 | 1.30 | 1.44 |
| - Italy                 | 1.23             | 1.23 | 1.26 | 1.27 | 1.42 | 1.35                      | 1.36 | 1.37 | 1.43 | 1.42 |

All indicator values are aligned to CMS DRG version 24.0 used by the Ministry of Health since 2009. This version consists of 538 DRGs and refers to the 2007 International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) for the classification of diseases, injuries, surgeries, diagnostic and therapeutic procedures.

(a) The public institutions in Veneto also include 4 accredited hospitals associated with AIOP and under the control of USL facilities.

(b) The high average weight is due to the presence of two accredited hospitals, largely devoted to extremely specialized treatment.

Source: data processed by *Ermeneta – Studi & Strategie di Sistema* based on the *Ministry of Health and AIOP data*



Table 2 – Comparison of public hospitals and AIOP accredited hospitals, based on the “case-mix” of the services provided, Years 2016-2019

| Regions                 | Public hospitals |      |      |      | AIOP accredited hospitals |      |      |      |
|-------------------------|------------------|------|------|------|---------------------------|------|------|------|
|                         | 2016             | 2017 | 2018 | 2019 | 2016                      | 2017 | 2018 | 2019 |
| – Piedmont              | 1.04             | 1.05 | 1.05 | 1.04 | 1.31                      | 1.35 | 1.33 | 1.43 |
| – Lombardy              | 0.96             | 0.97 | 0.96 | 0.96 | 1.24                      | 1.27 | 1.27 | 1.27 |
| – A.P. of Bolzano       | 0.89             | 0.86 | 0.84 | 0.84 | 0.63                      | 0.65 | 0.65 | 0.68 |
| – A.P. of Trento        | 0.95             | 0.98 | 0.96 | 0.95 | 0.81                      | 0.87 | 0.88 | 0.86 |
| – Veneto (a)            | 1.02             | 0.99 | 1.00 | 1.00 | 1.15                      | 1.15 | 1.18 | 1.24 |
| – Friuli Venezia Giulia | 1.01             | 1.01 | 0.99 | 0.98 | 1.01                      | 1.02 | 0.99 | 1.00 |
| – Liguria (b)           | 1.02             | 1.01 | 1.00 | 0.99 | 2.25                      | 2.28 | 2.39 | 2.42 |
| – Emilia Romagna        | 0.98             | 0.99 | 0.98 | 0.98 | 1.09                      | 1.09 | 1.08 | 1.09 |
| – Tuscany               | 1.08             | 1.08 | 1.06 | 1.05 | 1.36                      | 1.36 | 1.40 | 1.35 |
| – Umbria                | 0.99             | 0.99 | 0.97 | 0.95 | 1.29                      | 1.30 | 1.29 | 1.29 |
| – Marche                | 1.00             | 1.02 | 1.01 | 1.01 | 1.02                      | 1.00 | 1.01 | 1.05 |
| – Lazio                 | 1.00             | 0.90 | 1.01 | 1.00 | 1.05                      | 1.03 | 0.97 | 0.98 |
| – Abruzzo               | 0.97             | 0.98 | 0.96 | 0.97 | 1.04                      | 1.09 | 1.08 | 1.09 |
| – Molise                | 0.87             | 0.89 | 0.89 | 0.86 | 1.18                      | 1.16 | 1.17 | 1.18 |
| – Campania              | 0.95             | 0.96 | 0.96 | 0.97 | 0.85                      | 0.92 | 0.93 | 0.95 |
| – Apulia                | 0.89             | 0.90 | 0.90 | 0.91 | 1.19                      | 1.15 | 1.06 | 1.16 |
| – Basilicata            | 0.98             | 0.97 | 0.95 | 0.95 | -                         | -    | -    | -    |
| – Calabria              | 0.89             | 0.90 | 0.90 | 0.91 | 1.15                      | 1.20 | 0.96 | 1.29 |
| – Sicily                | 0.94             | 0.95 | 0.93 | 0.93 | 0.96                      | 0.90 | 1.04 | 1.13 |
| – Sardinia              | 0.91             | 0.92 | 0.92 | 0.92 | 0.95                      | 0.99 | 1.02 | 1.02 |
| – Total                 | 0.98             | 0.98 | 0.98 | 0.97 | 1.08                      | 1.08 | 1.08 | 1.11 |

All indicator values are aligned to CMS DRG version 24.0 used by the Ministry of Health since 2009. This version consists of 538 DRGs and refers to the 2007 International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) for the classification of diseases, injuries, surgeries, diagnostic and therapeutic procedures.

(a) The public institutions in Veneto also include 4 accredited hospitals associated with AIOP and under the control of USL facilities.

(b) The high average weight is due to the presence of two accredited hospitals, largely devoted to extremely specialized treatment.

Source: data processed by *Ermeneta – Studi & Strategie di Sistema* based on the *Ministry of Health and AIOP data*

*case-mix*<sup>6</sup>. The values in Table 2 below permit the following considerations to be made:

- a) both types of facilities have witnessed stabilization of this indicator value: it has remained fixed at 0.98 for the first three years 2016-2018 and contracted slightly to 0.97 for 2019, with regard to public hospitals, whereas for AIOP accredited hospitals a trend towards continuity emerges, given that the index remains at 1.08 in 2016, 2017 and 2018, but then, contrary to the public facilities, rises to 1.11 in 2019;
- b) the national case-mix indicator for hospitals accredited with AIOP appears permanently higher than that of the public hospitals in all cases, as can be seen by comparing the data of the last line in Table 2;
- c) the Regions that exceed the national average (0.97 in 2019) with respect to public institutions are 8 (compared to 7 the previous year), specifically:
  - Piedmont (1.04);
  - Veneto (1.00);
  - Friuli Venezia Giulia (0.98);
  - Liguria (0.99);
  - Emilia Romagna (0.98);
  - Tuscany (1.05);
  - Marche (1.01);
  - Lazio (1.00).

<sup>6</sup> The case-mix index constitutes a second synthetic (more detailed) indicator of the complexity level of illnesses treated. It expresses the complexity of the cases treated by a department, a hospital or a unit, compared to the complexity of the case for the entire regional or national hospital system. Case mix levels greater than 1 are associated with a complexity higher than the average for the system in question. The calculation formula used is the following:

$$\text{Case mix index} = \frac{\left[ \sum_{g=1}^{579} (a_g N_{gh}) \right] : \sum_{g=1}^{579} N_{gh}}{\left[ \sum_{g=1}^{579} (a_g N_{gr}) \right] : \sum_{g=1}^{579} N_{gr}}$$

where:  $a_g$  = specific relative weight of each DRG;  
 $N_{gh}$  = number of discharged patients for the DRG in a single healthcare facility or in a group of facilities;  
 $N_{gr}$  = number of discharged patients for the DRG for the system in question (e.g. regional, national total).

Please note that the case-mix index is weighted with the complexity of cases of the entire regional hospital system, whereas the average weight index is weighted only with the number of discharges: consequently, the average weight index ends up reducing the variable scope of the indicator itself which must take account of the context.

The same process, applied to AIOP accredited hospitals (again for the year 2019) sees 10 Regions exceed the *Case-mix Index* of 1.11; the Regions are:

- Piedmont (1.43);
  - Lombardy (1.27);
  - Veneto (1.24);
  - Liguria (2.42);
  - Tuscany (1.35);
  - Umbria (1.29);
  - Molise (1.18);
  - Apulia (1.16);
  - Calabria (1.29);
  - Sicily (1.13);
  - while 6 Regions of the Center-North (Autonomous Province of Bolzano, Autonomous Province of Trento, Friuli Venezia Giulia, Marche, Emilia Romagna and Lazio) and three 3 Regions in the South (Abruzzo, Campania and Sardinia) fall below average *Case mix* index;
- d) and finally, for the year 2019, the comparison between the *Case-mix index* of public hospitals and that of AIOP accredited hospitals almost always shows a better position for AIOP facilities, except in the case of the Autonomous Provinces of Bolzano and Trento, Lazio and Campania.

It goes without saying again in this case that the issue of unsatisfactory “average level” of the lower *case-mix* indicators tends to penalize the South, as regards the public facilities and certainly not for the private (accredited) facilities.

The indicators that appear above the national average for each year and for both types of facilities have been highlighted as was done for the *Average weight* table above.

In addition to the two indicators considered, a further one can be identified which measures the level of complexity of the services provided by the different types of hospitals in an exemplary and accurate way. Table 3 indicates 16 highly specialized DRGs and their incidence per 1,000 discharged patients in the two types of hospital facilities considered, namely public hospitals and those AIOP accredited and associated hospitals. What can be noted is that (see Table 3):

- a) the average incidence of the complexity of the services of public hospitals increases over the three-year period 2017-2019, going from 26.9‰ to 29.8‰; the similar percentage incidence for hospitals accredited and associated with AIOP also increases over the three-year period, rising from 29.9‰ to 32.0‰: thus exceeding in the outer years (2017, on the one hand

and 2019, on the other) the corresponding values of public hospitals, while it shows a slight decrease compared to the latter for the middle year 2018 (27.7‰);

- b) a comparison, no longer on the basis of the overall average incidence but for each DRG and again with reference to the year 2019, shows the private facilities accredited by Aiop to have a greater complexity for 10 services out of the 16 indicated in Table 3: while the services of public facilities are better for DRG 110 (Major cardiovascular system procedures with cc), for DRG 547 (Coronary bypass w cardiac cath w major cv dx), for DRG 549 (Coronary bypass w / o cardiac cath w major cv dx), for DRG 551 (Permanent cardiac pacemaker implant w major cv dx or AICD lead or GNRTR), for DRG 552 (Other permanent cardiac pacemaker implant w/o major cv dx), and finally, for DRG 553 (Other vascular procedures w cc w major cv dx).

A further way to measure hospital services is to compare the incidence of cases of high, medium and low complexity of the aforementioned services on the basis of another method described in the notes of the following Table 4: all with reference to the national average, to that of the territorial districts, to the individual Regions as well as to the two types of hospitals, public and private. It should be mentioned that in this instance we are talking about the private hospital component (accredited facilities), including private polyclinics, IRCCS and private foundations, religiously-affiliated classified hospitals, USL facilities, research agencies and, finally, accredited private hospitals.

The trend in the complexity of services in the five-year period 2015-2019 shows how (Table 4):

- a) the incidence of highly complex services appears to be increasing at the national average level over the five years considered (see the last line of Table 4): and this applies both to the public component which gradually increases from 14.4% in 2015 to 16.1% in 2019 and for the private component which goes from 18.7% in 2015 to 23.8% in 2019. Moreover, the private hospital component has a clear advantage over the public component, both as applies to the individual values shown in the table and to the percentage increases year by year. At the same time, the average complexity of services for the public facilities increases, albeit slightly (from 34.0% to 36.2% in the five-year period) and the same happens for the second type of facilities considered (from 30.7% in 2015 to 32.4% in 2019), although both show smaller increases. On the contrary, low complexity services decreased for both types of facilities but in a more pronounced way for the accredited facilities: from 50.6% in 2015 to 43.8% in 2019 (compared to the drop from 51.7% to 47.8% for public facilities);

Table 3 – The quality of public and AIOP accredited hospital services, as measured by the incidence rates of extremely specialized<sup>(a)</sup> DRGs<sup>(\*)</sup>

| DRG  | Private hospitals<br>(Incidence<br>per 1,000 discharged patients) |               |               | Private hospitals (accredited and<br>associated to Aiop)<br>(Incidence<br>per 1,000 discharged patients) |               |               |
|--|---|---------------|---------------|--|---------------|---------------|
|  | 2017  | 2018          | 2019          | 2017   | 2018          | 2019          |
|  | 104 Cardiac valve & oth major cardiothoracic proc w card cath     | 1.632         | 1.864         | 2.034  | 6.750         | 6.426         |
| 105 Cardiac valve & oth major cardiothoracic proc w/o card cath        | 1.556   | 1.744         | 1.861         | 2.468  | 1.794         | 2.139         |
| 106 Coronary bypass w PTCA   | 0.041   | 0.050         | 0.052         | 0.169  | 0.113         | 0.120         |
| 108 Other cardiothoracic procedures                                    | 0.478   | 0.551         | 0.650         | 0.846  | 0.702         | 0.859         |
| 110 Major cardiovascular procedures w cc                               | 1.587   | 1.707         | 1.734         | 1.056  | 0.824         | 0.923         |
| 111 Major cardiovascular procedures w/o cc                             | 1.597   | 1.694         | 1.784         | 2.257  | 2.027         | 2.605         |
| 515 Cardiac defibrillator implant w/o cardiac cath                     | 1.601   | 1.618         | 1.681         | 1.897  | 2.011         | 2.257         |
| 535 Cardiac defib implant w cardiac cath w ami/hf/shock                | 0.342   | 0.395         | 0.394         | 0.764  | 0.867         | 1.020         |
| 536 Cardiac defib implant w cardiac cath w/o ami/hf/shock              | 0.386   | 0.429         | 0.437         | 0.574  | 0.510         | 0.601         |
| 547 Coronary bypass w cardiac cath w major cv dx                       | 0.200   | 0.177         | 0.192         | 0.163  | 0.083         | 0.099         |
| 548 Coronary bypass w cardiac cath w/o major cv dx                     | 0.396   | 0.401         | 0.403         | 1.211  | 1.188         | 1.296         |
| 549 Coronary bypass w/o cardiac cath w major cv dx                     | 0.195   | 0.203         | 0.206         | 0.243  | 0.103         | 0.140         |
| 550 Coronary bypass w/o cardiac cath w/o major cv dx                   | 0.724   | 0.726         | 0.778         | 2.075  | 1.433         | 1.360         |
| 551 Permanent cardiac pacemaker impl w maj cv dx or aicd lead or gnrrt | 1.608   | 1.647         | 1.690         | 1.527  | 1.211         | 1.404         |
| 552 Other permanent cardiac pacemaker implant w/o major cv dx          | 5.123   | 5.337         | 5.359         | 4.769  | 4.868         | 5.241         |
| 553 Other vascular procedures w cc w major cv dx                       | 0.282   | 0.307         | 0.326         | 0.121  | 0.122         | 0.135         |
| <b>Mean Incidence</b>  | <b>26.926</b>   | <b>28.730</b> | <b>29.820</b> | <b>29.850</b>  | <b>27.684</b> | <b>31.999</b> |

(\*) Inpatient admissions for acute cases.

(a) Values calculated with the later CMS DRG Version 24.0 adopted by the Ministry of Health.

Source: data processed by *Ermeneta – Studi e Strategie di Sistema* based on the *Ministry of Health and AIOP* data

Table 4 – Comparison of percentages of high, medium and low complexity cases of services provided to acute patients during hospitalization, a comparison of the public and private hospital components of the NHS, divided by Regions – 2019

| Regions      | Public hospital component |      |      |      |                   |      |      |      |                |      |      |      |      |      |      |
|--------------|---------------------------|------|------|------|-------------------|------|------|------|----------------|------|------|------|------|------|------|
|              | High complexity           |      |      |      | Medium complexity |      |      |      | Low complexity |      |      |      |      |      |      |
|              | 2015                      | 2016 | 2017 | 2018 | 2019              | 2015 | 2016 | 2017 | 2018           | 2019 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Piedmont     | 15.9                      | 16.0 | 16.6 | 17.1 | 17.3              | 35.0 | 34.7 | 35.2 | 35.6           | 36.1 | 49.2 | 49.3 | 48.2 | 47.3 | 46.6 |
| Aosta Valley | 15.5                      | 16.3 | 15.8 | 15.8 | 15.9              | 34.2 | 34.9 | 35.2 | 36.0           | 36.6 | 50.2 | 48.8 | 49.0 | 48.1 | 47.6 |
| Lombardy     | 14.0                      | 14.2 | 14.5 | 14.7 | 15.5              | 31.1 | 31.2 | 31.5 | 31.7           | 32.9 | 54.9 | 54.6 | 54.0 | 53.5 | 51.7 |
| Bolzano      | 12.8                      | 13.5 | 13.3 | 13.3 | 13.7              | 28.1 | 28.9 | 28.6 | 29.2           | 29.0 | 59.1 | 57.6 | 58.1 | 57.5 | 57.3 |
| Trento       | 14.5                      | 14.4 | 15.4 | 15.9 | 16.1              | 36.0 | 35.8 | 36.2 | 37.4           | 37.9 | 49.5 | 49.8 | 48.4 | 46.7 | 46.0 |
| Veneto       | 15.9                      | 15.9 | 14.5 | 15.8 | 16.1              | 35.2 | 34.8 | 34.8 | 35.3           | 36.3 | 48.9 | 49.3 | 50.7 | 48.9 | 47.6 |
| Friuli V.G.  | 15.5                      | 15.4 | 15.6 | 15.1 | 15.4              | 34.7 | 35.3 | 35.1 | 35.5           | 35.8 | 49.7 | 49.3 | 49.3 | 49.4 | 48.8 |
| Liguria      | 16.2                      | 16.6 | 15.4 | 15.7 | 15.5              | 39.8 | 40.6 | 40.1 | 39.8           | 39.7 | 44.0 | 42.8 | 44.5 | 44.5 | 44.8 |
| Emilia R.    | 14.2                      | 14.3 | 15.2 | 15.7 | 15.9              | 35.8 | 35.9 | 36.6 | 36.7           | 37.2 | 50.1 | 49.8 | 48.2 | 47.6 | 46.9 |
| Tuscany      | 17.1                      | 17.5 | 17.7 | 18.1 | 18.3              | 39.4 | 39.8 | 39.8 | 40.2           | 40.5 | 43.4 | 42.7 | 42.5 | 41.7 | 41.2 |
| Umbria       | 14.2                      | 15.1 | 15.3 | 15.5 | 15.7              | 31.9 | 33.1 | 34.1 | 34.8           | 35.1 | 53.9 | 51.8 | 50.6 | 49.7 | 49.3 |
| Marche       | 15.1                      | 15.6 | 16.6 | 17.2 | 17.9              | 35.8 | 36.3 | 37.4 | 38.0           | 39.1 | 49.1 | 48.1 | 46.0 | 44.8 | 43.1 |
| Lazio        | 16.1                      | 17.0 | 15.9 | 18.5 | 18.9              | 33.4 | 34.0 | 30.4 | 35.4           | 35.8 | 50.5 | 49.0 | 53.7 | 46.3 | 45.2 |
| Abruzzo      | 14.6                      | 15.4 | 15.6 | 15.7 | 16.3              | 35.4 | 36.3 | 37.4 | 38.2           | 39.0 | 50.0 | 48.3 | 47.0 | 46.0 | 44.7 |
| Molise       | 10.3                      | 11.2 | 12.3 | 12.7 | 12.1              | 30.9 | 33.5 | 34.1 | 36.0           | 37.4 | 58.8 | 55.3 | 53.6 | 51.3 | 50.6 |
| Campania     | 12.3                      | 12.6 | 13.5 | 14.2 | 15.5              | 30.4 | 30.9 | 32.0 | 33.5           | 34.7 | 57.3 | 56.5 | 54.5 | 52.3 | 49.8 |
| Apulia       | 10.7                      | 11.3 | 11.9 | 12.8 | 13.7              | 31.9 | 32.9 | 34.2 | 35.3           | 36.4 | 57.4 | 55.8 | 53.9 | 51.9 | 49.9 |
| Basilicata   | 14.0                      | 13.8 | 13.7 | 14.4 | 14.0              | 37.2 | 37.6 | 38.1 | 37.6           | 39.4 | 48.8 | 48.6 | 48.2 | 48.0 | 46.5 |
| Calabria     | 11.1                      | 11.9 | 12.3 | 13.0 | 14.0              | 31.9 | 32.1 | 34.4 | 34.6           | 36.2 | 57.1 | 56.0 | 53.3 | 52.4 | 49.8 |
| Sicily       | 14.4                      | 15.0 | 15.6 | 15.7 | 16.3              | 34.6 | 34.9 | 34.9 | 35.0           | 35.9 | 51.0 | 50.1 | 49.5 | 49.3 | 47.8 |
| Sardinia     | 11.6                      | 12.3 | 12.3 | 13.0 | 13.6              | 32.3 | 32.9 | 33.9 | 34.8           | 35.7 | 56.1 | 54.8 | 53.8 | 52.2 | 50.8 |
| North        | 14.9                      | 15.0 | 15.1 | 15.5 | 15.9              | 34.0 | 34.1 | 34.4 | 34.7           | 35.5 | 51.1 | 50.9 | 50.5 | 49.7 | 48.6 |
| Center       | 16.1                      | 16.8 | 16.7 | 17.7 | 17.9              | 36.0 | 36.5 | 35.7 | 37.7           | 38.3 | 47.9 | 46.7 | 47.6 | 44.6 | 43.7 |
| South        | 12.5                      | 13.0 | 13.6 | 14.2 | 14.8              | 32.6 | 33.2 | 34.2 | 35.0           | 35.9 | 54.9 | 53.8 | 52.2 | 50.8 | 49.3 |
| Italy        | 14.4                      | 14.7 | 14.9 | 15.5 | 16.1              | 34.0 | 34.3 | 34.6 | 35.4           | 36.2 | 51.7 | 51.0 | 50.5 | 49.1 | 47.8 |

1.

(Continued) Table 4 – Comparison of percentages of high, medium and low complexity cases of services provided to acute patients during hospitalization, a comparison of the public and private hospital components of the NHS, divided by Regions – 2019

| Regions      | High complexity |      |      |      |      | Private hospital component (accredited facilities) |      |      |      |      | Low complexity |      |      |      |      |
|--------------|-----------------|------|------|------|------|--|------|------|------|------|----------------|------|------|------|------|
|              | 2015            | 2016 | 2017 | 2018 | 2019 | 2015   | 2016 | 2017 | 2018 | 2019 | 2015           | 2016 | 2017 | 2018 | 2019 |
| Piedmont     | 17.9            | 19.7 | 25.0 | 26.9 | 29.3 | 23.4   | 23.7 | 26.6 | 27.6 | 27.4 | 58.7           | 56.6 | 48.4 | 45.4 | 43.3 |
| Aosta Valley | 28.8            | 31.9 | 37.1 | 39.3 | 45.2 | 7.9  | 9.3  | 17.6 | 17.0 | 12.9 | 63.2           | 58.8 | 45.3 | 43.8 | 41.9 |
| Lombardy     | 22.6            | 24.1 | 25.3 | 25.9 | 27.6 | 31.0   | 31.7 | 31.2 | 31.1 | 32.0 | 46.4           | 44.2 | 43.3 | 40.4 | 40.4 |
| Bolzano      | -               | -    | -    | -    | 0.2  | 23.4   | 24.0 | 27.0 | 23.9 | 28.3 | 76.6           | 76.0 | 73.0 | 76.1 | 71.5 |
| Trento       | 15.5            | 19.8 | 22.0 | 24.2 | 25.5 | 28.3   | 27.0 | 31.0 | 24.8 | 22.0 | 56.2           | 53.2 | 47.0 | 51.0 | 52.5 |
| Veneto       | 28.3            | 29.7 | 28.1 | 29.3 | 30.0 | 31.6   | 31.3 | 31.0 | 32.2 | 32.3 | 40.1           | 39.0 | 40.9 | 38.5 | 37.7 |
| Friuli V.G.  | 22.6            | 21.3 | 22.5 | 22.5 | 25.0 | 24.1   | 23.2 | 22.0 | 20.5 | 20.4 | 53.3           | 55.5 | 55.5 | 57.0 | 54.6 |
| Liguria      | 20.7            | 20.6 | 19.7 | 21.8 | 20.6 | 37.2   | 36.5 | 34.9 | 35.4 | 36.4 | 42.0           | 42.9 | 45.4 | 42.9 | 42.9 |
| Emilia R.    | 18.1            | 18.0 | 22.1 | 24.5 | 27.5 | 28.1   | 27.6 | 26.1 | 27.0 | 28.0 | 53.8           | 54.4 | 51.8 | 48.5 | 44.5 |
| Tuscany      | 33.5            | 36.2 | 38.1 | 42.4 | 42.1 | 24.9   | 24.8 | 24.4 | 24.0 | 25.7 | 41.6           | 39.0 | 37.5 | 33.6 | 32.2 |
| Umbria       | 25.3            | 30.0 | 31.4 | 29.2 | 34.0 | 18.9   | 19.3 | 18.2 | 20.0 | 23.8 | 55.8           | 50.7 | 50.4 | 50.8 | 42.2 |
| Marche       | 17.7            | 19.1 | 23.6 | 22.1 | 24.6 | 24.2   | 23.3 | 26.3 | 24.9 | 26.4 | 58.1           | 57.6 | 50.1 | 53.1 | 49.0 |
| Lazio        | 15.7            | 16.7 | 16.5 | 17.7 | 18.4 | 33.5   | 33.8 | 32.7 | 34.9 | 35.1 | 50.9           | 49.5 | 50.8 | 47.4 | 46.5 |
| Abruzzo      | 22.2            | 21.4 | 23.1 | 25.1 | 27.2 | 30.1   | 28.9 | 30.0 | 33.0 | 30.9 | 47.7           | 49.7 | 46.9 | 41.9 | 41.9 |
| Molise       | 27.3            | 28.6 | 31.6 | 32.4 | 32.2 | 37.5   | 37.5 | 35.8 | 36.1 | 35.7 | 35.2           | 33.9 | 32.6 | 31.6 | 32.0 |
| Campania     | 11.1            | 11.9 | 13.2 | 15.3 | 17.1 | 28.2   | 28.3 | 28.6 | 31.4 | 32.1 | 60.7           | 59.8 | 58.2 | 53.3 | 50.9 |
| Apulia       | 16.0            | 17.1 | 18.0 | 19.1 | 19.1 | 34.6   | 35.7 | 36.1 | 36.1 | 36.6 | 49.4           | 47.2 | 45.9 | 44.9 | 44.3 |
| Basilicata   | 31.4            | 35.1 | -    | -    | -    | 32.0   | 23.3 | -    | -    | -    | 36.6           | 41.6 | -    | -    | -    |
| Calabria     | 24.4            | 29.2 | 30.5 | 29.3 | 31.8 | 34.3   | 33.2 | 32.2 | 34.1 | 32.4 | 41.3           | 37.6 | 37.3 | 36.6 | 35.8 |
| Sicily       | 16.9            | 18.9 | 19.8 | 18.1 | 22.1 | 33.5   | 34.2 | 33.9 | 30.5 | 34.5 | 49.6           | 46.9 | 46.3 | 51.4 | 43.3 |
| Sardinia     | 13.1            | 14.3 | 15.6 | 16.6 | 18.6 | 16.8   | 18.0 | 17.7 | 18.0 | 19.4 | 70.0           | 67.7 | 66.7 | 65.4 | 62.0 |
| North        | 22.0            | 23.2 | 24.8 | 26.0 | 27.7 | 29.9   | 30.2 | 30.0 | 30.3 | 30.9 | 48.2           | 46.6 | 45.2 | 43.8 | 41.3 |
| Center       | 18.2            | 19.4 | 19.7 | 21.1 | 21.7 | 31.5   | 31.9 | 31.1 | 32.8 | 33.4 | 50.3           | 48.7 | 49.2 | 46.1 | 44.9 |
| South        | 15.3            | 16.5 | 17.5 | 18.5 | 20.3 | 31.2   | 31.6 | 31.7 | 32.4 | 33.5 | 53.5           | 51.9 | 50.8 | 49.1 | 46.2 |
| Italy        | 18.7            | 19.9 | 21.2 | 22.3 | 23.8 | 30.7   | 31.1 | 30.8 | 31.6 | 32.4 | 50.6           | 49.0 | 48.0 | 46.1 | 43.8 |

(\*) The classification by classes of complexity of the DRGs currently available is that contained in the 2012 TUC Agreement, also included in the provisions of the 2016 Stability Law and now prolonged to 2020, which excludes high-complexity services from passive mobility control measures, and subsequently extended. The TUC, however, only defines 84 high-complexity DRGs and 108 potentially inappropriate DRGs, nevertheless incorporating a setting aimed at the construction of a fee system designed to compensate inter-regional mobility. This table therefore utilizes a classification based on weight classes of DRGs, taking into account that this indicator expresses the complexity through the evaluation of the resources used for the production of each DRG: the average complexity is between the weight values of 0.9500 and 1.700 and the range of high complexity DRGs is 97% of the TUC high complexity services.

Public hospital services are provided by: Hosp. Centers, Univ. Hosp. Centers and Public Polyclinics, Public IRCCS and Public Foundations, Directly-Managed Hospitals. Accredited private hospital services are provided by: Private Polyclinics, Private I.R.C.C.S. and Private Foundations, Classified Hospitals, USL Facilities, Research Facilities, Accredited Hospitals.

Source: survey by *Ermeneia – Studi & Strategie di Sistema, 2021*

- b) however, if the indicators are compared by geographic location, the relative disadvantage of the South with respect to the Center-North becomes evident (with fewer high-complexity services and with more low-complexity services), confirming the fact that the national average of complex services indeed experiences the phenomenon of an unequal “average” for hospitals in the South<sup>7</sup>;
- c) if we turn from the geographical distribution to the individual Regions, the differences in terms of high complexity between the two types of hospital components become even more evident and precise (see the two corresponding columns of Table 4). In this regard, it can be seen how:
- in public hospitals it ranges from a maximum of 18.9% for Lazio (close to 18.3% for Tuscany) to a minimum of 12.1% for Molise;
  - and in accredited hospitals the highest indicator is achieved for the Aosta Valley (45.2%)<sup>8</sup>, closely followed by Tuscany with 42.1% and the lowest is for Campania (17.1%).

Another type of indicators reported in this Report for some years now, is one that illustrates the effectiveness of the treatments, i.e. the maintenance, improvement or worsening of average statistical services, as developed by Agenas on behalf of the Ministry of Health. These include comparative assessments of efficacy, safety, efficiency and quality of care relating to individual public hospitals or to individual private hospitals operating within the National Health Service.

The indicators developed are discussed in the framework of the PNE Committee, composed of representatives of Regions, Autonomous Provinces, Ministry of Health and scientific institutions, while planning, management, definition of indicators, data analysis and web site management are entrusted to the Department of Epidemiology of the Regional Health Service (Servizio Sanitario Regionale, SSR) of the Lazio Region, in its capacity as Agenas’ PNE operational center.

The PNE indicators are an evaluation tool used to support clinical and organizational *auditing* programs aimed at improving effectiveness and equity within facilities of the National Health Service. The functions of these indicators – it should be remembered – do not include the publication of classifications, rankings or “report cards”. Even though the results are processed using media and the most important public reporting portals in the health

<sup>7</sup> The term “average” implies the ability of the services to offer an acceptable level of performance, in terms of quantity and quality, but also with adequate coverage to and within the various territories of Italy.

<sup>8</sup> There is only one facility, which does well for orthopedic services (the ski area has evidently favored this specialization), with an indicator that has been consistently increasing over the last few years.



sector for each data presentation, they are often based on indicators that are not fully evaluated in terms of statistical significance and quality, as well as a correct reading of the basic data: such a circumstance may have inappropriate repercussions in terms of image and clinical reliability for the facilities concerned.

In any case, it should be remembered that the qualitative approach to the health care dimension is relatively recent in our legal system. For a long time, both the planning and commissioning function in the National Health Service (NHS) and the service provision function were assessed solely from an economic and financial stability point of view.

The aspect of the quality of health care services has, on the other hand, for a long time been sacrificed on the altar of accounting, underestimating how a real rationalization of the supply of health services cannot ignore the identification of services of proven clinical efficacy which, as such, must be accessible, equally, throughout the national territory, regardless of the place of treatment.

It is precisely on *evidence-based* clinical practices that the measurement of the service proposed by the National Outcomes Program (PNE) is based, which defines the concept of quality in terms of efficacy, appropriateness and safety of the treatments and/or interventions provided under the NHS.

Not only that, far from contradicting efficiency requisites, *evidence-based* clinical practices, in addition to reducing adverse outcomes and complications – with the obvious repercussions in terms of resources – are often drivers of a rethinking of the clinical-organizational pathways that benefit the healthcare facility and the network of which it is an active part.

The outcome indicators and proxy outcomes of the PNE are increasingly used in health legislation to measure compliance with quality requirements, both at the programming level (as with Ministerial Decree 70/2015 and subsequent reform proposals and the Essential Levels of Care (LEA, *Livelli Essenziali di Assistenza*) Grid)), as well as at the level of hospital service assessment (such as the Ministerial Decree of 21 June 2016 on the efficiency and qualification plans of hospital centers), and will find more and more space in a universalistic model called upon to respond to multiple health needs, in the type of care and in the progressive levels of complexity.

Therefore, the PNE outcomes relative to the TREEMAP indicators, or to the synthetic analysis by clinical area proposed by the Program, are reported. Through a selection of the most representative outcome indicators of each of the areas considered, selected and weighted on the basis of their validity and robustness, the TREEMAP represents the level of adherence of each hospital

facility to qualitative and quantitative standards defined on the basis of scientific evidence, of the national average value and regulatory references.

The two indicators representative of the level of fragmentation of the volumes of activity are instead listed differently here, reporting the proportion of interventions carried out in facilities above the threshold, rather than in departments, for reasons related to the insufficient validity of the data that considers the operating units that discharge patients and not those actually performing the procedure.

The clinical areas considered in the TREEMAP are cardiocirculatory, nervous, respiratory, musculoskeletal, general surgery, oncological surgery, and pregnancy and childbirth areas.

Table 5 shows, for each indicator:

- the total number of cases, which corresponds to the number of cases as a whole selected for the calculation of each indicator on the basis of the criteria defined in the PNE operating protocols;
- the total number of cases treated, which corresponds to the number of cases (expressed in absolute and percentage values) selected for the calculation of each indicator on the basis of the criteria defined in the PNE operating protocols, distinguished by public and private component;
- the average of the outcomes, which corresponds to the average value of the results (standardized for the predictive and protective factors of the outcome) reported by all public facilities by all private facilities;
- the variation in the 2018-2019 outcomes, which shows the difference between the averages of the outcomes in the two years being compared for both public hospitals and private hospitals.

Table 5A, on the other hand, makes no distinction between private or public facilities, but rather shows the number and proportion of institutions whose areas all have positive evaluations and the number and proportion of facilities whose areas all have negative evaluations, with the type of facility identified according to the Ministry of Health classification.

What emerges is that for 13 of the 21 indicators considered, the private facilities report better results on average than those of public facilities. While for 4 indicators, public facilities report comparatively higher performance levels (see columns 6<sup>a</sup> and 7<sup>a</sup> of Table 5).

This figure, substantially in line with the previous year and indicative of the good performance level of the accredited private facilities, must nevertheless take into account the different distribution of the activity assessed between the two components, in which 80% is accounted for by public facilities and 20% by private facilities (see columns 3<sup>a</sup> and 5<sup>a</sup> of Table 5), as well as the significant variability within each component.

With regard to these latter aspects, Table 5A allows us to grasp the heterogeneity among healthcare institutions by dividing up the public facilities into Directly managed hospitals and public Hospital Centers, Polyclinics and Institutes for Treatment and Research (IRCSS) on the one hand, and, on the other, dividing the private facilities into Classified hospitals, Accredited private healthcare facilities and Polyclinics, Institutes for Treatment and Research and Private foundations. The aforementioned Table shows only the number and proportions of the facilities that have either all high/very high quality clinical areas or low/very low quality clinical areas.

First of all it shows (see columns 4<sup>a</sup> and 5<sup>a</sup> of Table 5A) how Private healthcare facilities are the type of institution which has the greatest internal gap among facilities with an extremely high performance level (16.5%) and facilities with a low performance level (13.1%).

This is the type of facility with the highest proportion of quality levels not in line with the minimum outcome requisites. This data must be interpreted in light of the information relating to the percentage of activity that TREEMAP indicators are able to evaluate, which shows how this synthetic analysis model is only able to monitor a comparatively small share (about 29%) of the hospital activity of the Healthcare facilities and less than half of the activity carried out in the clinical areas considered (see columns 2<sup>a</sup> and 3<sup>a</sup> of Table 5A).

Another element worthy of attention is that Polyclinics, IRCSS and private Foundations are the type of institutions reporting the largest proportion of facilities with higher performance levels than expected, with about one in three facilities having all 7 clinical areas considered in the TREEMAP with high or very high quality (see column 4<sup>a</sup> of Table 5A).

The variability of hospital performance levels is certainly the most relevant data of the PNE analysis: the internal heterogeneity completely exceeds the public-private distinction and in part also that between Regions<sup>9</sup>, underlining the importance of planning that knows how to define the network of services and supply centers on the basis of quality and safety criteria.

<sup>9</sup> Intraregional heterogeneity is one of the most significant data of the annual PNE assessment, which manifests itself both in the statistical variability assessment and in the presence of positive outliers in the most fragile contexts and negative outliers in Regions with performance levels that are on average above the national average.

Table 5 – Outcome indicators (with risk adjustment values) for 2 TREEMAP indicators, comparing the results of public hospitals and private hospitals<sup>2</sup>

| Indicators  | Total cases | Number of treated cases |        |                   | Average of Outcomes <sup>3</sup> |                  |                   | 2018-2019 Variation |                   |                   |
|---|-------------|-------------------------|--------|-------------------|----------------------------------|------------------|-------------------|---------------------|-------------------|-------------------|
|   |             | Public hospitals        |        | Private hospitals | Public hospitals                 |                  | Private hospitals | Public hospitals    |                   | Private hospitals |
|   |             | Number of cases         | %      | Number of cases   | %                                | Public hospitals | Private hospitals | Public hospitals    | Private hospitals | Public hospitals  |
| Valvuloplasty or replacement of heart valves: 30-day mortality                                | 43,658      | 23,230                  | 53.21  | 20,428            | 46.79                            | 2.53             | 1.98              | 0.14                | -0.06             |                   |
| Aortocoronary by-pass: 30-day mortality   | 26,664      | 15,904                  | 59.65  | 10,760            | 40.35                            | 2.00             | 1.60              | -0.03               | -0.12             |                   |
| Amni: 30-day mortality  | 85,875      | 76,351                  | 88.91  | 9,524             | 11.09                            | 7.83             | 7.64              | -0.22               | 0.92              |                   |
| Amni: % treated with PTCA within 2 days   | 85,875      | 76,305                  | 88.86  | 9,570             | 11.14                            | 50.25            | 60.26             | 2.48                | -0.51             |                   |
| Congestive heart failure: 30-day mortality  | 123,900     | 97,924                  | 79.03  | 25,976            | 20.97                            | 10.56            | 8.34              | -0.08               | -0.01             |                   |
| Repair of unruptured aneurysm of the abdominal aorta: 30-day mortality                        | 17,007      | 13,079                  | 76.9   | 3,928             | 23.1                             | 1.57             | 1.42              | 0.03                | 0.38              |                   |
| Ischemic stroke: 30-day mortality   | 57,733      | 51,550                  | 89.29  | 6,183             | 10.71                            | 10.01            | 6.90              | 0.00                | -1.40             |                   |
| Surgery for cerebral tumor: 30-day mortality  | 30,142      | 24,689                  | 81.91  | 5,453             | 18.09                            | 2.66             | 2.11              | 0.09                | 0.39              |                   |
| Exacerbated COPD: 30-day mortality  | 73,684      | 60,523                  | 82.14  | 13,161            | 17.86                            | 10.35            | 6.04              | 0.38                | 0.35              |                   |
| Laparoscopic Colectectomy: post-operative stay of less than or equal to 3 days                | 63,897      | 44,283                  | 69.3   | 19,614            | 30.7                             | 78.56            | 85.15             | 2.36                | 1.73              |                   |
| Proportion of deliveries by primary cesarean section  | 313,823     | 257,820                 | 82.15  | 56,003            | 17.85                            | 21.07            | 30.00             | 0.08                | 0.78              |                   |
| Cesarean deliveries: complications during childbirth and the puerperium                       | 253,139     | 191,727                 | 75.74  | 61,412            | 24.26                            | 0.99             | 0.57              | 0.07                | -0.01             |                   |
| Natural deliveries: complications during childbirth and the puerperium                        | 503,556     | 418,831                 | 83.17  | 84,725            | 16.83                            | 0.65             | 0.47              | 0.04                | 0.02              |                   |
| Surgery for colon tumor: 30-day mortality   | 47,475      | 37,182                  | 78.32  | 10,293            | 21.68                            | 4.02             | 3.52              | -0.14               | 0.13              |                   |
| Surgery for lung tumor: 30-day mortality  | 27,055      | 21,162                  | 78.22  | 5,893             | 21.78                            | 1.05             | 1.29              | 0.14                | -0.26             |                   |
| Surgery for stomach tumor: 30-day mortality   | 16,867      | 13,130                  | 77.84  | 3,737             | 22.16                            | 4.63             | 4.14              | 0.00                | 0.28              |                   |
| Resection interventions within 120 days from conservative surgery for malignant breast cancer | 36,791      | 26,663                  | 72.47  | 10,128            | 27.53                            | 6.43             | 5.06              | -0.87               | -1.03             |                   |
| Fracture of the neck of the femur in over 65: surgery within 2 days                           | 72,627      | 64,475                  | 88.78  | 8,152             | 11.22                            | 66.25            | 73.25             | 0.80                | -0.44             |                   |
| Fracture of the tibia and fibula: waiting times for surgery (days)                            | 11,163      | 9,761                   | 87.44  | 1,402             | 12.56                            | 4.00             | 2.00              | 0.00                | -1.00             |                   |
| Laparoscopic Cholecystectomy: % of facilities with volumes > 90 cases                         | 98,779      | 71,281                  | 72.16% | 27,498            | 27.84%                           | 87.85            | 77.47             | NA                  | NA                |                   |
| Surgery for breast tumor: % of facilities with volumes > 135 cases                            | 62,269      | 45,269                  | 72.70% | 17,000            | 27.30%                           | 80.50            | 76.62             | NA                  | NA                |                   |
| Total areas assessed  | 2,051,979   | 1,641,139               | 79.98% | 410,840           | 20.02%                           |                  |                   |                     |                   |                   |

- (1) The comparative evaluation of outcomes must take into account the possible differences existing in the population examined, which may include age, gender, the severity stages of pathologies, and comorbidities. The risk adjustment techniques make it possible to analyze the observed variability between facilities and/or territorial areas in terms of relative risk (RR), this index being used as an associative measure. This way the possible 'confounding effect' of the association between outcome and exposure is insulated, as this effect is caused by an uneven distribution of patient characteristics.
- (2) For public hospitals, the following were considered: Hospital Centers, Hospitals directly managed by Local Health Authorities, Public Institutes for Treatment and Research and Public foundations. Whereas for private hospitals the following were considered: Accredited Hospitals, Private University Polyclinics, Private Institutes for Treatment and Research and Private Foundations.
- (3) The values shown in light gray represent the best services validated by the statistical significance test. Where the comparison does not show any highlighted data, the higher value for one of the two groups examined might be a chance result.

Source: AIOPI-INNOVAGEA "Report on the quality of clinical outcomes in private hospitals", prepared by Innogea using Agenas data – National Outcome Evaluation Program (PNE) 2020

Table 5A – Proportion of high/very high quality institutions and low/very low quality facilities by type of facility

| Type of institution                            | No. of facilities | % activity assessed from the TREEMAP compared to the total of hospital admissions | % activity assessed from the TREEMAP with respect to areas | All areas of very high + high quality<br>No. (%) | All areas of low + very low quality<br>No. (%) |
|--|-------------------|---|--|--|--|
| Classified Hospitals                           | 29                | 47.7  | 86.9   | 6 (20.7%)  | 0 (0.0%)                                       |
| Directly managed hospitals                     | 615               | 50.5  | 90.2   | 47 (7.6%)  | 34 (5.5%)                                      |
| Private accredited healthcare facilities       | 498               | 28.8  | 42.4   | 82 (16.5%)                                       | 65 (13.1%)                                     |
| Hospital Centers/Polyclinics/Public I.R.C.S.S. | 123               | 49.8  | 92.8   | 17 (13.8%)                                       | 3 (2.4%)                                       |
| Polyclinics/I.R.C.S.S./ Private Foundations    | 55                | 43.9  | 77.6   | 16 (29.1%)                                       | 2 (3.6%)                                       |
| Total  | 1,320             | 46.4  | 81.0   | 168 (12.7%)                                      | 104 (7.9%)                                     |

Source: *AIOP-INNOGEA "Report on the quality of clinical outcomes in private hospitals"*, prepared by Immoega using Agenas data – National Outcome Evaluation Program (PNE), 2020

### 1.3. Two tension factors present in the system: one pre-Covid and one in the Covid period

As we deal with the issue of health, it becomes increasingly evident that we are faced with an extremely diversified situation between one Region and another, so much so that we have to acknowledge the de facto existence of 21 different Regional Health Services rather than a single National Health Service capable of expressing an adequate minimum homogeneity of services for citizens throughout the various territories of the country.

Over the years this issue has been addressed from various points of view in the *Health & Hospitals* Report and, in particular in 2019, immediately before the arrival of the pandemic, was expressed through the clarification of a specific “tension factor”, that of an existing juxtaposition:

- between the trend that witnessed the strengthening of the statistical level of complexity of hospital services on average nationally year after year, on the one hand, and, on the other, the presence of a de facto different “average”<sup>10</sup> of the services supplied in terms of quantity, quality and uniformity in the various Regions, so as to generate, on an objective level as well as at the level of perception by citizens and users, a situation in which 21 different Regional Health Services operate as mentioned above.

The presence of this “tension factor” can be seen in the first section of Table 6, which shows an increase over the last five years of the statistical average of highly complex services, with regard to which, however, the South shows its relative weakness: 14.8% compared to 16.1% nationally for public hospitals, a figure that may be 13.7% for Apulia or 13.6% for Sardinia.

At the same time, there is an opposite phenomenon that seems to contrast with the objective results of average statistical improvement in hospital services, attested to by specifically inadequate “average” signs, this time subjectively perceived by the caregivers and the general population (see again the first section of Table 6). In fact:

- the “slightly + not at all satisfactory” opinion among caregivers was 35.9% with regard to hospital services in their home Region for public hospitals, decreasing to 26.2% for accredited hospitals and 23.3% for private clinics: but with a situation territorially more disadvantaged for the South, whose level of dissatisfaction was 47.8% for public hospitals, 27.3% for accredited hospitals, and 23.3% for private clinics;

<sup>10</sup> The term “average” implies the ability of the services to offer an acceptable level of performance, in terms of quantity and quality, but also with adequate coverage to and within the various territories of Italy.

- the level of dissatisfaction declared by the public about the experiences actually had using the Emergency Room rose from 29.0% in 2018 to 37.5% in 2019, and witnessed a much greater intensity among statements coming from respondents in the South: where the 37.9% dissatisfaction level in 2018 increased to 45.9% in 2019;
- and finally, there is a concrete and growing propensity on the part of caregivers to make use of hospitals in Regions outside that of residence as an immediate reaction to the phenomenon of the inadequate “average” of services in the various areas of care already experienced: this trend went from 10.1% in 2016 to 12.4% in 2019, and yet is 17.5% for the South, obviously more disadvantaged; and the same happens for the potential orientation, that is, if the problem arises, which rises to 18.1% (compared to the previous 10.1%) in 2016 but becomes 39.6% in 2019 and, in the South, even rises to 42.4%.

There is also a second “tension factor”, one that became manifest as an indirect consequence of the pandemic and indirectly penalized non-Covid patients due to interruptions/postponements of expected services following the extraordinary effort by healthcare facilities to respond to the needs of Covid patients.

In fact, as can be seen in the second section of Table 6:

- the interruption/postponement of services for those who were placed on waiting lists in 2020 went from a minimum of 21.0% (for laboratory tests) up to 71.5% (for hospitalizations in view of scheduled surgical interventions), but was on average at a level above 40% for almost all other services; this interruption eased slightly in 2021, remaining however very consistent: with a minimum of 21.3% for laboratory tests up to 54.6% for hospitalizations in view of scheduled surgery and with an average postponement figure again higher than 30%, and not far from 40%;
- the duration of these interruptions/postponements of the services then became staggered, starting from a wait of about 2 months, then a significant portion of 3-4 months and finally, an even greater portion of 5-8 months and longer.

It is evident that postponing services related to mild illnesses can certainly have consequences on the health of patients though with minor impact, whereas postponing health care services for serious illnesses will lead to a decisive worsening of the average health situation of Italians: consider, by way of example, the suspension of access to regular therapies and/or compulsory check-ups or even to in-hospital admission for scheduled treatments and surgeries.

Thus, the conclusion is that the Regional Health Services found themselves (and are) having to deal with the systemic weaknesses already present before the arrival of the pandemic, of which the unsatisfactory “average level” mentioned above provides a synthetic idea: with the consequence of differentiating the opportunities for treatment and assistance in the various territories of the country. But these weaknesses become added to those directly caused by the pandemic, which have to do with:

- on the one hand, the extraordinary surge of assistance provided to patients infected by the virus and, moreover, not only for the direct treatment of the virus but also for the tests and treatments that *long Covid* which often follows, requires, generating a significant demand for additional services, as illustrated in greater detail in Chapter 2 below;
- and on the other, the postponing of tests, treatments and interventions for non-Covid patients who, due to the aforementioned surge (as well as their caution with respect to the infection) wound up gradually being postponed over time and only very gradually recouped, and with great effort.



Table 6 – Two tension factors: an inadequate “average level”\* of services in the pre-pandemic phase and a significant interruption/postponement of these services for non-Covid patients during the pandemic (% val.)

| Phenomena  | Data            |      |       |       |
|--|-----------------|------|-------|-------|
|  | 2015            | 2017 | Total | 2019  |
| <b>FIRST PHENOMENON: THE PRESENCE OF AN UNSATISFACTORY SYSTEM-WIDE “AVERAGE LEVEL” ALREADY IN THE PRE-PANDEMIC PHASE</b>   |                 |      |       |       |
| – The objective increase in the percentage of High Complexity cases out of the total of services for acute patients, but with a disadvantage for the South <sup>1</sup> :  |                 |      |       |       |
| ▪ Public hospitals   | 14.4            | 14.9 | 16.1  | 14.8  |
| ▪ Private hospitals (accredited facilities)  | 18.7            | 21.2 | 23.8  | 20.3  |
| – The perception of a not-always satisfactory “average level” of the hospital services in the home Region (especially in the South) based on the experiences of caregivers and/or other family members over the last two years (the percentages shown are net of non-responses) <sup>2</sup> : |                 |      |       |       |
| ▪ Public hospitals   | 64.1            |      | 35.9  | 47.8  |
| ▪ Private hospitals (accredited facilities)  | 73.8            |      | 26.2  | 27.3  |
| ▪ (Upon payment) Private clinics   | 76.7            |      | 23.3  | 22.4  |
| – The worsening of the perceived level of satisfaction perceived among the public relating to experiences actually had in the Emergency Room of one or more hospitals the last time this happened over the last twelve months (with a pronounced disadvantage for the South) <sup>3</sup> :    |                 |      |       |       |
| ▪ 2018   | Very +          |      | Total | South |
| ▪ 2019   | Quite satisfied |      | 29.0  | 37.9  |
|  |                 |      | 37.5  | 45.9  |
| – The consequent increase in the declared propensity of caregivers to make use of hospitals in Regions outside that of residence <sup>2</sup> :  |                 |      |       |       |
| ▪ Inclination to actually make use of extra-regional hospital facilities   | 2016            |      | Total | 2019  |
| ▪ Inclination to potentially make use of extra-regional hospital facilities  | 10.1            |      | 12.4  | 17.5  |
| ▪ The issue did not arise  | 18.1            |      | 39.6  | 42.4  |
|  | 71.8            |      | 50.1  | 48.0  |

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(Continued) *Table 6 – Two tension factors: an inadequate “average level”\*\* of services in the pre-pandemic phase and a significant interruption/postponement of these services for non-Covid patients during the pandemic (% val.)*

| Phenomena  | Data |                   |      |                   |
|--|------|-------------------|------|-------------------|
|  | 2020 | 2021 <sup>†</sup> |      | 2021 <sup>†</sup> |
| <b>SECOND PHENOMENON: AN INTERRUPTION/POSTPONEMENT OF INPATIENT SERVICES FOR NON-COVID PATIENTS DURING THE PANDEMIC</b>  |      |                   |      |                   |
| – Type of inpatient services for which the relative waiting lists have seen interruption/postponement for both serious and mild illnesses/interventions, according to the statements provided by the public <sup>6</sup> : |      |                   |      |                   |
| ▪ Laboratory exams   | 21.0 |                   |      | 2020              |
| ▪ Diagnostic tests (such as X-Ray, CAT, MRN, etc.)   | 47.7 |                   |      | 21.3              |
| ▪ Specialist visits  | 47.7 |                   |      | 36.0              |
| ▪ Access to regular treatments/required check-ups  | 48.5 |                   |      | 31.4              |
| ▪ Day service outpatient medical services  | 41.5 |                   |      | 41.1              |
| ▪ Day service outpatient surgery services  | 52.5 |                   |      | 38.5              |
| ▪ Admissions for treatment   | 44.4 |                   |      | 38.0              |
| ▪ Hospitalization for planned surgery  | 71.5 |                   |      | 46.1              |
|  |      |                   |      | 54.6              |
|  |      |                   |      | 5-8 months        |
|  |      |                   |      | and more          |
| – Duration of the interruption/postponement of inpatient services, according to the statements provided by the public <sup>8</sup> :   |      |                   |      |                   |
| ▪ Laboratory exams   | 10.9 | 14.7              | 5.4  | 2020              |
| ▪ Diagnostic tests (such as X-Ray, CAT, MRN, etc.)   | 15.7 | 20.6              | 15.2 | 2021 <sup>†</sup> |
| ▪ Specialist visits  | 15.4 | 12.0              | 17.7 | 2021 <sup>†</sup> |
| ▪ Access to regular treatments/required check-ups  | 13.1 | 16.6              | 21.0 | 2021 <sup>†</sup> |
| ▪ Day service outpatient medical services  | 13.4 | 10.5              | 15.1 | 2021 <sup>†</sup> |
| ▪ Day service outpatient surgery services  | 12.9 | 10.6              | 14.6 | 2021 <sup>†</sup> |
| ▪ Admissions for treatment   | 17.0 | 8.8               | 10.7 | 2021 <sup>†</sup> |
| ▪ Hospitalization for planned surgery  | 37.6 | 24.6              | 4.3  | 2021 <sup>†</sup> |

(\*) The term “average” implies the ability of the services to offer an acceptable level of performance, in terms of quantity and quality, but also with adequate coverage to and within the various territories of Italy.

(1) See Part One /Table 5, p. 35.

(2) “Health&Hospitals/2019” Report/Part One, Table 8, pages 40-41.

(3) See “Health&Hospitals/2019” Report, p. 407.

Source: survey by *Ermeneia – Studi & Strategie di Sistema, 2021*

(4) “Health&Hospitals/2019” Report/Part One, Table 14, p. 71.

(5) Source: Istat, Final consumption expenditure by Italian families.

(6) See Part Three/Table 8A, p. 175.

(7) Until the second half of September 2021, the period in which the questionnaire was administered.

(8) See Part Three/Tables 8B and 8C, p. 176.

## *2. A pandemic experience that cuts across the emergencies experienced by both Covid and non-Covid patients*

### **2.1. A challenging treatment path declared by Covid patients, with some “regret”**

The Covid Patient Survey<sup>1</sup> highlighted four main phenomena.

The first concerns the experience had as a Covid patient, which turned out to be – as is now well known – anything but a walk in the park whether considering the acute phase or also taking into account the possible lasting consequences (*long Covid*). In fact, as can be seen from the first group of data in Table 7:

- 63.2% of respondents declared having had a “difficult” experience and for 65.6% it was also “long”: naturally the two characteristics can be added, as has been confirmed by intersecting the data to show how 87.8% of those who had a “difficult” experience also had a “long” experience;
- and, furthermore, it should be kept in mind that even those who were lucky enough to have been hit mildly, were nevertheless drawn out by lasting consequences that turned out to be “very + long enough” in 27.6% of cases.

But after coming out of the treatments received for Covid-19 (through the local medical and/or hospital services as acute patients and/or as patients in rehabilitation) they had to deal with problems relating to the so-called *long Covid* that is, the lasting consequences represented by various illnesses that often affected those infected with the virus. The second group of data in Table 7 shows in this regard how:

<sup>1</sup> The survey was carried out in the second half of September 2021 and its detailed results can be found in Part Two of this Report.

- 56.2% of those infected declare that they have nevertheless had a lingering illness, which, for 18.9% of the respondents may be defined as “serious” and for 37.3% as “mild”; in parallel, however, 80.7% also admit that these illnesses proved to be “long”, while for the remaining part (19.3%) they were essentially “brief”;
- moreover, having had “serious” lasting consequences implied having to accept their permanence over time, given that they turned out to be “long” in 97.2% of cases; and even those who were affected by what turned out to be “mild” lasting consequences, ended up having to live with them for relatively long periods in 72.4% of cases.

The second phenomenon concerns the evaluation of the services received as Covid patients from the various health facilities located in their territory.

As can be seen from the third group of data in Table 7, the opinion provided by the respondents expresses:

- an average “completely satisfactory” and/or “satisfactory” level for more than 60% of people, if we take into consideration the family doctor, the local health authority facilities or public hospitals which, moreover, are flanked by accredited hospitals with a 59.0% positive opinions; while the assessment drops to lower levels for private clinics (40.7%) and assisted living homes (54.6%);
- conversely, the “slightly + not at all satisfactory” opinions are given, as a 100’s complement and therefore range from 29.2% for family doctors up to 38.9% for public hospitals and 38.1% for accredited hospitals, while full-payment private clinics and assisted living homes are 59.3% and 45.4%, respectively.

The third phenomenon shown in Table 7 has to do with two problems that refer to the non-infected population that experienced waiting lists for access to inpatient services and to Covid patients who found themselves in a similar situation.

As can be seen from the fourth group of data in Table 7:

- the demand for services (mediated by the presence on the waiting list) for inpatient non-infected persons appears to have decreased between 2020 and 2021: in fact, they go from 10.1% to 7.7% for those of the local health authorities for serious illnesses/interventions and from 11.5% to 10.2% for mild illnesses/interventions; but correspondingly, the demand for inpatient services by Covid patients somehow “exploded” in both years, with a multiplication factor that can range from 3.8 times to 5.1 times for serious illnesses and from 4.0 times to 4.8 times for mild illnesses;

Table 7 – The pandemic has significantly “left its mark” on those infected, but also overwhelmed the Regional Health Service for the related treatments provided, to which was added a more than considerable demand for inpatient services by those infected (val.%)

| Phenomena  | Data                                    |  |
|--|---|--|
| <i>The difficulty of the virus experience according to the opinions of the respondents<sup>1</sup>:</i>  |   |  |
| – It was a “very + quite difficult” experience   | 63.2                                    |  |
| – It was a “very + quite long” experience  | 65.6                                    |  |
| – In addition to having had a “very + quite difficult” experience, there was simultaneously a “very + quite long” experience in almost 9 out of 10 cases   | 87.8                                    |  |
| – And having had a “fairly and/or completely mild” experience, at the same time there was a “very + fairly long” experience in more than 1 out of 4 cases  | 27.6                                    |  |
| <i>The equally demanding experience had in terms of the lasting consequences of the virus (long Covid) in the opinions of the respondents<sup>2</sup>:</i> |   |  |
| – There were “very + quite serious” lasting consequences   | 18.9                                    |  |
| – There were “mild + very mild” lasting consequences   | 37.3                                    |  |
| – There were “very + quite long” lasting consequences  | 80.7                                    |  |
| – There were “brief + quite brief” lasting consequences  | 19.3                                    |  |
| – In addition to having had “very + quite serious” lasting consequences, the latter also turned out to be “very + quite long” in almost all cases          | 97.2                                    |  |
| – And having instead had “fairly + very mild” lasting consequences, the latter turned out to have been “very + long enough” in more than 7 cases out of 10 | 72.4                                    |  |
| <i>The evaluation of the services received as Covid-19 patients from the various local health facilities (net of non-responses)<sup>3</sup>:</i>           |   |  |
| – Family doctor  | Completely satisfactory + average level | Slightly + completely unsatisfactory average level |
| – Local health authority facilities (ASL)  | 62.2                                    | 29.2   |
| – Public hospitals   | 65.4                                    | 34.1   |
| – Accredited hospitals   | 61.1                                    | 38.9   |
| – Full-payment private clinics   | 59.0                                    | 38.1   |
| – RSA (assisted living homes for the Elderly)  | 40.7                                    | 59.3   |
|  | 54.6                                    | 45.4   |

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(Continued) Table 7 – The pandemic has significantly “left its mark” on those infected, but also overwhelmed the National Health Service for the related treatments provided, to which was added a more than considerable demand for inpatient services by those infected (val.%)

| Phenomena   | Data                               |                   |                   |                   |                   |                   |
|---|------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|   | Public excluding Covid-19 patients |                   | Covid-19 patients |                   | Covid-19 patients |                   |
|   | 2020                               | 2021 <sup>1</sup> | 2020              | 2021 <sup>2</sup> | 2020              | 2021 <sup>3</sup> |
| <i>The emergence of a much more pronounced demand for inpatient services (through waiting lists) by Covid patients compared to a decreasing demand from the public<sup>4</sup>:</i> |                                    |                   |                   |                   |                   |                   |
| – One or more experiences with waiting lists for local health authority services for serious illnesses/interventions  | 10.1                               | 7.7               | 38.5 (3.8 x)      | 39.4 (5.1 x)      |                   |                   |
| – One or more experiences with waiting lists for local health authority services for mild illnesses/interventions   | 11.5                               | 10.2              | 46.2 (4.0 x)      | 48.5 (4.8 x)      |                   |                   |
| – One or more experiences with waiting lists for hospital admission for serious illnesses/interventions   | 4.5                                | 5.5               | 37.2 (8.3 x)      | 29.5 (5.4 x)      |                   |                   |
| – One or more experiences with waiting lists for hospital admission for mild illnesses/interventions  | 8.9                                | 7.9               | 39.9 (4.5 x)      | 39.7 (5.0 x)      |                   |                   |
| <i>A considerable propensity to recommend the vaccine to others, regardless of whether or not they were vaccinated before being infected<sup>5</sup>:</i>                           |                                    |                   |                   |                   |                   |                   |
| – Yes, of course  | 70.0 {                             | 50.5              | 41.4              | 46.2              | 33.0              | 35.9              |
| – Yes, probably   | 28.6                               | 23.3              | 28.6              | 33.0              | 30.7              | 26.6              |
| – Not sure  | 16.1                               | 20.1              | 16.1              | 7.4               | 21.4              | 15.0              |
| – Definitely not  | 6.8                                | 1.8               | 6.8               | 9.5               | 9.8               | 5.3               |
| – I don't know  | 7.1                                | 4.3               | 7.1               | 3.9               | 5.1               | 17.2              |

(1) See Part Two/Tables 5, 6 and 6A, p. 107.

(2) See Part Two/Table 8, p. 109 and Tables 9 and 9A, p. 110.

(3) See Part Two/Table 10, p. 111.

(4) See Part Two/Table 16, p. 117 and Table 17, p. 119.

(5) Until the second half of September 2021, the period in which the questionnaire was administered.

(6) See Part Two/Table 15, p. 115 (and for the details on the various geographic districts see Table A15 of the Statistical Appendix).

Source: survey by *Ermeneica – Studi & Strategie di Sistema, 2021*

- a similar trend appears for the demand for services linked to hospital admissions, in which case the non-infected population on the waiting lists was 4.5% in 2020 and was 5.5% in 2021 for serious illnesses/interventions, but decreased from 8.9% to 7.9% for mild illnesses/interventions: and again, the demand for inpatient services by Covid patients shows multiplicative factors compared to the population, as much or even more considerable than for local health authority services, with a multiplication factor ranging from a minimum of 4.5 times to 8.3 times as can be seen by the values in brackets.

This means, in the first place, that the services for non-Covid patients were postponed due to the urgency of treatment for Covid patients, to which was added the fear of the virus of the former: hence the suspension of the resulting services and/or the “flight” of inpatient persons for fear of being infected by going to healthcare facilities where Covid patients were present.

And secondly, it means that Covid patients may in turn have expressed a strong demand for inpatient services:

- both before having contracted the virus, as they were already relatively susceptible to other pre-existing illnesses (it should be remembered that the first persons suffering the most negative impact of the pandemic (and the relative deaths), were in fact the elderly, fragile and patients with comorbidities;
- and, above all, after receiving anti-Covid treatment, having had to face the many ailments (serious, mild or both) arising as a result from *long Covid*.

A fourth phenomenon might be defined as “a sign of regret” by those infected (see the last group of data in Table 7). In fact, to the question “Regardless of whether or not you were vaccinated before being infected with Covid-19, would you be inclined to recommend the vaccine to those who have not yet done received it?” 70.0% of the respondents answered positively (41.4% “Yes, certainly” and 28.6% “Yes, probably”). The remainder was a mix of uncertainties (16.1%) and a relatively hard core group of 6.8%: the latter more or less representing the No-Vax group at the time of the survey, while the 16.1% mentioned constitutes a sort of “second circle”, of persons who are uncertain, doubtful, afraid, suspicious of the vaccine, pharmaceutical companies and institutions themselves.

And finally, it should be noted that the respondents most likely to recommend the anti-Covid vaccination to others appear to be mainly respondents from the North compared to those from the Center-South<sup>2</sup>.

<sup>2</sup> See Chapter 3 of Appendices, Table A15.

## 2.2. Divergences and convergences of behaviors, attitudes and priorities of care between Covid patients and the general public

A further step in analyzing Covid patients in comparison to the general public net of the latter (see Table 8) clearly shows a more than significant diversity in terms of prevention behaviors “recommended” by the health authorities.

In fact, from the first group of data in the aforementioned table, compliance of these behaviors from the beginning slightly exceeds 50% (except for frequent hand washing: 68.3%) for Covid patients compared to more than 70% and sometimes 80% for the general public for the year 2020. Moreover, in the following year there was a slight change in the positions to the detriment of Covid patients. More precisely, the difference, expressed in percentage points, was the following:

- mask wearing, 25.3 percentage points less in 2020, fell to 21.2 points in 2021;
- social distancing, 25.0 percentage points less in 2020, was 23.8 points in 2021;
- use of disinfectant gel, 20.6 percentage points less in 2020, went down to 14.9 points in 2021;
- compliance with quarantine, 19.7 percentage points less in 2020, was 20.1 points in 2021;
- frequent hand washing, 15.3 percentage points less in 2020, essentially remain the same (at 15.5 points) in 2021;
- and finally, changing of clothes and shoes when returning home, 13.8 percentage points less in 2020, was down to 7.7 points in 2021.

It might be concluded, perhaps somewhat hastily, that such less observant behaviors constituted one of the elements, certainly along with others (starting from the lack of vaccination), which led to the spread of the virus among the respondents.

It should also be added that the most “observant” people – among Covid patients – have a secondary school level of education and a middle class social standing. Whereas the most reluctant to adapt were mainly Covid patients with a low level of education (Less informed? Poorly prepared? Closer to “anti” attitudes?), on the one hand and those, on the other hand, with a high level of education (More resistant to adapting to behaviors deemed “imposed”? More confident in their own personal opinions?)<sup>3</sup>.

<sup>3</sup> See Chapter 3 of Appendices, *Table B27.1 and B27.2*.



As for the attitudes towards the introduction of the Green Pass (at the time of the survey in the second half of September 2021) the following observations can be made, taking into account the second group of data in Table 8:

- a) there was a fair level of approval (the “very + fairly agree” opinions) exceeding 70% among patients who had experienced Covid, who actually show slightly greater support for the following three statements:
  - “the *Green Pass* is a good idea because it helps in terms of interpersonal relationships and with resuming economic and social activities” (72.2% for Covid patients and 71.5% for the population net of those who have been infected);
  - “the *Green Pass* is a good idea because it may induce undecided people to get vaccinated, without forcing them to do so legally” (74.9% compared to 71.3%);
  - “the *Green Pass* is a good idea and should be compulsorily extended to the entire population, except for when health conditions do not permit vaccination” (71.7% and 70.0%, respectively);
- b) There are a further three statements for which the agreement of Covid patients was instead significantly lower than that of the general public, namely:
  - “the *Green Pass* is a good idea because it promotes a greater sense of personal responsibility and towards others” (60.6% for those who have experienced Covid compared to 72.5% of the general public);
  - “the *Green Pass* is a good idea and it should be extended to all workers” (61.3% compared to 71.1%);
  - and finally, “the *Green Pass* is a good idea if certified documentation is also provided for those who have real health problems and who block/advise against use of the vaccine” (60.4% compared to 75.3%).

It would therefore seem that it is possible to glimpse a certain amount of “resistance” in the different assessments of those who have experienced Covid towards the acceptance of a (necessary) collective solidarity, preferring obligatory vaccination over exemption even for the weaker categories.

Finally, it should be emphasized that the 100’s complement of the answers, that is, the “slightly agree/disagree” opinions cannot help but be particularly considerable. In fact, they range from a minimum of 25.1% up to 39.6% for Covid patients and from a minimum of 27.5% up to 30.0% for the general public: and in this case includes the formation of that set of opinions (moreover varied within them) that are certainly hard core No-Vaxers, as well as other categories, including people with uncertainties, fears, doubts, suspicions and – more generally – of an anti-institutional and anti-ruling class mindset in general.



(Continued) Table 8 – Interpreting the topic of responsibility for behaviors, attitudes and shared priorities in the face of the pandemic (val.%)

| Phenomena  | Data                                   |                             |  |                             |
|--|--|-----------------------------|--|-----------------------------|
|  | Strongly + Somewhat agree <sup>3</sup> |                             | Slightly agree + Disagree <sup>3</sup> |                             |
|  | Covid-19 patients                      | General public <sup>2</sup> | Covid-19 patients                      | General public <sup>2</sup> |
| A significant amount of agreement (with relative polarization of opinions) on potential priorities for the providing of treatments, attesting to the “unease of the vaccinated” but also of those who directly experienced the virus <sup>1</sup> :  |  |                             |  |                             |
| – It would be proper to address the issue of a more balanced priority in the provision of hospital care between Covid-19 patients and non-Covid-19 patients, the latter running equally if not more serious health risks if no action is taken, having in many cases already had to postpone scheduled treatments or interventions for a long time (as with, for example, cancer patients or those who have had serious cardiovascular problems) | 74.5                                   | 81.5                        | 25.5                                   | 18.5                        |
| – It would be proper, in the event of overloaded hospitals, to give priority to care for people who have contracted the virus despite having been vaccinated over those not vaccinated due to personal choice (and not due to health constraints)  | 69.3                                   | 66.6                        | 30.7                                   | 33.4                        |
| – It would also be proper to introduce a sort of significant co-payment charge for the provision of hospital care for Covid-19 patients who have personally chosen not to get vaccinated (and not for health reasons)  | 71.3                                   | 68.5                        | 28.7                                   | 31.5                        |
| – It would be proper, given the trend of the pandemic, not only at a national level but also worldwide, to introduce a special law for the compulsory vaccination of the entire population (with the exception of those who have serious health issues and cannot be vaccinated)   | 63.0                                   | 70.2                        | 37.0                                   | 29.8                        |

(1) See Part Two/Table 27, p. 141 (respondents who have experienced the virus are excluded from the general public data).

(2) Public excluding Covid-19 patients

(3) The data comes from the survey conducted in the second part of September 2021.

(4) See Part Two/Table 32, p. 148.

(5) See Part Two/Table 33, p. 149.

Source: survey by *Ermeneia – Studi & Strategie di Sistema, 2021*

A high convergence of agreement (“very much + fairly”) for Covid patients and even more so for the general public, on the one hand, and an equally significant polarization, on the other, can also be seen in the last group of data in Table 8, from which you see how it exists:

- a) a lot of agreement for both sample groups considered regarding some possible priorities that could theoretically guide the provision of care in the presence of a continuation of the pandemic. Naturally, this consensus turns out to be higher among the population which probably increasingly perceives what can be defined as “the unease of the vaccinated”, due to the interruption/postponement of inpatient health services which began already in 2020 and the possible further interruption/postponement in 2021, but in this second case due to the need to treat new Covid patients who, however, had not got vaccinated despite having had the opportunity to do so. The result is that:
- 74.5% of Covid patients would agree on the need to better balance the provision of hospital care between Covid patients and non-Covid patients, an assessment that obviously becomes accentuated for the general public (81.5%);
  - 69.3% of Covid patients, again, would be in favor of accepting a priority of care for people infected despite having been vaccinated over those not vaccinated due to their personal choice against a more indefinite opinion among the general public (66.6%);
  - 71.3% of Covid patients would also agree to introduce a sort of significant co-payment charge to be able to obtain hospital care for those infected who have freely chosen not to be vaccinated – though certainly not due to health constraints – against a softer attitude on the part of the general public (68.5%);
  - and finally, 63.0% of Covid patients would be in favor of introducing a law for the compulsory vaccination of the entire population, net of those who cannot take advantage of this opportunity due to serious health issues, compared to an even higher among the general public (70.2%);
- b) but there is also a “negative” bias (referring to “slightly agree + disagree” opinions with respect to the statements submitted and evaluated) which varies from a minimum of 25.5% up to 37.0% for Covid patients but also from a minimum of 18.5% up to 33.4% for the general public: and also in this case what has been mentioned in the point a) above applies as an aggregation of a set of attitudes that combine various kinds of related inconveniences, but also not strictly linked to Covid events.

In all these cases, it is interesting to observe how two years of the pandemic have contributed not only to changing behaviors but also attitudes and even the logic related to the policies for providing care.

### **2.3. The penalization of non-Covid patients in terms of access and, therefore, the postponement of regular services**

A portion of the public, depending on their actual or presumed health conditions, usually make use of healthcare facilities each year for regular tests, treatment, surgery or other services, and this happens through the “filter” of waiting lists.

What has become manifest since the arrival of the pandemic is the appearance of three phenomena.

The first is that of a shrinking of the length of one or more waiting lists, given that this has happened (see first group of data in Table 9):

- for 15% of the adult population in 2019, decreasing to 12.2% in 2020 and 10.1% in 2021, in the case of inpatient services for serious illnesses/interventions: this went from 7.6 to 5.0 million people between 2019 and 2021;
- for 32.4% of the adult population in 2019, decreasing to 22.5% in 2021, in the case of inpatient services for mild illnesses/interventions: this went from 16.4 to 11.2 million people between 2019 and 2021;
- for 10.4% of the adult population in 2019, subsequently decreasing to 6.7% in 2020 and to 7.1% in 2021, in the case of inpatient services for hospital admissions due to serious illnesses/interventions: there was thus a decline from 5.3 to 3.5 million people between 2019 and 2021;
- for 17.4% of the adult population in 2019, decreasing to 11.2% in 2020 and 10.3% in 2021, in this case for mild illnesses/interventions: this went from 8.8 to 5.1 million people between 2019 and 2021;

This process, in the first instance, is the result of the extraordinary overloading of the healthcare facilities that have had to face the successive waves of Covid-19 and the consequent care of infected patients: which has caused a deferral of the aforementioned services. But it is also the result of the fear of spreading the virus, a fear which in turn also involved the same patients who in many cases have forgone access to inpatient services.

The second phenomenon is one of expedience involving the extraordinary increase in the demand for inpatient services by Covid patients, as can again be seen from the first group of data in Table 9: in this case the presence on the waiting lists of the latter appears to have multiplied extraordinarily, in the sense that it may well range from a minimum of 2.0 to 5.6 times more

than non-Covid patients in the year 2020, and from a minimum of 2.2 up to 4.2 times more than the latter in 2021.

What can be assumed in this case is the operations of two mechanisms, of which:

- the first may have to do with pre-existing health conditions, before the full-blown phase of contagion: with the need therefore to treat existing illnesses perhaps exacerbated by the first silent impact of the virus, especially in fragile patients and/or with those with comorbidities;
- the second might instead be caused by the consequences suffered by those infected in the post-healing phase (*long Covid*) which – as we have seen above (See Table 7) – occurred on average in 56.2% of cases and often turned out to be “serious” and “long” at the same time: with the need therefore to resort to further inpatient services in order to respond to symptoms or even damage caused specifically to some organ by the virus.

Further information on the growth trend of waiting lists is provided by the second group of data in Table 9 which shows that:

- the trend in the demand for pre-pandemic services (January-February 2020) witnessed clearly evident acceleration in the year 2020, doubling at least the relative percentage, and then slowly declining during the course of the year 2021 (in the case of serious illnesses/interventions);
- but also for mild illnesses/interventions, the trend in demand for services is repeated between January-February 2020 and the entire year 2020 (with significant multiplying factors), and then decreases over the course of the year 2021.

The third phenomenon is that concerning non-Covid patients who – as mentioned at the beginning of this section – suffered from interruptions/postponements of the expected services as evidenced by the third group of data in Table 9, from which it can be seen how:

- it was possible to go from a minimum of 21.0% of people on the waiting list for laboratory tests up to 71.5% for hospital admissions in view of scheduled surgical interventions, with a preponderance of interruptions/postponements vastly exceeding 40%;
- and these percentages drop slightly in the year 2021, remaining however between a minimum of 21.3% of interruptions/postponements, again for laboratory tests, up to 54.6% linked to hospital admissions for scheduled surgical interventions, remaining however not far from the 40% mentioned in the instance above.

The duration of these interruptions/postponements is:

- in the year 2020, up to 2 months, going from a minimum of 10.9% for laboratory tests up to 37.6% for hospital admissions for scheduled surgery, from 3 to 4 months involving a minimum (5.4%) for laboratory tests

up to 21% for access to regular therapies/required visits and from 5 to 8 months and more, again going from a minimum of 4.7% for laboratory tests, up to 29.6% for hospital admissions for scheduled surgery;

- while in the year 2021 the incidence of duration tends mainly to decrease, it remains fairly consistent with regard to two types of particularly delicate services: those relating to access to regular therapies/required visits and that of hospital admissions for scheduled surgical interventions.

Moreover, the issue of service interruptions/postponements, declared in the specific survey conducted for this Report, is confirmed, first of all, by the objective data of the flows of specialist services in the period from January-September 2019 to January-September 2020: in absolute value, this is a decrease of 51.6 million services compared to 170.1 million in 2019. In percentage terms, Table 9A shows how the decrease was equal to the national average of -30.3%, a value distributed among the North (with a slightly more pronounced -32.0%), Central Italy (-30.1%) and the South (-28.0%).

But this decrease can show even greater drops in values depending on the type of service and the different territories. And here some examples can be given<sup>4</sup> as with the case of mammography screenings which decreased, as a national average, by -37.7%, but also exceeded -50.0% in 7 Regions: Calabria (-63.3%), the Autonomous Province of Trento (-59.9%), Liguria (-56.2%), Campania (-56.1%), Sardinia (55.6%), Abruzzo (-52.8%), Aosta V. (-51.9%). And another example is that of cervical *screenings* which declined on average by -43.4%, but exceeded -50.0% and more in 4 Regions: Basilicata (-74.0%), Lombardy (-72.8%), Campania (-60.2%) and Piedmont (-55.6%).

The confirmation of the interruptions/postponements emerges, secondly, from the trend of hospital admissions (see again Table 9A) which recorded a consistent decrease (based on a comparison between the entire year 2019 and the entire year 2020), of 1.8 million units, equal to -21.0% but was -23.9% in the South, followed by the North (with -20.3%) and then by Central Italy (with -18.2%).

Also in this case there are hospital services with significant decreases, starting from the national average of -21.0%, such as those concerning inpatient scheduled hospital admissions that reach -26.0% but with peaks even higher than -30.0% as in Lombardy (-33.8%), in Calabria (-33.5%) and in Liguria (-32.2%).

Again it is worth mentioning the case of coronary bypass surgery which decreased on average by -25.3% nationwide, but showed more pronounced values starting with Calabria (-63.2%), followed by Umbria (-30.2%), Apulia (-28.6%), Piedmont (-28.6%) and Lombardy (-27.8%)<sup>4</sup>.

<sup>4</sup> See Part Four, paragraph 2.7.

Table 9 – The emergency of suspension of treatment for non-Covid patients, accompanied by an extraordinary increase in the demand for inpatient services by Covid patients (val.%)

| Phenomena  | Data                      |                           |                           |                   |                           |      |
|--|---------------------------|---------------------------|---------------------------|-------------------|---------------------------|------|
|  | General public*           |                           |                           | Covid-19 patients |                           |      |
|  | 2019                      | 2020                      | 2021                      | 2020              | 2020                      | 2021 |
| <i>A sharp decline in the demand for inpatient services (through the presence on waiting lists) by the general public in the last three years corresponding to a multiplication of the demand by Covid patients<sup>1</sup>:</i> |                           |                           |                           |                   |                           |      |
| – One or more experiences with waiting lists for local health authority services for serious illnesses/interventions <sup>1</sup>  | 15.0                      | 12.2                      | 10.1                      | 38.5 (3.2 x)      | 39.4 (3.9 x)              |      |
| – One or more experiences with waiting lists for local health authority services for mild illnesses/interventions <sup>1</sup>   | 32.4                      | 23.5                      | 22.5                      | 46.2 (2.0 x)      | 48.5 (2.2 x)              |      |
| – One or more experiences with waiting lists for hospital admission for serious illnesses/interventions <sup>2</sup>   | 10.4                      | 6.7                       | 7.1                       | 37.2 (5.6 x)      | 29.5 (4.2 x)              |      |
| – One or more experiences with waiting lists for hospital admission for mild illnesses/interventions <sup>2</sup>  | 17.4                      | 11.2                      | 10.3                      | 39.9 (3.6 x)      | 39.7 (3.9 x)              |      |
| <i>The trend of the general public's demand for specific services<sup>3</sup> in the months of January-February 2020 (pre-pandemic) and then in the year 2020 and in the year 2021<sup>2</sup>:</i>                              |                           |                           |                           |                   |                           |      |
| – Laboratory exams   | 2020 <sup>2</sup><br>21.6 | 2021 <sup>3</sup><br>55.0 | 2020 <sup>2</sup><br>19.1 | 2020<br>55.1      | 2021 <sup>3</sup><br>55.1 |      |
| – Diagnostic tests (such as X-Ray, CAT, MRN, etc.)   | 20.9                      | 45.6                      | 18.8                      | 44.8              | 49.0                      |      |
| – Specialist visits  | 26.7                      | 46.7                      | 21.7                      | 62.9              | 57.5                      |      |
| – Access to regular treatments/required check-ups  | 16.6                      | 28.3                      | 14.7                      | 29.1              | 27.6                      |      |
| – Day service outpatient medical services  | 13.6                      | 28.6                      | 10.7                      | 20.2              | 17.5                      |      |
| – Day service outpatient surgery services  | 10.6                      | 21.3                      | 10.5                      | 13.5              | 13.1                      |      |
| – Admissions for treatment   | 9.0                       | 32.9                      | 8.3                       | 24.4              | 22.5                      |      |
| – Hospitalization for planned surgery  | 9.5                       | 24.6                      | 9.2                       | 28.9              | 24.7                      |      |
| – Other  | 6.3                       | 2.0                       | 4.6                       | 1.8               | 1.2                       |      |

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(Continued) Table 9 – The emergency of suspension of treatment for non-Covid patients, accompanied by an extraordinary increase in the demand for inpatient services by Covid patients (val.%)

| Phenomena  | Data            |                    |                       |                    |
|--|-----------------|--------------------|-----------------------|--------------------|
|  | 2020            |                    | 2021                  |                    |
| <i>The specific inpatient services for which there have been interruptions/postponements for both serious and mild illnesses/interventions, according to the statements provided by the public* 4.</i> |                 |                    |                       |                    |
| – Laboratory exams   | 21.0            | 21.3               |                       |                    |
| – Diagnostic tests (such as X-Ray, CAT, MRN, etc.)   | 47.7            | 36.0               |                       |                    |
| – Specialist visits  | 47.7            | 31.4               |                       |                    |
| – Access to regular treatments/required check-ups  | 48.5            | 41.1               |                       |                    |
| – Day service outpatient medical services  | 41.5            | 38.5               |                       |                    |
| – Day service outpatient surgery services  | 52.5            | 38.0               |                       |                    |
| – Admissions for treatment   | 44.4            | 46.1               |                       |                    |
| – Hospitalization for planned surgery  | 71.5            | 54.6               |                       |                    |
|  | 2020            |                    |                       |                    |
| <i>Duration of the interruption/postponement of inpatient services, according to the statements provided by the public* 5.</i>   |                 |                    |                       |                    |
| – Laboratory exams   | →Up to 2 months | From 3 to 4 months | 5-8 months and longer | →Up to 2 months    |
| – Diagnostic tests (such as X-Ray, CAT, MRN, etc.)   | 10.9            | 5.4                | 4.7                   | 14.7               |
| – Specialist visits  | 15.7            | 15.2               | 16.8                  | 20.6               |
| – Access to regular treatments/required check-ups  | 15.4            | 17.7               | 14.6                  | 12.0               |
| – Day service outpatient medical services  | 13.1            | 21.0               | 14.4                  | 16.6               |
| – Day service outpatient surgery services  | 13.4            | 15.1               | 13.0                  | 10.5               |
| – Admissions for treatment   | 12.9            | 14.6               | 25.0                  | 10.6               |
| – Hospitalization for planned surgery  | 17.0            | 10.7               | 16.7                  | 8.8                |
|  | 37.6            | 4.3                | 29.6                  | 24.6               |
|  |                 |                    |                       | From 3 to 4 months |
|  |                 |                    |                       | 2.5                |
|  |                 |                    |                       | 5.0                |
|  |                 |                    |                       | 10.2               |
|  |                 |                    |                       | 15.3               |
|  |                 |                    |                       | 16.2               |
|  |                 |                    |                       | 11.1               |
|  |                 |                    |                       | 23.9               |
|  |                 |                    |                       | 14.4               |
|  |                 |                    |                       | 15.6               |

(\*) Total adult population sample, including the number of Covid patients. (4) See Part Two/Table 17, p. 119.

(1) See Part Three/Table 4, p. 163.

(2) See Part Three/Table 5, p. 165.

(3) See Part Two/Table 16, p. 117. (6) See Part Three/Table 8A, p. 175.

Source: survey by *Ermeneia – Studi & Strategie di Sistema, 2021*

Table 9A – Decrease in specialist services between January-September 2019 and January-September 2020 and in hospital admissions between 2019 and 2020 (% val.)

| <i>Regions</i>   | <i>Decrease %<br/>of specialist services</i> | <i>Decrease %<br/>of hospital admissions</i> |
|--|--|--|
| Piedmont   | -27.9  | -20.3  |
| Aosta Valley   | -51.9  | -23.1  |
| Lombardy   | -33.2  | -23.8  |
| Autonomous Province of Bolzano   | -48.8  | -18.3  |
| Autonomous Province of Trento  | -27.3  | -19.0  |
| Veneto   | -30.9  | -15.2  |
| Friuli Venezia Giulia  | -26.9  | -16.6  |
| Liguria  | -34.0  | -23.0  |
| Emilia Romagna   | -33.2  | -18.3  |
| <b>NORTH</b>   | <b>-32.0</b>                                 | <b>-20.3</b>                                 |
| Tuscany  | -24.2  | -18.9  |
| Umbria   | -31.1  | -21.1  |
| Marche   | -38.3  | -21.3  |
| Lazio  | -31.5  | -16.4  |
| <b>CENTER</b>  | <b>-30.1</b>                                 | <b>-18.2</b>                                 |
| Abruzzo  | -28.3  | -18.3  |
| Molise   | -27.5  | -23.2  |
| Campania   | -14.3  | -25.0  |
| Apulia   | -25.6  | -28.1  |
| Basilicata   | -67.7  | -27.1  |
| Calabria   | -39.2  | -30.6  |
| Sicily   | -31.4  | -19.2  |
| Sardinia   | -32.5  | -20.2  |
| <b>SOUTH AND ISLANDS</b>   | <b>-28.0</b>                                 | <b>-23.9</b>                                 |
| <b>ITALY TOTAL</b>   | <b>-30.3</b>                                 | <b>-21.0</b>                                 |
| Total number of services and hospitalizations in 2019 (in millions/thousands of units) | 170.1<br>(in millions)                       | 8,468<br>(in thousands)                      |
| Number of services and hospitalizations in 2020 (in millions/thousands of units)       | 118.5<br>(in millions)                       | 6,693<br>(in thousands)                      |
| Difference 2019-2020   | -51.6<br>(in millions)                       | -1,775<br>(in thousands)                     |

*AIOP processing of AGENAS data (Source: Ministry of Health, Flow of outpatient specialist services, excluding laboratory activity) and SDO Flow, pursuant to Art.50, 2021*

## **2.4. A more mature socialization of the pandemic by the general public and by Covid patients, but with a marked polarization across the board**

To begin with, it is useful to consider the first group of data in Table 10, which generally expresses how the pandemic was “absorbed” in the social culture during the two-year period 2020-2021.

A comparison of the first two columns shows an evolution of the population’s attitudes in the shadow of a more problematic metabolization. In fact, the amount of agreement with statements given on the survey decreased significantly in 2021 compared to 2020, likely attesting to a greater awareness about the longer duration and the implications on the level of behaviors necessitated by the pandemic, with the related questions and anxieties that arose as a result of this among citizens.

In short, in the first year one might have hoped to make it through the situation simply “by holding one’s breath”, counting on a return to normalcy in the short term, and (too many) signs of the excessive easing up of behaviors could be witnessed already in the summer of 2020: hence the high levels of agreement that exceeded 80%.

Conversely, in 2021 the perception of a different situation (already the result of the second wave at the end of 2020 and then the third wave of the first half of 2021) brought about some changes in the opinions provided, which nevertheless remained high at around 70% or more, but which are show a more mature perception of the necessary effort that would take to deal with the pandemic, a commitment that is attested to by statements such as:

- the need to learn to live with the virus for a longer time;
- the need to increase the number of vaccinated people (given that in the meantime the vaccine had arrived);
- the importance of incorporating the vaccine also as a collective social duty (and not just as an individual health and safety interest);
- the opportunity to embark on a new individual and collective development cycle (through the use of European resources).

It should also be noted that Covid patients who have experienced the virus are less in line with the level of agreement of the general public, with differences of up to 10 or more percentage points (see the second and third columns of the first group of data in Table 10). Moreover, the nucleus of contrary attitudes (which can be seen in the subsequent data in Table 10) is already configured in the negative evaluations on general attitudes towards the pandemic, which are also present in the general public (between 14.4% and 19.9%) and even more in Covid patients (between 25.8% and 32.2%).

The information above is congruently projected on the responses shown in the subsequent data of Table 10, starting with the theme of *Green Pass* for which is reported (see second group of data in Table 10)<sup>5</sup>:

- a) a high level of agreement, around 70% or so, about the fact that this document is “a good idea”, according to the opinion of the general public:
  - because it helps in terms of interpersonal relationships and the resuming of economic and social activities (71.9%);
  - because it may induce undecided people to get vaccinated, without forcing them to do so by law (71.4%);
  - because it promotes a greater sense of personal responsibility and towards others (72.3%);
  - because it is right to extend it to all workers, consequently supporting businesses and economic activity (70.4%);
  - because it should also be mandated for the entire population, except for those with proven health conditions that make it impossible (70.2%);
  - and provided that, for this latter group, certified documentation is provided for those who have real health problems that prevent them from using the vaccine (74.9%);
- b) a level of agreement substantially similar to that of the general public (or even slightly higher) among patients who have experienced Covid, except for three statements for which positive responses rested at around 60% and this concerns:
  - the fact that the *Green Pass* promotes a greater sense of personal responsibility and towards others (60.6%);
  - the fact that the *Green Pass* should be mandated for all workers (61.3%);
  - and finally, the fact that the issuance of a *Green Pass* require certified documentation for those who have real health problems that prevent them from using the vaccine (60.4%).

Thus, this lattermost data shows a series of attitudes – among Covid patients – that tend towards resistance and hostility mainly:

- with regard to the choice to be vaccinated not only as an act of self-protection but also for the protection of others (it is the issue of collective solidarity that is struggling to be adequately established in people’s perception);

<sup>5</sup> It is pointed out that the opinions expressed by the respondents are the result of a survey whose questionnaire was administered in the second half of September 2021, on the eve of the first concrete application of the *Green Pass* which took place at the beginning of October.

- and towards the extension to all workers of the *Green Pass* (as did actually happen);
- c) and a high level of disagreement with the survey statements both among the general public and, even more so, among Covid patients. In fact, in the first case, it went from a minimum of 25.1% of negative opinions (“slightly agree + disagree completely”) up to 29.8%, and in the second case it again rises from a minimum of 25.1%, though in this instance up to 39.4%. There was thus at the time of the survey a certainly not-marginal “core” of resisters to the idea of *Green Pass* which, moreover, has already manifested itself in the general attitudes on the metabolization of the pandemic (shown in the first group of data in Table 10) and which is confirmed by the negative opinions relating to the priorities of care (shown in the last group of data in the same table).

So it was, that during the “treatment” the pandemic received from the point of view of policies and the ensuing debate, two groups of people were formed, and grew stronger over the months that followed: those who actually decided to get vaccinated (albeit with a plethora of internal differences relating to motivations and attitudes) and those who refused and/or postponed vaccination even if they had the possibility to get it.

Naturally, the passing of the months gave rise to a very vocal and objective over-representation in the media of the “plight of the unvaccinated”, and at the same time an “annoyance among the vaccinated”, which gradually escalated as the number of vaccinated people increased.

The last group of data in Table 10 shows the existence of a polarization, already mentioned above, but this time relating to some principles of possible priority in the provision of care. It should also be emphasized that the level of agreement, while certainly higher among the general public, does not drop much for Covid patients. In fact:

- the possibility of rebalancing care between Covid patients and non-Covid patients has its roots in the fact that the latter had to undergo interruptions/postponements of services during the year 2020 and often also in the year 2021, accumulating – especially in the case serious illnesses/interventions – completely significant additional health risks (81.3% agreement among the general public compared to 74.5% for Covid patients);
- the possibility of giving priority to the care of infected patients who, however, have already been vaccinated over those who have decided not to be vaccinated due to their personal choice (66.9% agreement among the general public compared to the figure of 69.3% for those who have already experienced the virus);

- the possibility of establishing a sort of significant co-payment charge for the provision of care for those Covid patients who have personally chosen not to get vaccinated but who end up overburdening the facilities, placing on them the financial costs borne by the National Health Service as well as for the additional commitment of personnel (68.8% agreement among the public, and 71.3% for Covid patients who evidently have had some direct or indirect experience in this regard);
- and finally, the possibility/opportunity of introducing a specific law mandating vaccination for the entire population, obviously net of those who have serious health reasons for not being able to access this service (the level of agreement among the general public is 69.8% and 63.0% for Covid patients).

Consequently, the number of negative opinions (“slightly agree + disagree completely”) remains fairly consistent for both samples, even if:

- the general public shows more disagreement compared to Covid patients, defending the principle of solidarity in favor of the unvaccinated (as is the case of the second and third survey statements evaluated);
- while individuals who directly experienced Covid show a marked disagreement with the survey statements compared to the general public, substantially claiming the rights to care and respect for their ideas, as shown by the first and fourth statements referred to in the last group of data in Table 10.

Table 10 – Convergences and divergences of attitudes and propensities that tend to polarize among the general public and among Covid-19 patients (val.%)

| Phenomena  | Data  |   |   |   |   |  |
|--|---|---|---|---|---|--|
|  | General public*                               |   |   | Covid patients                                |   |  |
|  | 2020 <sup>1</sup><br>Very +<br>Somewhat agree | 2021 <sup>2</sup><br>Very +<br>Somewhat agree | 2021 <sup>2</sup><br>Slightly agree +<br>Disagree | 2021 <sup>2</sup><br>Very +<br>Somewhat agree | 2021 <sup>2</sup><br>Slightly agree +<br>Disagree |  |
| – A comparison of general attitudes towards the pandemic experience:<br>We must accept the idea that we have not yet emerged from the Covid-19 pandemic and that we will have to learn to live with it again (for one/two years?)  | 90.7  | 75.8  | 14.4  | 68.5  | 25.8  |  |
| – The availability of the vaccine and the acceleration of the administration processes have contributed to drastically reduce the impact on hospital facilities and on the number of deaths, but the number of vaccinated people must be higher if we want to return to a more normal life.                          | n/a   | 68.5  | 19.9  | 57.6  | 31.4  |  |
| – We need to figure out how to restore the value of duties as well as the expectations of rights, given that individual freedom (in this case to get vaccinated or not) must be balanced by the burden of preserving, by means of vaccination, the health of the community in which one lives.                       | 81.6  | 70.9  | 16.6  | 58.6  | 32.2  |  |
| – We need to rediscover the desire to embark upon a new individual and collective cycle which requires the dual commitment of society and at the same time of the State (also making use of European resources), given that neither of the two entities is capable by itself of recommencing the path of development | 84.2  | 70.1  | 16.9  | 58.6  | 28.6  |  |
| <i>A more than fair amount of acceptance of the idea of the Green Pass among the general public and also by Covid patients, but with a marked polarization<sup>3</sup>:</i>  |   |   |   |   |   |  |
| – It is a good idea, because it helps in terms of interpersonal relationships and the resuming of economic and social activities   |   | 71.9  | 28.1  | 72.2  | 27.8  |  |
| – It is a good idea because it may induce undecided people to get vaccinated, without forcing them to do so legally  |   | 71.4  | 28.6  | 74.9  | 25.1  |  |
| – It is a good idea because it promotes a greater sense of personal responsibility and towards others  |   | 72.3  | 27.7  | 60.6  | 39.4  |  |
| – It is a good idea and it should be extended to all workers   |   | 70.4  | 29.6  | 61.3  | 38.7  |  |
| – It is a good idea and should be compulsorily extended to the entire population, except for when health conditions do not permit vaccination  |   | 70.2  | 29.8  | 71.7  | 28.3  |  |
| – It is a good idea if, obviously, certified documentation is also provided for those who have real health problems and that prevent them from using the vaccine   |   | 74.9  | 25.1  | 60.4  | 39.6  |  |

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(Continued) Table 10 – Convergences and divergences of attitudes and propensities that tend to polarize among the general public and among Covid-19 patients (val.%)

| Phenomena  | Data                     |                              |                          |                              |
|--|--------------------------|------------------------------|--------------------------|------------------------------|
|  | General public*          |                              | Covid patients           |                              |
|  | Very +<br>Somewhat agree | Slightly agree +<br>Disagree | Very +<br>Somewhat agree | Slightly agree +<br>Disagree |
| – A substantial convergence, albeit with a significant polarization, on the issue of responsibility for behavior, attitudes of shared priorities in dealing with the pandemic <sup>1</sup> :   |                          |                              |                          |                              |
| – It would be proper to address the issue of a more balanced priority in the provision of hospital care between Covid-19 patients and non-Covid-19 patients, the latter running equally if not more serious health risks if no action is taken, having in many cases already had to postpone scheduled treatments or interventions for a long time (as with, for example, cancer patients or those who have had serious cardiovascular problems) | 81.3                     | 18.7                         | 74.5                     | 25.5                         |
| – It would be proper, in the event of overloaded hospitals, to give priority to care for people who have contracted the virus despite having been vaccinated over those not vaccinated due to personal choice (and not due to health constraints)  | 66.9                     | 33.1                         | 69.3                     | 30.7                         |
| – It would also be proper to introduce a sort of significant co-payment charge for the provision of hospital care for Covid-19 patients who have personally chosen not to get vaccinated (and not for health reasons)  | 68.8                     | 31.2                         | 71.3                     | 28.7                         |
| – It would be proper, given the trend of the pandemic, not only at a national level but also worldwide, to introduce a special law for the compulsory vaccination of the entire population (with the exception of those who have serious health issues and cannot be vaccinated)   | 69.8                     | 30.2                         | 63.0                     | 37.0                         |

(\*) Total adult population sample, including the number of Covid patients.

(1) See Part Three/Table 16, p. 200.

(2) See Part Three/Table 16A, p. 201.

(3) See Part Three/Table 20, p. 210.

(4) See Part Three/Table 21, p. 214.

Source: survey by *Ermeneta – Studi & Strategie di Sistema, 2021*



### *3. The importance of knowing how to invest resources to rethink the National Health Service, enhancing the contribution of public and accredited operators*

#### **3.1. The (slow) progress of the alliance between public and private hospitals brought about by the pandemic**

The situation has at times turned out to be completely (or almost) unexpected compared to what is actually taking place with respect to the studies, analyses and forecasts since the arrival of the pandemic, posing new problems and needs with which we are still engaged, having to deal at the end of 2021 with the fourth wave of the Covid-19 virus.

The toll of two years of extraordinary circumstances – which still continue – has abruptly put the needs of Covid patients first, forcing healthcare facilities to reduce or suspend services for non-Covid patients. The latter, however, have suffered the consequences of the (often repeated) postponement of *screenings*, treatments and interventions that from 2020 have, in many cases, carried forward into 2021: this has generated an accumulation of arrears which has been accompanied by the explosion of demand for inpatient services by the formerly infected patients, especially since the appearance of the phenomena of *long Covid*.

All of this is well accounted for in this Report, which every year carries out its interpretative oversight of the Italian hospital system, while the available data – especially in terms of international comparisons – are inevitably delayed.

Parallel to the unexpected (and problematic) arrival of the virus, there was an unexpected (and positive) extraordinary intervention by Europe in the form of a recovery and development program (*Recovery Plan*) which involves not only health, with particular reference to vaccines, but also the economy, technologies, work, the environment and society.

Over time this will be accounted for in this Report, although for the time being we have to accept the limit of available information which essentially comes to a stop in 2019.

And so it is necessary to start from the latter and in particular from the latest “OECD *Health Data 2021*” which reiterates how (see Table 11):

- a) Italian public health expenditure is still capped at a low level, i.e. at 6.5% of GDP in 2019, as it was already in 2018 and 2017, having dropped from 6.7% in 2016, after a further decrease from the 6.8% figure of 2015. The average of the G7 countries, on the other hand, remains positioned at 9.2% of GDP in 2019, a slight increase compared to the previous two years (in which this ratio was 9.1%). And even considering the average of OECD European countries, the impact of public health expenditure on GDP is still higher than that of Italy, situated at 7.2% in 2019 compared to 7.1% in 2017 and 2018. If then the total average of the OECD countries is taken into consideration, the impact on GDP rises by a few tenths of a point, reaching 7.5% in 2019 which is in any case – albeit slightly – higher than 7.4% in the previous two years.

However, European public health expenditure to GDP saw Germany positioned at the highest point (9.9%), followed by 9.3% in France and 8.0% in the United Kingdom, further explicating an increasing trend in the last three years.

Speaking of the disadvantage in this country, it should be emphasized that Italy is doubly penalized not only by the lower amount of health expenditure as part of GDP, as we have seen, compared to the countries mentioned, but also due to the previous financial crisis of 2008 which reverberated in the following years, helping to lower the basis for calculating the percentage of expenditure (i.e. the value of the national Gross Domestic Product: the latter in fact only began to recover from 2014-2015, but during the pandemic crisis of 2020 decreased further by 9% in real terms);

- b) total health expenditure remains anchored at a constant level, situated at 8.7% from 2017 to 2019 and below the average of the G7 countries which is equal to 11.5%, as well as compared to the average of OECD Europe countries (equal to 9.3%) and the total average of OECD countries (which is 9.7%); Germany, in turn, again has a higher percentage in absolute terms with its 11.7%, more substantial than the same average of the G7 countries (11.5%) with France following close behind with 11.1%. Furthermore, Germany shows an increase in total health expenditure between 2017 and 2019 (from 11.3% to 11.7%), while France shows a slight reduction in the three-year period, falling from 11.3% to 11.1%;
- c) a completely separate case is represented by the United States which, due to their strongly private-oriented system, ended up investing much larger amounts of resources that totaled 16.8% of GDP in 2019, with similar values for the previous two years.

Table 11 – Amount of total healthcare expenditure and public healthcare spending in relation to the GDP

| % Values                               | Total healthcare expenditure |            |            | Public healthcare expenditure |            |            |
|--|------------------------------|------------|------------|-------------------------------|------------|------------|
|  | 2017                         | 2018       | 2019       | 2017                          | 2018       | 2019       |
| United States                          | 16.8                         | 16.7       | 16.8       | 13.9                          | 13.8       | 13.9       |
| Japan                                  | 10.8                         | 10.9       | 11.0       | 9.1                           | 9.2        | 9.3        |
| Germany                                | 11.3                         | 11.5       | 11.7       | 9.6                           | 9.7        | 9.9        |
| France                                 | 11.3                         | 11.2       | 11.1       | 9.4                           | 9.4        | 9.3        |
| <b>Italy</b>                           | <b>8.7</b>                   | <b>8.7</b> | <b>8.7</b> | <b>6.5</b>                    | <b>6.5</b> | <b>6.5</b> |
| United Kingdom                         | 9.8                          | 9.9        | 10.2       | 7.7                           | 7.8        | 8.0        |
| Canada                                 | 10.8                         | 10.8       | 10.8       | 7.6                           | 7.6        | 7.6        |
| Average of G7 countries (*)            | 11.4                         | 11.4       | 11.5       | 9.1                           | 9.1        | 9.2        |
| Average of European OECD countries (*) | 9.2                          | 9.2        | 9.3        | 7.1                           | 7.1        | 7.2        |
| Average of all OECD countries (*)      | 9.7                          | 9.6        | 9.7        | 7.4                           | 7.4        | 7.5        |

(\*) Averages are calculated as unweighted arithmetic means.

Source: *Ermeneia processing of "OECD Health Data 2021", OECD, Paris, November 2021*

Moreover, as far as Italy is concerned, the additional resources invested by families for healthcare must be taken into account, going from EUR 35.8 billion in 2015, increasing year by year, up to EUR 38.5 billion in 2019, an increase of 7.4%.

Again starting from the OECD *Health Data 2021* Report mentioned above, the data presented in Table 12 below was obtained having to do with hospital expenditure for public and accredited facilities from which it is possible to see how:

- a) Italy has the highest percentage of public and accredited hospital expenditure out of total public health expenditure: 56.4% in 2019, stable compared to 2018, but slightly down compared to 2017. This percentage reflects, among other things, the process of progressive hospitalization for treatments that has occurred over the years following the limits shown by local healthcare services, limits already evident in ordinary times but which have proved to be even more problematic during the pandemic. The comparison with the average of the G7 countries (41.7%), with the average of the OECD countries of Europe (45.6%) and with the average of the total of the OECD countries (44.7%) clearly highlights the description just mentioned. And a comparison with Germany, again for 2019 (31.5%) but also with France (43.1%) and with the United Kingdom (47.5%) underlines the greater weakness of the Italian health system in terms of local assistance;
- b) the ratio of public and accredited hospital expenditure to GDP sees Italy steadily situated at 3.6% over the last two years, with a slight drop compared to 2017, while remaining higher (in terms of percentage) than the average of the OECD Europe countries (3.2% in the three-year period) and compared to the total average of the OECD countries (3.3% again for

the entire three-year period). While it is just below the average of the G7 countries which stand at 3.7% in 2019 as well as in 2018, with a slight decrease from the 3.8% figure in 2017.

Table 12 – Public and Accredited Hospital Expenditure in relation to the public healthcare spending and the GDP

| % Values                               | Public and Accredited Hospital                 |             |             |  |            |            |
|--|--|-------------|-------------|--|------------|------------|
|  | Expenditure / Total Public Healthcare Spending |             |             | Public and Accredited Hospital Expenditure/GDP |            |            |
|  | 2017   | 2018        | 2019        | 2017   | 2018       | 2019       |
| United States                          | 36.0   | 35.8        | 36.2        | 5.0  | 4.9        | 5.0        |
| Japan                                  | 44.0   | 43.5        | -           | 4.0  | 4.0        | -          |
| Germany                                | 32.0   | 31.7        | 31.5        | 3.1  | 3.1        | 3.1        |
| France                                 | 43.9   | 43.3        | 43.1        | 4.1  | 4.0        | 4.0        |
| <b>Italy</b>                           | <b>57.1</b>                                    | <b>56.4</b> | <b>56.4</b> | <b>3.7</b>                                     | <b>3.6</b> | <b>3.6</b> |
| United Kingdom                         | 49.5   | 48.7        | 47.5        | 3.8  | 3.8        | 3.8        |
| Canada                                 | 35.9   | 35.9        | 35.3        | 2.7  | 2.7        | 2.7        |
| Average of G7 countries (*)            | 42.6   | 42.2        | 41.7        | 3.8  | 3.7        | 3.7        |
| Average of European OECD countries (*) | 45.5   | 45.5        | 45.6        | 3.2  | 3.2        | 3.2        |
| Average of all OECD countries (*)      | 44.8   | 44.8        | 44.7        | 3.3  | 3.3        | 3.3        |

(\*) Averages are calculated as unweighted arithmetic means.

Source: *Ermeneia processing of "OECD Health Data 2021", OECD, Paris, November 2021*

If we then move on to take the internal situation of Italy into consideration, with reference to healthcare and hospital spending in recent years, Tables 13 and 14 show that:

- a) spending on public hospitals at current prices (Table 13) has grown slightly over time in terms of Index Numbers (2015 = 100.0): which means that rose to 101.3 in 2016, to 102.6 in 2017 and 104.7 in 2018, and to 106.4 in 2019: but if we look at expenditure evaluated at constant prices (Table 14) the growing trend shrinks considerably as it goes to 100.2 in 2016, 100.7 in 2017, 101.7 in 2018 and 102.4 in 2019;
- b) in turn, hospital expenditure for accredited facilities as a whole tends to stabilize between 2015 and 2018, rising slightly to 101.1 in 2019 (see again Table 13): but these are the results at current prices and if we consider instead the results at constant prices (See Table 14) the situation appears to be quite different, i.e. in constant decrease, since it drops to 99.1 in 2016, to 97.6 in 2017, to 97.4 in 2018 and finally to 97.3 in 2019;
- c) and finally, hospital spending at current prices, destined for accredited hospitals (specifically, accredited healthcare facilities) apparently grew between 2015 and 2019 by 1.2%, reaching EUR 4.4 billion (See Table 13); but in reality this expenditure decreased if we look at constant prices: between 2015 and 2019, in fact, in terms of Index Numbers, it fell from 100.0 to 97.4 (See Table 14).

Table 13 – Current health spending: Years 2015-2019 (in billions of euro) and I.N. (2015 = 100.0)

|   | 2015    |       | 2016    |       | 2017    |       | 2018    |       | 2019    |       |
|---|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
|   | A.V.    | I.N.  | A.V.    | I.N.  | A.V.    | I.N.  | A.V.    | I.N.  | A.V.    | I.N.  |
| Public hospital facilities                  | 53.847  | 100.0 | 54.566  | 101.3 | 55.226  | 102.6 | 56.378  | 104.7 | 57.299  | 106.4 |
| Accredited hospitals (as a whole)           | 8.466   | 100.0 | 8.484   | 100.2 | 8.419   | 99.4  | 8.493   | 100.3 | 8.559   | 101.1 |
| of which: accredited hospitals <sup>1</sup> | 4.335   | 100.0 | 4.351   | 100.4 | 4.321   | 99.7  | 4.359   | 100.6 | 4.387   | 101.2 |
| Total public hospital system expenditure    | 62.313  | 100.0 | 63.050  | 101.2 | 63.645  | 102.1 | 64.871  | 104.1 | 65.858  | 105.7 |
| Other expenditure features                  | 50.354  | 100.0 | 50.681  | 100.6 | 50.694  | 100.7 | 50.842  | 101.0 | 51.070  | 101.4 |
| Total public healthcare expenditure         | 112.667 | 100.0 | 113.731 | 100.9 | 114.339 | 101.5 | 115.713 | 102.7 | 116.928 | 103.8 |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: data processed by Ermeneta from the 2016, 2017, 2018, 2019, 2019 and 2021 "Report on the coordination of public finance" by the Court of Auditors, the 2018-2019 Agenas Report on the monitoring of the health spending of the Regions and the 2021 MEF Report on the monitoring of the healthcare spending

Table 14 – Healthcare expenditure at constant prices<sup>(\*)</sup>, Years 2015-2019 (in billions of euro) and I.N. (2015 = 100.0)

|   | 2015    |       | 2016    |       | 2017    |       | 2018    |       | 2019    |       |
|---|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
|   | A.V.    | I.N.  | A.V.    | I.N.  | A.V.    | I.N.  | A.V.    | I.N.  | A.V.    | I.N.  |
| Public hospital facilities                  | 53.847  | 100.0 | 53.954  | 100.2 | 54.213  | 100.7 | 54.759  | 101.7 | 55.149  | 102.4 |
| Accredited hospitals (as a whole)           | 8.466   | 100.0 | 8.389   | 99.1  | 8.265   | 97.6  | 8.249   | 97.4  | 8.238   | 97.3  |
| of which: accredited hospitals <sup>1</sup> | 4.335   | 100.0 | 4.302   | 99.2  | 4.242   | 97.9  | 4.234   | 97.7  | 4.222   | 97.4  |
| Total public hospital system expenditure    | 62.313  | 100.0 | 62.343  | 100.0 | 62.477  | 100.3 | 63.008  | 101.1 | 63.386  | 101.7 |
| Other expenditure features                  | 50.354  | 100.0 | 50.113  | 99.5  | 49.764  | 98.8  | 49.382  | 98.1  | 49.153  | 97.6  |
| Total public healthcare expenditure         | 112.667 | 100.0 | 112.455 | 99.8  | 112.241 | 99.6  | 112.390 | 99.8  | 112.540 | 99.9  |

(\*) GDP deflator calculated on the basis of the new ISTAT series in a chained series with reference to 2015, November 2021.

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: data processed by Ermeneta from the 2016, 2017, 2018, 2019, 2019 and 2021 "Report on the coordination of public finance" by the Court of Auditors, the 2018-2019 Agenas Report on the monitoring of the health spending of the Regions and the 2021 MEF Report on the monitoring of the healthcare spending

Regardless of the comparative analysis of public health expenditure in Italy/Rest of the World as well as at the national level which – as we have seen – is documented for 2019 (pre-pandemic year), it is necessary to ask what the trend for regular financial resource investment may be as relates to this expense in Italy not only today but in the future as well.

A realistic but also worrying hypothesis can be formulated starting from what is contained in the Economics and Finance Document of April 2019 and September 2021 (see Chart 1). As can be seen, the framework of the funding of prospective spending, in absolute value and in relation to GDP, appears to have grown by almost EUR 8 billion in 2020 to cope with the pandemic impact, reaching 7.5% of the Gross Domestic Product. But this ratio would be expected to gradually decrease already in 2021, dropping from 7.5% in 2020 to 7.3% in the following year, and then decreasing to 6.7% in 2022, to 6.3% in 2023 and to 6.1% in 2024, therefore already lower in 2023 than the 6.5% of the 2017-2019 three-year period: and also taking into account the additional value of the funding provided for by the 2022 Budget Law, compared to the forecasts of the NADEF of September 2021, the ratio of public health expenditure to GDP would be situated at 6.3% in 2024 (EUR 128 billion of expenditure), a level that is in any case lower than that already contained 6.5% of the three-year period mentioned (a level well below that of the average of OECD countries and again even more than those of the G7).

Of course, the calculations were made on a GDP that would grow from a figure of +6.2% already in 2021, and with further positive though gradually smaller increases in the following years: and therefore the actual absolute value of public health expenditure would still remain higher than in 2020. But this forecast must take into account a series of additional and extremely demanding current expenditure commitments. In this regard, therefore, it is fair to ask how much of this re-financing:

- a) will eventually converge in the operating costs of the many new health-care facilities provided for by the PNRR investments (Community Homes, Family and Community Nurses, Special Continuity Care Units (USCA), Territorial Operation Centers, Home Assistance, Community Hospitals, Hospices, Palliative Care Network, Information Systems, Telemedicine, etc.);
- b) will, in the medium term, finance the training and hiring of a significant number of operators (doctors and nurses) who are already lacking at present and who should therefore be replaced independently of the new measures envisaged by the PNRR;
- c) will run the risk, finally, of fueling the growth of public facilities which in any case tend to self-reproduce rather than to transform themselves due

to regulatory, managerial and organizational culture limits: the greater availability of public resources (national and European), if not clearly directed, will thus wind up hiring large numbers of staff, that will be placed in an organizational machine that is too rigid and not very transparent (even to itself) to interpret the changing needs of patients and the investment opportunities offered by European resources; moreover, these difficulties have been highlighted for some time now by the analyses in this Report, including that of the annual monitoring of the Financial Statements of public Hospital Centers (see section 3.2. below).

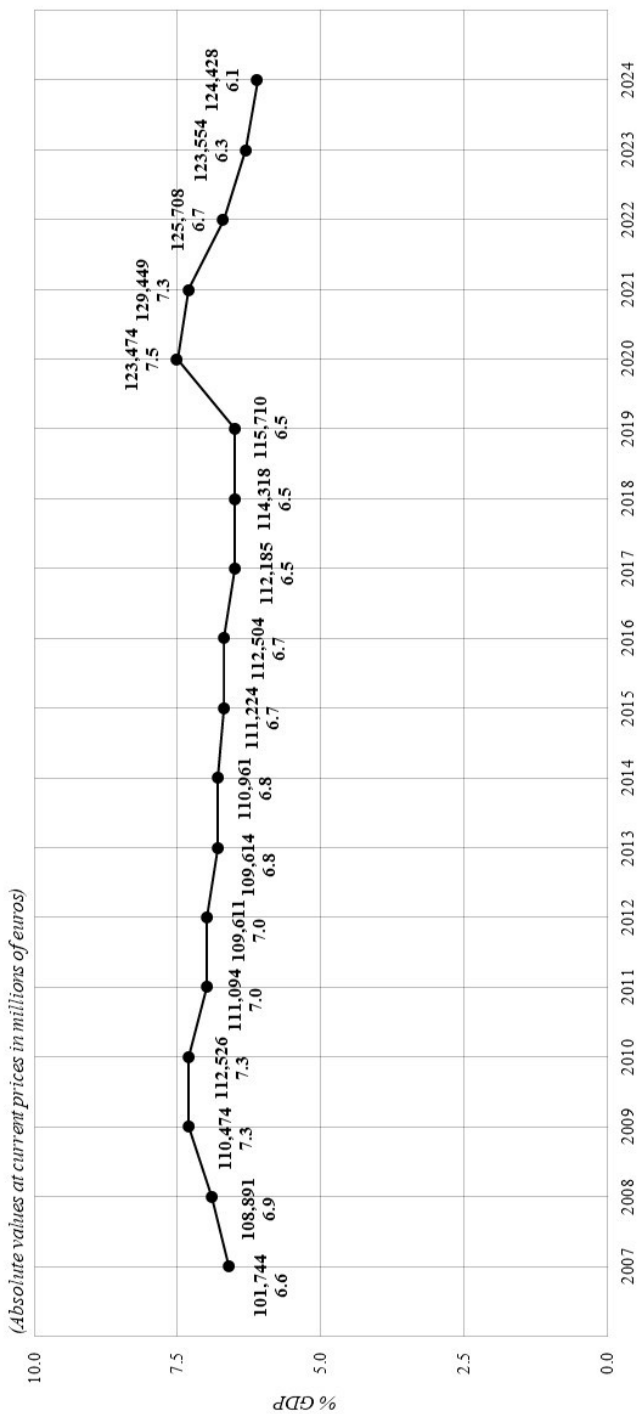
It is easy to see how the above question leads directly to a second question, namely: how ready is public health and in particular the hospital system to make the best use of private hospitalization facilities (accredited healthcare facilities) that make up an integral and certainly not marginal part of the system (accounting for 28% of the total in-hospital days provided each year)? But this leads to a broadening of the perspective in the sense that:

- we must not speak only of accredited private healthcare facilities that are already part of the mixed hospital system in Italy, with which it would be possible to further develop a real Transformation Alliance to make the National Health Service evolve,
- but rather we should also look to those private centers that offer logistical and IT-type services such as, for example, in the field of organizing large vaccination campaigns (see in this regard the positive experience of the Region of Lazio) and/or in the field of telemedicine and tele-assistance, in which it is necessary to intertwine technological and logistic responses along with direct services in contact with the patient;
- provided that we also increase the management capacity for the (partial or total) outsourcing of the services as relates to the preparation of tenders, the selection of contract providers, contract awarding procedures, the control of the services actually provided (as well as the ability to effectively reorganize the “machine”, providing for the redeployment of personnel made redundant by the increased outsourcing to other areas).

Beyond the reflections made so far on the actual extent of the ordinary re-financing of public health, some steps, completed or as-yet-to-be completed, which came to our attention during the year 2021, should also be mentioned.

The first step represents the (necessary) formalization of the recognition of a special Covid DRG, a need which developed in 2020 when AIOP (and some other accredited facilities) made almost 1,000 intensive and sub-intensive care beds and 9,400 acute and post-acute beds for Covid patients available to public healthcare.

Chart 1 – Trend of public healthcare spending (in AV and as a % ratio to GDP) and related forecasts in the period 2007-2024



Source: Ministry of Economy and Finance Documents (Analysis and Trends of Public Finance, April 2019, April 2021, and NADEF, September 2021)



To these were added another 25,000 patient beds for non-Covid patients who could not go to public hospitals because they were already over capacity or completely devoted to the care of those infected with the virus

In this regard, after the agreement sanctioned by the State/Regions Conference, the Inter-Ministerial Decree of August 12, 2021 was published which provided for:

- on the one hand, the setting of the price increases for the remuneration of hospital admissions for acute Covid patients, according to which an ordinary increase in remuneration is recognized, regardless of the DRG Code of the final discharge: up to EUR 3,713.00 if the hospitalization took place in the medical area and EUR 9,697.00 if the hospitalization went through intensive care;
- and on the other hand, identifying useful criteria for defining the assistance functions linked to the Covid emergency that the Regions and Autonomous Provinces can recognize, with reference only to hospitalizations carried out during the period relating to the emergency, defining a remuneration “by-function” for the costs of waiting for hospital patient beds for acute Covid patients in the medical-internal medicine and intensive care area, calculated on the basis of the days of in-hospital days not occupied compared to those potentially available.

Furthermore, it should be pointed out that the values recognized in EUR above are to be understood as maximum economic references that the individual Regions (or Autonomous Provinces) can reshape downwards on the basis of the classification of facilities and financial resources, with inevitable differences in treatment among the accredited facilities located in various regional realities.

The second step concerns the remodeling of the recovery plan for the waiting lists not yet cleared.

On this subject, please keep in mind what was mentioned in section 2.3 above regarding the interruption/postponement of services during 2020: -30.0% on average for specialist care reasons (which, however, even went beyond -50.0% in some Regions) and -21.0% for hospital admissions (which however exceeded -30.0% in some Regions).

Moreover, assessments on the topic of waiting lists by the regional AIOP Presidents<sup>1</sup> shows:

<sup>1</sup> These assessments were collected through a specific survey carried out during the months of October-November 2021.

- that the situation of the waiting lists was already serious before the arrival of the pandemic, but worsened further during 2020 and was in any case a very serious situation in 2021 as well (see Table 15);
- that new, renewed and possibly extended agreements were established between regional health authorities and AIOP facilities, which gradually increased from the first half of 2020 to the second half of 2021 (see Table 16).

Table 15 – Situation of waiting lists for inpatient services in the Region (or Autonomous Province) of activity, with reference to before the pandemic, thus from the end of 2020 and the end of 2021 (November) (val.%)

| Situation  | Situation immediately before the pandemic | Situation at the end of 2020 | Situation at the end of 2021 (November) |
|--|---|------------------------------|---|
| <i>For access to local health authority services (Polyclinics, etc.)</i> |   |                              |   |
| – Very serious situation   | 14.3                                      | 86.7                         | 46.6                                    |
| – Fairly serious situation   | 42.8                                      | 13.3                         | 46.7                                    |
| – Situation with minor problems  | 42.9                                      | -                            | 6.7                                     |
| – Non-problematic situation  | -   | -                            | -                                       |
| Total  | 100.0                                     | 100.0                        | 100.0                                   |
| A.V.   | 14  | 15                           | 15                                      |
| <i>For hospitalizations</i>  |   |                              |   |
| – Very serious situation   | 7.7                                       | 93.3                         | 26.7                                    |
| – Fairly serious situation   | 30.8                                      | 6.7                          | 60.0                                    |
| – Situation with minor problems  | 53.8                                      | -                            | 13.3                                    |
| – Non-problematic situation  | 7.7                                       | -                            | -                                       |
| Total  | 100.0                                     | 100.0                        | 100.0                                   |
| A.V.   | 13  | 15                           | 15                                      |

Source: survey by Ermeneia – Studi & Strategie di Sistema (based on a specific survey carried out during the months of October-November 2021)

Table 16 – Possible signing of agreements, conventions or other between Regional Health Services and AIOP accredited facilities in order to, at least in part, deal with the waiting lists for inpatient services that built up during the pandemic

| Agreements, Conventions or other  | In the first half of 2020 | In the second half of 2020 | In the first half of 2021 | In the second half of 2021 (to present) |
|---|---------------------------|----------------------------|---------------------------|---|
| – Yes, specific new agreements, conventions or other have been put in place with AIOP accredited hospitals in order to make up for interruptions and/or postponements of services | 27.3                      | 27.3                       | 33.3                      | 57.2                                    |
| – Yes, agreements, conventions or other previously in place have been extended  | -                         | 9.1                        | 16.7                      | 7.1                                     |
| – No, no such agreements, conventions or other have been put in place   | 72.7                      | 63.6                       | 50.0                      | 35.7                                    |
| Total   | 100.0                     | 100.0                      | 100.0                     | 100.0                                   |
| A.V.  | 11                        | 11                         | 12                        | 14                                      |

Source: survey by Ermeneia – Studi & Strategie di Sistema (based on a specific survey carried out during the months of October-November 2021)

On the topic of waiting lists, with the Decree Law of May 25, 2021, no. 73 (called the “D.L. Sostegni bis” or Second Financial Support D.L.), the possibility was sanctioned for the Regions and Autonomous Provinces to integrate – as an exception to Decree Law 95/2012 – the purchases of hospital services of outpatient specialists contracted for the year 2021, involving the private component of the National Health Service, also through the use of any savings carried over from the budgets allocated for the year 2020.

In this regard, it was established that in order to permit greater recovery of acute hospitalization services and outpatient specialist services not provided during 2020 by public and accredited private facilities, due to the ongoing health emergency, that it would be possible for the regional health authorities to integrate the purchases of these services also in the year 2021, without prejudice to the security of the financial stability of the Regional Health Services and the opportunity to recover any savings carried over from budgets allocated for the year 2020 (with a reporting obligation by accredited private facilities by January 2022).

The topic of waiting lists is still under examination as part of the definition of the 2022 State Budget Bill, which provides for a loan amounting to a total of EUR 500 million to recoup the services provided through the active involvement of accredited private facilities that could make their unexpressed potential available: however it is worth pointing out that Art. 74 of the aforementioned Bill calls for a ceiling of EUR 150 million nationally for accredited private facilities, which can be increased on the basis of specific regional needs and within the limit of the aforementioned total expenditure.

It should be borne in mind that this unexpressed potential could be much higher and, if referring only to AIOP-associated institutions at the regional level, it could be estimated between 40% and 60% for the hospitalization component and between 45% and 90% for the outpatient component: which, to give an idea, would correspond to an estimated value of around EUR 350 million.

A third step will concern the new Ministerial Decree 70 as this is, at the end of 2021, still in the preparatory phase at the Ministry of Health. It may, however, be useful to recall the key theme that was already at the basis of the previous Ministerial Decree 70, represented by the definition of standards for the provision of accredited hospital patient beds and – as such – borne by the National Health Service.

In the previous version, there was a level of no more than 3 acute care patient beds per 1,000 inhabitants and 0.7 patient beds, again per 1,000 inhabitants, was envisaged, for rehabilitation and post-acute in-hospital stay: it should be borne in mind that in the international context countries such as

Germany have acute values close to 6‰ and, in any case the average for the G7 and OECD Europe countries is 4.3 ‰ and 3.3 ‰, respectively.

The standards envisaged which, in the intentions of the legislation, were to constitute an attempt to stimulate the efficiency of the system have ended up producing, in combination with the de-funding policies of recent years, a serious critical issue with regard to the supply of beds for patients and a drastic reduction in the hospitalization rate: the latter in fact, from 2014 to 2019, went from 148.3 ‰ to 133.5 ‰, compared to a reference figure that, even in the current version of DM 70, seems to be situated at 160‰. And all of this is within a context in which we have lived in the last two years a very extensive experience of the interruption/postponing of services, as well as phenomena of forgoing the services or even searching for alternatives outside the home region by patients.

Naturally, the topic remains open and will require serious discussion through the use of specific Technical Tables as well as the identification of general strategic criteria, accompanied by appropriate simulations of possible alternative solutions, in close collaboration with the various regions.

### **3.2. The extraordinary impact of Covid-19 on the financial statements of public Hospital Centers as part of the annual monitoring of the related budgets**

For quite some time now, the *Health & Hospitals* Report has been monitoring the final balance sheets of public Hospital Centers in order to identify (and monitor) potential areas of inefficiency that can subsequently be projected, to an even greater extent, on directly managed public hospitals, given the different (and less stringent) methods used by these in preparing their financial statements, falling as they do within the broader framework of the reporting of their local health authorities.

Already in the 2020 Report it was pointed out how in the hospital system there was a continuity of the positive trends in progress as well as of the problematic ones (present in the years preceding the pandemic) and at the same time an abrupt discontinuity represented by the manifestation of the latter. But it was obvious that only in the year 2021 could the first effects on the Income Statements of the public Hospital Centers be accounted for, being able to have the information for the 2020 fiscal year available, influenced by the initial impact of Covid-19.

It should be recalled that the monitoring of the Income Statements was initiated by the *Health & Hospitals* Report in 2009, and has subsequently

evolved over time through the use of indicators and comparisons which have been reported in the sections devoted to them in the various Reports. This year the items of the Income Statements from 8 fiscal years (from 2013 to 2020) can be compared.

It should be noted that the need to have greater transparency and comparability of financial statements remains a fundamental issue (and matter of principle), but still far from having been applied concretely and extensively in the public healthcare facilities up to certifiability and therefore certification level, as per various regulations introduced over time and in particular to Legislative Decree 2011/118 and subsequent provisions<sup>2</sup>.

It should also be borne in mind that the arrival of the pandemic has “forced” the healthcare system to allocate extraordinary financial resources in order to cover the hospitalization needs of Covid patients (in the acute and post-acute phase as well as those hospitalized in intensive and sub-intensive care), even attaining definition as a specific DRG. Furthermore, the pandemic event has created the need to address the issue of recouping inpatient services that were interrupted/postponed in the case of non-Covid patients, a need reaffirmed by the 2022 Budget Bill which, as already mentioned in the section above, envisages, in Art. 94, further action on the topic of waiting lists with a loan of EUR 500 million to provide for services not yet supplied.

Added to this is the possibility of accessing the resources made available by Europe for health and identified within the PNRR (provided that Italy is actually able to proceed down the complex path of its execution), which envisages implementing different types of investments concerning: the reorganization of the IRCCS network, the qualification of the hospital technology and digital park, the adaptation of hospitals in terms of safety and sustainability as well as the strengthening of assistance and the local healthcare network with the setting up of Community Houses, total patient care and developing intermediate care.

At the same time, however, another basic issue remains open that goes beyond investments and concerns the (necessary) functional re-financing of the National Health Service, after too many years of defunding. In fact, the ratio between public healthcare spending and GDP in the three-year period 2017-2019 remained steady at 6.5%, a value that was decidedly below the threshold even before the pandemic. In 2019, the corresponding GDP ratio for the OECD European countries was 7.2%, and that relating to the average of the G7 countries was 9.2%. But to all this is added the decidedly slower

<sup>2</sup> In this regard, see the contents of the *Health & Hospitals/2016* Report, Part One, Section 2.2, pp. 93 et seq.

trend in the recovery of GDP for Italy downstream of the previous economic-financial crisis of 2008, with the result of having lowered the denominator of the ratio between public hospital spending and Gross Domestic Product.

We are thus dealing with issues in flux which require a logic that is not merely “additive” (i.e. more staff, more consolidated services, increase current spending), but rather a “reorganization” of services accompanied by a broader and more organic relationship with private entities: the latter understood not only as accredited private hospital facilities in the strict sense but also as service companies to support public hospitals on a non-strictly health level. This may take the form of data management (from information technology to artificial intelligence), as well as the provision of more efficient logistics systems (the positive effects of public-private collaboration have been extremely apparent, for example, in the particularly rapid and efficient administration of vaccines in the Region of Lazio, which was handled by a private entity).

In all cases, the desirable input of resources for investments (referred to in the PNRR) and – hopefully – also for the ordinary management of health-care would, in turn, require a reorganization of the reporting system (Income Statements) and of the related information flows upstream, as has been stressed several times in previous Reports, for the purpose of:

- evaluating what the public hospital service really costs, carefully examining all the legitimate expenditure components (in relation to the services actually rendered and their quality) in order to make “how much is spent to obtain something” transparent and justified;
- making the level of efficiency/inefficiency in the management of public hospitals more transparent and consequently being able to compare the different performance levels between different facilities (public and accredited), since the average data can be deceptive and underestimate the differences not presenting a true picture of the actual situation and, therefore, making it impossible to “reward” the better facilities and identify the worst ones (for which the real contextual conditions must of course be carefully evaluated);
- being able to intervene in advance and not only after the fact when the results of inefficient management have already become manifest and are often accumulated over the years, as is often the case, with the inevitable consequence of being placed under compulsory administration;
- being able to “free up” potential financial resources that are currently frozen, whereas they could be better used to reorganize and equip hospital facilities as well as to provide for timely regular and extraordinary maintenance on buildings and equipment as may be necessary;

- and again, applying the same basic logic to bring the compensation for public hospitals closer to that reserved for accredited private facilities that provide the same services: please note that the latter are paid exclusively on the basis of the DRGs that include not only operating but also investment costs, whereas the former also receive capital contributions in addition to the DRGs and, traditionally, also contributions for contract renewals, in addition to many other forms of implicit budget covering which not infrequently end up taking the form of real ex post balance sheet settlements, as has been stated many times in previous “Health & Hospitals” Reports;
- and finally, contributing to transforming our collective culture that winds up accepting public inefficiency too easily instead of asking for a properly thorough assessment to be made so that we might gradually better use the available resources.

In operational terms this year, as in more recent years, the Income Statements of 33 public Hospital Centers were taken into consideration, and are distributed as follows:

- 12 for the North (6 in Piedmont, 2 in Veneto and 4 in Emilia Romagna);
- 7 in Central Italy (2 in Marche and 5 in Lazio);
- and finally, 14 in the South (2 in Apulia, 4 in Calabria and 8 in Sicily).

It should be noted that the 33 above-mentioned Hospital Centers represent more than 3/4 of the national total. Furthermore, it should be kept in mind that no action has been taken on the total of them as some Regions have also incorporated territorial activities within all or part of the Hospital Centers. And this happened above all in the Lombardy Region, which at the time modified its own system, and was also the case in some specific situations in Friuli Venezia, Emilia Romagna and Sardinia.

The absolute values of the individual Items of the Income Statements of the Hospital Centers are reported in Table App. 1 (included in Chapter 1 of the Appendices) and refer to the 8 fiscal years ranging from 2013 to 2020. Starting from these data Tables 17 and 18 show the decreases/increases with reference to two periods, specifically:

- that between 2013 and 2019, with reference to the years in which the (prolonged) effects of the spending review were evident, up to the year immediately preceding the pandemic;
- and that between 2019 and 2020, in order to verify the impact on the first year of experience of the Corona virus.

As regards first of all the Admissions, the following considerations can be put forward, starting from Table 17 (see first two columns) which show:

- a) a clear accentuation of the decrease in Inpatient admissions and day hospital admissions (see first column) in the previous 7 years, given that they have experienced a national average drop of 6.2% which, however, includes:
- an increase, in contrast to the trend, of 5.0% in public Hospital Centers in the North (with the “luring” of patients from outside the Region, for example in Veneto, which reported a positive change of +18.8%);
  - a decrease of -12.1% in those of the Center (which was even -18.0% for Lazio alone);
  - and a decrease of -15.2% in those of the South (but with a drop of -30.7% for Apulia and with values higher than -20% in three Hospital Centers in Sicily).

The aforementioned trends are also consistent with the push towards a pronounced de-hospitalization that has characterized the last decade, and has generated significant healthcare mobility between Southern and Northern Regions.

But the overall average decrease of -6.2% in Inpatient admissions and day hospital admissions in the period 2013-2019 saw a drop of -18.5% in just one year (between 2019 and 2020) due to the interruption/postponement of inpatient services for non-Covid patients (topic addressed briefly in section 2.3 of Part One), given the need to assist Covid patients but also to protect hospital patients who had not been affected by the virus from getting infected. The decrease in Admissions in 2020 affects all the Hospital Centers taken into consideration without distinction (see second column of Table 17):

- whether they are located in the North of Italy (with a -13.7% drop in Admissions compared to +5.0% in the previous seven years);
  - whether they are located in Central Italy (with a -23.2% decrease compared to -12.1% in the period 2013-2019);
  - or whether they are located in the South (with a -22.2% drop compared to -15.2% in the previous seven years);
- b) if we then compare the trends in Revenues with that of Hospitalizations over the seven years, we can see a clear countertrend (see Table 17A which summarizes and makes Table 17 more comprehensible). In fact, a sharp increase in Revenues from health and social health services between 2013 and 2019 (which represent almost 70% of total Revenues), equal to +15.1%, actually corresponds to a decrease in Hospitalizations equal to -6.2%.

But assuming a logic (obviously theoretical) of an ideal automatic convergence between the Hospitalization trend and the Revenue trend brings



us to the data contained in the third column of the aforementioned Table 17A. This data indicates the (unbalanced) difference between the dynamics of the former compared to the dynamics of the latter, which are 21.3 percentage points greater than the Revenues recognized for public Hospital Centers. However, this particular situation breaks down differently if we consider:

- the Northern Hospital Centers, which would have a theoretical benefit of 10.5 percentage points;
- the Central Hospital Centers, which would have a theoretical benefit of 23.5 percentage points;
- and finally, the Southern Hospital Centers, which would have a theoretical benefit of 32.0 percentage points;

These results paint a more favorable picture for the Hospital Centers of the North (and extremely so in the case of the Veneto Region), less virtuous for those of the Center and definitely not good for the Hospital Centers of the South.

A similar exercise, applied to the two-year period 2019-2020 instead of the period 2013-2019 (see second part of Table 17A) would see almost all trends characterized by the sign “-” both on the part of Hospitalizations and on the part of Revenues. But the difference, in terms of relative advantage for the latter, differs significantly from the previous case: in fact the difference that tends to favor Revenues is 10.2 percentage points on average at the national level compared to 21.3 percentage points in the seven-year period 2013-2019 and, moreover, these differences tend to bring the differences in trends between Revenues and Hospitalizations closer together, with 8.3 percentage points more for the Northern Hospital Centers, 11.5 percentage points for those in the Center and 11.4 percentage points for those of the South;

- c) if the same exercise is performed on the second most important item of Revenues, that is for that of “by-function activities” (which represented 24% of total Revenues in 2019, an incidence that rises to over 30% in 2020), the result is that shown in Table 17B below:
- with regard to the period 2013-2019, again despite an average drop of -6.2% in Hospitalizations, Revenues for “by-function activities” increased by +2.0%;
  - this increase is more favorable for Hospital Centers in the North (+12.5 percentage points compared to those theoretically due, taking into account the decrease in Hospitalizations): though it should be remembered how the spread of the first wave pandemic heavily affected the Regions of Nord, to which additional Revenues were recognized to cope with the extraordinary impact of the virus;

- and in any case there is a recognition of Revenues for “by-function activities” also for Hospital Centers in the Center, with theoretically 8.5 percentage points more (15.6 points for Lazio), not far from the 6.0 percentage points more for the Hospital Centers of the South (which however becomes 26.4 percentage points for the Region of Apulia).

However, the extraordinary response of the Veneto Hospital Centers should be emphasized, which theoretically should have obtained more Revenues than what they received (as indeed happened for the Hospital Centers of Marche), given the particularly acute wave of infections in the Center-North. On the contrary, Calabria was somehow “punished” with 19.6 percentage points less in Revenues, having lost only 5.9% of Hospitalizations compared to a decrease in Revenues of -25.5%.

A very different situation appears instead in 2020 compared to 2019 (see second part of Table 17B).

As can be seen, this situation is that of a general decrease of almost always two figures in the trend of Hospitalizations for the reasons, mentioned several times, of the “forced” reorientation of healthcare activities towards Covid patients, with the inevitable interruption/suspension of in-patient services for non-Covid patients (see the values present in the penultimate column of Table 17B). Consequently, significant action was evidently taken on the Revenue front for the so-called “by-function activities”: whether this served to pay for the extraordinary services provided to Covid patients or, probably, to sustainably support the balance of the budgets of the public Hospital Centers. And in fact the last column of Table 17B shows the “gain”, in percentage points obtained, in terms of the trend in Revenues compared to the trend in Hospitalizations.

Moving on, at this point, to the comparison between the Hospitalization trend and the Cost trend, a look at Table 18, with reference to the period 2013-2019, shows:

- a) a particularly pronounced gap between the average decrease in the number of Hospitalizations equal to -6.2% and an almost general increase in the various Cost items as appears from the data in Table 18, which shows:
  - an extremely pronounced increase for the Purchase of Goods (+30.1%), this significant item in 2019 was around 30% of Total Costs;
  - another increase in Other Costs which in 2019 accounted for approximately 18% of Total Costs, an item onto which – among others – charges are placed that have to do indirectly with Personnel, due to, for example, agreements signed with cooperatives or with companies that provide nurses and other personnel;

- a much slighter increase in the cost of the Personnel item (+3.9%) which is affected by the progressive reduction of the same following the retirement of employees as well as by the push to reduce/freeze salaries that occurred as a result of the spending review from 2012 onwards;
  - but with a decrease, albeit slight (-1.9%), in the costs for the Purchase of Non-healthcare Services (which however were just under 10% of Total Costs in 2019);
- b) a gap between the average percentage trend of Hospitalizations in the seven-year period 2013-2019, equal to -6.2% and the average percentage trend of two costs that are at the same time more relevant and increasing more than those mentioned in the point a) above: namely, the costs for the Purchase of Goods and Other Costs. Tables 18A and 18B illustrate a comparison similar to that shown above for two types of important Revenues (see Tables 17A and 17B above).

That is, in this case too, a logic (theoretically desirable) of tendential convergence between the trend in Revenues and the trend of the two particularly significant Costs mentioned above was assumed. Table 18A shows the excessive nature of the trend of Purchases of Goods with respect to the trend of Hospitalizations, again in the hypothesis of a tendential convergence between the increase/decrease of the former and increase/decrease of the latter.

This comparison highlights a much more pronounced imbalance than that shown in the Tables 17A and 17B above. The aforementioned imbalance, for the years 2013-2019, is equal to 36.3 percentage points on average at the national level (see Table 18A):

- but it is equal to 32.5 percentage points more for the Hospital Centers of the North (but with a higher result for Emilia Romagna);
- 30.2 percentage points more for those of Central Italy (but with a slightly higher peak for Lazio);
- and 44.1 percentage points more for the South (but with even higher peaks for Calabria and Sicily).

While the similar imbalance, between 2019 and 2020, is slightly less on average (except in the Northern Hospital Centers) compared to that of the previous seven years, with 29.4 percentage points compared to 36.3. Specifically:

- it amounts to 34.6 percentage points more for the Northern Hospital Centers (compared to 32.5 in the period 2013-2019);
- 22.0 percentage points more for Hospital Centers in Central Italy (compared to 30.2 in the period 2013-2019);

- and 27.0 percentage points more in the South (compared to 44.1 in the 2013-2019 period);
- c) in turn, Table 18B highlights the excessive nature of the trend of Other Costs, much lower than the costs for the Purchase of Goods referred to in Table 18A above: and this applies both to the results for the period 2013-2019 and for the results of the period 2019-2020. In this case, the national average of the excessive nature of the trend of Other Costs compared to the trend of Hospitalizations is 22.4 percentage points more, relative to the period 2013-2019, which however:
  - this becomes 14.1 percentage points more for the Hospital Centers of the North (yet with the virtuous case of Veneto, which incurs a lower amount of costs compared to the increase in Hospitalizations);
  - while it is 2.6 percentage points less for Hospital Centers in Central Italy;
  - and jumps to 61.1 percentage points more for the South, with particularly high peaks for Apulia and Calabria.

The aforementioned imbalance, this time referring to the years 2019-2020, is decidedly lower at the national level, given that it is 10.1 percentage points more than the 22.4 for the seven-year period and differs in the following way:

- it is 7.4 percentage points more for the Northern Hospital Centers;
- it is 13.9 percentage points more for the Hospital Centers in Central Italy;
- and it is 10.9 percentage points more for Hospital Centers in the South and Islands (with the particular case of Calabria which shows a downward trend of 45.3 percentage points compared to the decrease in Hospitalizations of 14.8 percentage points).

In conclusion, almost all Cost items also increased in 2020, even though Hospitalizations fell by -18.5%. But of course we must first of all take into account that there cannot be an automatic correspondence between a decrease in Hospitalizations and a decrease in Costs given the need to “maintain the strength” of the healthcare systems beyond what might take place even in a situation involving a more-than-significant interruption/suspension of inpatient services for non-Covid patients as happened following the extraordinary efforts made by the facilities for Covid patients. And also addressing the needs of Covid patients has, in turn, pushed up the Costs for the Purchase of Goods as well as for Personnel or other cost items, taking into account that there was a need to hire doctors and nurses albeit temporarily and to add bonuses that have been paid to all employees.

At the end of the assessment on the performance of the Income Statements of the public Hospital Centers, the results for the Fiscal year were

taken into consideration – as usual – with reference to the last few years, i.e. from 2013 to 2020. Obviously, for the last year there was an evident “pandemic break” also in terms of accounting reporting compared to the previous 7 years. What can be observed is that (see Table 19):

a) the comparison between Revenues and Costs ends up in perfect balance again for three Regions as has happened, with substantial continuity, over the past 8 years. This situation is true for all the hospitals of Emilia Romagna, Marche and Sicily, except, in the latter case, a loss of EUR 50.7 million in 2019 which, however, had been reported before the final balance sheet was prepared, whereas the final balance sheet was then brought back into balance due to greater recognition of Revenues for “by-function” activities.

Naturally, the closing in perfect balance suggests an accounting adjustment of the balance sheet items in the preparation of the final balance data. However, this does not mean that there is necessarily and in any case an “improper” solution for the covering of losses. In some cases compensatory support interventions of various kinds have often been carried out, and this happened, especially in the years 2013-2018, through the Revenues item of “by-function” activities;

b) in other Regions we see the presence of an effort that has gradually led, during the years preceding 2020, to reducing Losses but with results that do not necessarily affect all the Hospital Centers of the individual Region: this is the case of Piedmont which substantially shows an (important) exception of a Hospital Center that shows increasing losses between 2013 and 2014, a reduction in 2015 and 2016 and then a rise in these losses in 2018, which then slightly drop in 2019 and significantly reduced precisely in the most difficult year 2020 by a third compared to the losses of 2019.

This sort of alternation also affects a Hospital Center in Apulia which, after breaking even in 2013 and 2014, showed its first losses in 2015 and 2016 and then decreased them in 2017 and then increased them again in 2018 and 2019, to finally make a leap upwards in 2020, obviously given the greater difficulties that this Fiscal Year presented.

Then there is the case of Calabria which displays an effort of alternating results between 2013 and 2017, and then increases in 2018 and even more so in 2019 and 2020, winding up “stabilizing” with a loss of around EUR 128 million.

The Lazio Region in turn presents a picture of constant losses over all the Fiscal Years (from 2013 to 2020), even if the effort put in place to cover all the Hospital Centers is evident, with a substantial gradual decrease in losses (except for some subsequent recovery) between 2013 and 2019:

but the complex fiscal year 2020 has pushed the deficit upwards again, bringing it to EUR 395 million.

It is probable that the year 2021 will also wind up recording the effects of the pandemic that manifested itself through a third and therefore a fourth wave in the Income Statements of the public Hospital Centers.

Finally, the 2020 and 2021 overload of assistance needs by healthcare facilities is added to the problems already present before the arrival of the virus and thus there must be more work at the reporting level to improve the transparency of the Financial Statements: so as to achieve more shared monitoring both for the regular and extraordinary management of the pandemic, to which will be added, for 2022 and for the following years, the management of investments, supported by European resources, for the improvement of facilities, equipment, support technologies of all kinds, the qualification of human resources and, hopefully, of the services that will eventually reach the patients.

Table 17 – Increases/Decreases in Hospitalizations and Revenues of public Hospital Centers between 2013 and 2019, as well as between the latter year and 2020 (first year of the pandemic)

| Hospital Centers<br>by Region | INPATIENT AND<br>DAY HOSP.<br>ADMISSIONS |                 |                 | REVENUES FROM<br>HEALTHCARE<br>SERVICES AND<br>HEALTH-RELATED<br>SOCIAL HEALTH<br>SERVICES AS PER<br>THE IS (Cod. A0320) |                 |                 | REVENUES FROM<br>CO-PAYMENT<br>CHARGES FOR<br>EXTERNAL<br>SPECIALIST<br>SERVICES AS PER<br>THE IS (Cod. A0940) |                 |                 | REVENUES FROM<br>FSR TRANSFER FOR<br>"BY-FUNCTION"<br>ACTIVITIES<br>REPORTED ON THE<br>IS (Cod. A40020) |                 |                 | OTHER REVENUES<br>AS PER THE IS |                 |                 | TOTAL REVENUES  |                 |                 |
|-------------------------------|--|-----------------|-----------------|--|-----------------|-----------------|--|-----------------|-----------------|---|-----------------|-----------------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                               | % Var.<br>13-19                          | % Var.<br>19-20 | % Var.<br>13-19 | % Var.<br>19-20  | % Var.<br>13-19 | % Var.<br>19-20 | % Var.<br>13-19  | % Var.<br>19-20 | % Var.<br>13-19 | % Var.<br>19-20   | % Var.<br>13-19 | % Var.<br>19-20 | % Var.<br>13-19                 | % Var.<br>19-20 | % Var.<br>13-19 | % Var.<br>19-20 | % Var.<br>13-19 | % Var.<br>19-20 |
|                               |  |                 |                 |  |                 |                 |  |                 |                 |   |                 |                 |                                 |                 |                 |                 |                 |                 |
| H.C.1                         | -11.3                                    | -4.1            | 16.6            | -11.7  | -15.8           | -41.4           | 17.2   | 43.8            | 0.9             | 20.2  | 15.4            | 2.8             |                                 |                 |                 |                 |                 |                 |
| H.C.2                         | 17.3                                     | -11.0           | 26.1            | -14.9  | -6.8            | -43.3           | 56.1   | 23.4            | 8.9             | -108.5  | 31.9            | -7.5            |                                 |                 |                 |                 |                 |                 |
| H.C.3                         | -1.2                                     | -14.9           | 12.3            | -14.1  | 2.2             | -41.3           | 16.5   | 36.0            | -22.7           | 40.9  | 11.7            | -2.7            |                                 |                 |                 |                 |                 |                 |
| H.C.4                         | 16.6                                     | -19.3           | 20.1            | -10.6  | 1.9             | -37.5           | 20.0   | 28.7            | -8.0            | 8.2   | 18.8            | 0.5             |                                 |                 |                 |                 |                 |                 |
| H.C.5                         | 1.1                                      | -16.6           | 6.2             | -0.5   | -11.3           | -42.2           | 28.5   | 28.1            | -78.9           | 112.7   | 6.9             | 7.1             |                                 |                 |                 |                 |                 |                 |
| H.C.6                         | -7.5                                     | -17.4           | 7.2             | -10.6  | -15.0           | -44.4           | -17.6  | 54.8            | 10.1            | -27.1   | -2.0            | 7.6             |                                 |                 |                 |                 |                 |                 |
| <b>Piedmont Total</b>         | <b>-0.2</b>                              | <b>-15.3</b>    | <b>12.8</b>     | <b>-10.9</b>   | <b>-9.1</b>     | <b>-42.5</b>    | <b>1.4</b>   | <b>42.1</b>     | <b>0.5</b>      | <b>-24.2</b>  | <b>8.3</b>      | <b>2.7</b>      |                                 |                 |                 |                 |                 |                 |
| H.C.7                         | 13.6                                     | 1.2             | 8.6             | 12.6   | 28.5            | -17.9           | 17.4   | 2.0             | 3.2             | -1.2  | 10.0            | 9.2             |                                 |                 |                 |                 |                 |                 |
| H.C.8                         | 24.1                                     | -12.0           | 24.5            | -8.1   | 58.7            | -28.6           | 9.8  | 11.4            | 48.2            | 87.7  | 22.9            | -1.6            |                                 |                 |                 |                 |                 |                 |
| <b>Veneto Total</b>           | <b>18.8</b>                              | <b>-5.6</b>     | <b>16.3</b>     | <b>1.9</b>   | <b>41.5</b>     | <b>-23.0</b>    | <b>13.5</b>  | <b>6.6</b>      | <b>15.3</b>     | <b>29.4</b>   | <b>16.1</b>     | <b>3.8</b>      |                                 |                 |                 |                 |                 |                 |
| H.C.9                         | -9.1                                     | -13.8           | 5.7             | -10.0  | -5.9            | -43.8           | 53.3   | 41.9            | -29.0           | 1.266.5   | 8.9             | 62.0            |                                 |                 |                 |                 |                 |                 |
| H.C.10                        | 40.1                                     | -10.3           | 59.5            | -1.4   | 69.4            | -41.7           | 88.6   | 44.2            | 57.8            | 84.8  | 63.2            | 11.4            |                                 |                 |                 |                 |                 |                 |
| H.C.11                        | -4.5                                     | -27.2           | 9.8             | -4.0   | -11.9           | -28.3           | 55.5   | 36.9            | 25.1            | 44.1  | 17.0            | 7.5             |                                 |                 |                 |                 |                 |                 |
| H.C.12                        | 0.9                                      | -10.2           | 10.0            | -3.1   | -41.3           | -30.4           | 117.1  | 15.0            | -60.6           | 37.4  | 7.3             | 4.1             |                                 |                 |                 |                 |                 |                 |
| <b>Total Emilia</b>           | <b>3.4</b>                               | <b>-17.0</b>    | <b>17.9</b>     | <b>-4.6</b>  | <b>-7.0</b>     | <b>-36.3</b>    | <b>72.3</b>  | <b>34.2</b>     | <b>-14.4</b>    | <b>236.1</b>  | <b>21.1</b>     | <b>20.1</b>     |                                 |                 |                 |                 |                 |                 |
| <b>NORTH ITALY TOTAL</b>      | <b>5.0</b>                               | <b>-13.7</b>    | <b>15.5</b>     | <b>-5.4</b>  | <b>1.8</b>      | <b>-35.3</b>    | <b>17.5</b>  | <b>33.3</b>     | <b>-3.9</b>     | <b>94.8</b>   | <b>14.3</b>     | <b>8.9</b>      |                                 |                 |                 |                 |                 |                 |
| H.C.13                        | 15.6                                     | -26.6           | 18.9            | -13.2  | 15.4            | -42.9           | -21.2  | 36.5            | 36.3            | 111.7   | 9.2             | 4.7             |                                 |                 |                 |                 |                 |                 |
| H.C.14                        | -3.3                                     | -20.4           | 7.9             | -11.3  | 6.8             | -38.2           | 6.2  | 48.2            | 62.6            | 67.6  | 9.7             | 14.4            |                                 |                 |                 |                 |                 |                 |
| <b>Marche Total</b>           | <b>3.3</b>                               | <b>-22.8</b>    | <b>11.8</b>     | <b>-12.0</b>   | <b>10.4</b>     | <b>-40.3</b>    | <b>-5.7</b>  | <b>43.9</b>     | <b>52.8</b>     | <b>82.3</b>   | <b>9.5</b>      | <b>3.4</b>      |                                 |                 |                 |                 |                 |                 |
| H.C.15                        | -21.7                                    | -8.7            | -3.2            | -5.8   | -36.7           | -28.3           | -8.5   | 18.2            | -42.9           | 7.0   | -7.7            | -1.2            |                                 |                 |                 |                 |                 |                 |
| H.C.16                        | 14.1                                     | -15.6           | 27.9            | -4.1   | -14.8           | -50.7           | 4.7  | 33.8            | -19.9           | 27.0  | 18.8            | 1.8             |                                 |                 |                 |                 |                 |                 |
| H.C.17                        | -21.3                                    | -36.5           | 5.7             | -16.0  | -31.3           | -52.8           | -11.1  | 51.1            | -21.0           | 12.6  | -0.6            | -2.5            |                                 |                 |                 |                 |                 |                 |
| H.C.18                        | -16.2                                    | -21.7           | 22.6            | -9.2   | -3.0            | -42.8           | -2.0   | 82.5            | 7.2             | 13.3  | 17.6            | 0.6             |                                 |                 |                 |                 |                 |                 |
| H.C.19                        | -31.4                                    | -30.2           | 24.7            | -18.3  | -30.7           | -53.1           | 31.0   | 41.2            | -6.9            | 54.3  | 22.9            | -7.5            |                                 |                 |                 |                 |                 |                 |
| <b>Lazio Total</b>            | <b>-18.0</b>                             | <b>-23.4</b>    | <b>11.8</b>     | <b>-11.5</b>   | <b>-26.2</b>    | <b>-46.4</b>    | <b>-2.4</b>  | <b>42.0</b>     | <b>-20.2</b>    | <b>18.3</b>   | <b>6.2</b>      | <b>-2.1</b>     |                                 |                 |                 |                 |                 |                 |
| <b>CENTRAL ITALY TOTAL</b>    | <b>-12.1</b>                             | <b>-23.2</b>    | <b>11.8</b>     | <b>-11.7</b>   | <b>-19.1</b>    | <b>-44.8</b>    | <b>-3.6</b>  | <b>42.7</b>     | <b>-6.3</b>     | <b>38.2</b>   | <b>7.2</b>      | <b>-0.4</b>     |                                 |                 |                 |                 |                 |                 |

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(Continued) Table 17 – Increases/Decreases in Hospitalizations and Revenues of public Hospital Centers between 2013 and 2019, as well as between the latter year and 2020 (first year of the pandemic)

| Hospital Centers               | INPATIENT AND DAY HOSP. ADMISSIONS |              | REVENUES FROM HEALTHCARE SERVICES AND HEALTH-RELATED SOCIAL HEALTH SERVICES AS PER THE IS (Cod. 40320) |              | REVENUES FROM CO-PAYMENT CHARGES FOR EXTERNAL SPECIALIST SERVICES AS PER THE IS (Cod. 40940) |              | REVENUES FROM FSR TRANSFER FOR "BY-FUNCTION" ACTIVITIES REPORTED ON THE IS (Cod. 44020) |             | OTHER REVENUES AS PER THE IS |              | TOTAL REVENUES |             |
|--------------------------------|------------------------------------|--------------|--|--------------|--|--------------|---|-------------|------------------------------|--------------|----------------|-------------|
|                                | % Var.                             | % Var.       | % Var.   | % Var.       | % Var.   | % Var.       | % Var.  | % Var.      | % Var.                       | % Var.       | % Var.         | % Var.      |
|                                | 13-19                              | 19-20        | 13-19  | 19-20        | 13-19  | 19-20        | 13-19   | 19-20       | 13-19                        | 19-20        | 13-19          | 19-20       |
| H.C. 20                        | -36.0                              | -24.3        | -2.5   | -20.1        | -10.8  | -23.4        | -4.3  | 19.3        | 354.5                        | -25.3        | 1.7            | -7.8        |
| H.C. 21                        | -21.0                              | -23.4        | 2.9  | -14.3        | 6.3  | -43.0        | -4.3  | 39.4        | 184.1                        | -20.8        | 3.3            | 0.8         |
| <b>Apulia Total</b>            | <b>-30.7</b>                       | <b>-23.9</b> | <b>-0.6</b>  | <b>-18.0</b> | <b>-5.3</b>  | <b>-30.5</b> | <b>-4.3</b>   | <b>25.9</b> | <b>293.9</b>                 | <b>-24.1</b> | <b>2.2</b>     | <b>-4.8</b> |
| H.C. 22                        | -11.9                              | -14.0        | 27.4   | 6.4          | -5.1   | -56.6        | -31.6   | 7.8         | 320.6                        | -52.8        | 4.4            | 3.0         |
| H.C. 23                        | 2.7                                | -15.8        | 40.4   | -0.1         | 0.7  | -32.6        | -41.1   | 12.2        | 79.3                         | -37.4        | 8.2            | 0.6         |
| H.C. 24                        | -1.5                               | -12.8        | 96.5   | -1.0         | 0.7  | -39.1        | 49.6  | -11.5       | -85.4                        | 63.1         | 47.7           | -2.9        |
| H.C. 25                        | -10.0                              | -15.3        | 46.7   | -7.2         | -7.3   | -46.7        | -18.4   | -3.2        | 82.9                         | 127.0        | 21.8           | -1.0        |
| <b>Calabria Total</b>          | <b>-5.9</b>                        | <b>-14.8</b> | <b>44.5</b>  | <b>-0.6</b>  | <b>-2.4</b>  | <b>-42.7</b> | <b>-25.5</b>  | <b>3.0</b>  | <b>17.4</b>                  | <b>10.9</b>  | <b>15.2</b>    | <b>0.3</b>  |
| H.C. 26                        | -16.1                              | -17.0        | 15.3   | -9.8         | -6.9   | -42.5        | -11.1   | 55.1        | 97.7                         | -76.8        | 8.9            | 3.9         |
| H.C. 27                        | -14.0                              | -20.5        | 17.3   | -17.3        | -1.7   | -41.2        | 1.6   | 70.5        | 69.6                         | -88.6        | 14.3           | 2.1         |
| H.C. 28                        | -13.4                              | -21.0        | 17.7   | -8.4         | -24.2  | -53.9        | 0.9   | 47.5        | 48.3                         | 11.8         | 13.4           | 10.9        |
| H.C. 29                        | -18.8                              | -34.3        | 1.3  | -8.0         | -23.8  | -38.1        | -27.7   | 34.7        | 141.4                        | -100.8       | -7.9           | -0.2        |
| H.C. 30                        | 28.0                               | -46.8        | 34.3   | -16.3        | -9.8   | -46.2        | 15.0  | 124.4       | 164.9                        | -70.0        | 32.2           | 17.9        |
| H.C. 31                        | -24.0                              | -22.6        | 10.1   | -7.0         | -13.2  | -44.0        | 0.7   | 42.1        | 40.6                         | -97.4        | 7.6            | 5.6         |
| H.C. 32                        | -21.9                              | -15.4        | 6.6  | -10.8        | -27.6  | -37.2        | -30.4   | 80.5        | -44.0                        | -41.6        | -13.4          | 20.0        |
| H.C. 33                        | -4.2                               | -17.1        | 26.2   | -17.6        | -13.5  | -56.4        | 32.0  | 59.1        | -19.4                        | -40.4        | 24.4           | 6.4         |
| <b>Sicily Total</b>            | <b>-11.6</b>                       | <b>-24.4</b> | <b>16.1</b>  | <b>-11.9</b> | <b>-15.7</b>   | <b>-46.1</b> | <b>-5.7</b>   | <b>62.2</b> | <b>34.0</b>                  | <b>-50.6</b> | <b>8.7</b>     | <b>9.0</b>  |
| <b>SOUTH and ISLANDS Total</b> | <b>-15.2</b>                       | <b>-22.2</b> | <b>16.8</b>  | <b>-10.8</b> | <b>-10.0</b>   | <b>-41.1</b> | <b>-9.2</b>   | <b>45.3</b> | <b>50.1</b>                  | <b>-37.3</b> | <b>8.4</b>     | <b>4.5</b>  |
| <b>ITALY TOTAL</b>             | <b>-6.2</b>                        | <b>-18.5</b> | <b>15.1</b>  | <b>-8.3</b>  | <b>-6.5</b>  | <b>-38.8</b> | <b>2.0</b>  | <b>39.6</b> | <b>8.1</b>                   | <b>42.4</b>  | <b>10.9</b>    | <b>5.7</b>  |

Source: survey by Ermeneta – Studi & Strategie di Sistema, 2021



Table 174 – Comparison between the % of Revenues from Healthcare services and the % of Hospitalizations of public Hospital Centers by Region between 2013 and 2019, as well as between 2019 and 2020 (first year of the pandemic)

| Hospital Centers<br>by Region  | 2013-2019                               |                                |   | 2019-2020                               |                                |   |
|--------------------------------|---|--------------------------------|---|---|--------------------------------|---|
|                                | $\Delta$ %<br>Revenues<br>from services | $\Delta$ %<br>Hospitalizations | Theoretical<br>imbalance in<br>percentage points<br>between $\Delta$ Revenues<br>from services and<br>$\Delta$ Hospitalizations | $\Delta$ %<br>Revenues<br>from services | $\Delta$ %<br>Hospitalizations | Theoretical<br>imbalance in<br>percentage points<br>between $\Delta$ Revenues<br>from services and<br>$\Delta$ Hospitalizations |
| Piedmont Total                 | 12.8                                    | -0.2                           | 13.0  | -10.9                                   | -15.3                          | 26.2  |
| Veneto Total                   | 16.3                                    | 18.8                           | -2.5  | 1.9                                     | -5.6                           | 7.5   |
| Emilia Romagna Total           | 17.9                                    | 3.4                            | 14.5  | -4.6                                    | -17.0                          | 12.4  |
| <b>NORTH ITALY TOTAL</b>       | <b>15.5</b>                             | <b>5.0</b>                     | <b>10.5</b>   | <b>-5.4</b>                             | <b>-13.7</b>                   | <b>8.3</b>  |
| Marche Total                   | 11.8                                    | 3.3                            | 8.5   | -12.0                                   | -22.8                          | 10.8  |
| Lazio Total                    | 11.8                                    | -18.0                          | 29.8  | -11.5                                   | -23.4                          | 11.9  |
| <b>CENTRAL ITALY TOTAL</b>     | <b>11.8</b>                             | <b>-12.1</b>                   | <b>23.5</b>   | <b>-11.7</b>                            | <b>-23.2</b>                   | <b>11.5</b>   |
| Apulia Total                   | -0.6                                    | -30.7                          | 30.1  | -18.0                                   | -23.9                          | 5.9   |
| Calabria Total                 | 44.5                                    | -5.9                           | 50.4  | -0.6                                    | -14.8                          | 14.2  |
| Sicily Total                   | 16.1                                    | -11.6                          | 27.7  | -11.9                                   | -24.4                          | 12.5  |
| <b>SOUTH and ISLANDS Total</b> | <b>16.8</b>                             | <b>-15.2</b>                   | <b>32.0</b>   | <b>-10.8</b>                            | <b>-22.2</b>                   | <b>11.4</b>   |
| <b>ITALY TOTAL</b>             | <b>15.1</b>                             | <b>-6.2</b>                    | <b>21.3</b>   | <b>-8.3</b>                             | <b>-18.5</b>                   | <b>10.2</b>   |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

Table 17B – Comparison between the % of Revenues due to Transfer from by-function activities and the % of Hospitalizations of public Hospital Centers by Region between 2013 and 2019, as well as between 2019 and 2020 (first year of the pandemic)

| Hospital Centers<br>by Region  | 2013-2019   |                                |   | 2019-2020   |                                |   |
|--------------------------------|---|--------------------------------|---|---|--------------------------------|---|
|                                | $\Delta$ % Revenues<br>from "by-<br>function<br>activities" | $\Delta$ %<br>Hospitalizations | Theoretical imbalance<br>in percentage points<br>between $\Delta$ Revenues<br>from "by-function<br>activities" and<br>$\Delta$ Hospitalizations | $\Delta$ % Revenues<br>from "by-<br>function<br>activities" | $\Delta$ %<br>Hospitalizations | Theoretical imbalance<br>in percentage points<br>between $\Delta$ Revenues<br>from "by-function<br>activities" and $\Delta$<br>Hospitalizations |
| Piedmont Total                 | 1.4   | -0.2                           | 1.6   | 42.1  | -15.3                          | 57.4  |
| Veneto Total                   | 13.5  | 18.8                           | -5.3  | 6.6   | -5.6                           | 12.2  |
| Emilia Romagna Total           | 72.3  | 3.4                            | 68.9  | 34.2  | -17.0                          | 51.2  |
| <b>NORTH ITALY TOTAL</b>       | <b>17.5</b>   | <b>5.0</b>                     | <b>12.5</b>   | <b>33.3</b>   | <b>-13.7</b>                   | <b>47.0</b>   |
| Marche Total                   | -5.7  | 3.3                            | -9.0  | 43.9  | -22.8                          | 66.7  |
| Lazio Total                    | -2.4  | -18.0                          | 15.6  | 42.0  | -23.4                          | 65.4  |
| <b>CENTRAL ITALY TOTAL</b>     | <b>-3.6</b>   | <b>-12.1</b>                   | <b>8.5</b>  | <b>42.7</b>   | <b>-23.2</b>                   | <b>65.9</b>   |
| Apulia total                   | -4.3  | -30.7                          | 26.4  | 25.9  | -23.9                          | 49.8  |
| Calabria Total                 | -25.5   | -5.9                           | -19.6   | 3.0   | -14.8                          | 11.8  |
| Sicily Total                   | -5.7  | -11.6                          | 5.9   | 62.2  | -24.4                          | 86.6  |
| <b>SOUTH and ISLANDS Total</b> | <b>-9.2</b>   | <b>-15.2</b>                   | <b>6.0</b>  | <b>45.3</b>   | <b>-22.2</b>                   | <b>67.5</b>   |
| <b>ITALY TOTAL</b>             | <b>2.0</b>  | <b>-6.2</b>                    | <b>8.2</b>  | <b>39.6</b>   | <b>-18.5</b>                   | <b>58.1</b>   |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

Table 18 – Increases/Decreases in Hospitalizations and the Costs of public Hospital Centers between 2013 and 2019, as well as between the latter year and 2020 (first year of the pandemic)

| Hospital Centers           | INPATIENT AND DAY HOSP ADMISSIONS |              | PURCHASE OF GOODS (Cod. B4010) |             | PURCHASE OF NON-HEALTHCARE SERVICES (Cod. B41570) |             | PERSONNEL (Cod. B42080) |             | DEFERRED COSTS (Cod. B42690) |             | OTHER COSTS  |              | TOTAL COSTS |             |
|----------------------------|-----------------------------------|--------------|--------------------------------|-------------|---|-------------|-------------------------|-------------|------------------------------|-------------|--------------|--------------|-------------|-------------|
|                            | % Var.                            | % Var.       | % Var.                         | % Var.      | % Var.  | % Var.      | % Var.                  | % Var.      | % Var.                       | % Var.      | % Var.       | % Var.       | % Var.      | % Var.      |
|                            | 13-19                             | 19-20        | 13-19                          | 19-20       | 13-19   | 19-20       | 13-19                   | 19-20       | 13-19                        | 19-20       | 13-19        | 19-20        | 13-19       | 19-20       |
| H.C.1                      | -11.3                             | -4.1         | 47.8                           | 0.3         | 8.9   | -6.3        | 3.4                     | 7.3         | -75.1                        | 301.4       | 6.8          | -3.7         | 16.6        | 3.0         |
| H.C.2                      | 17.3                              | -11.0        | 57.4                           | 8.7         | 29.0  | 0.7         | 14.4                    | 10.3        | -40.6                        | -42.9       | 33.0         | -24.6        | 28.6        | 1.8         |
| H.C.3                      | -1.2                              | -14.9        | 29.5                           | 6.0         | 31.4  | -0.1        | 4.2                     | 4.2         | -42.4                        | 195.4       | -1.1         | -11.8        | 12.4        | 3.3         |
| H.C.4                      | 16.6                              | -19.3        | 31.7                           | 6.7         | 14.8  | 2.0         | 9.9                     | 6.2         | -70.2                        | 152.9       | 45.7         | -6.1         | 19.9        | 4.2         |
| H.C.5                      | 1.1                               | -16.6        | 19.9                           | 23.4        | 94.0  | 0.4         | 3.0                     | 5.6         | -20.1                        | -2.4        | -49.5        | 60.0         | 6.8         | 12.9        |
| H.C.6                      | -7.5                              | -17.4        | 21.2                           | 0.2         | -21.3   | -6.1        | 1.4                     | 2.0         | 28.7                         | 42.6        | 15.8         | -6.5         | 7.1         | -0.1        |
| <b>Piedmont Total</b>      | <b>-0.2</b>                       | <b>-15.3</b> | <b>30.6</b>                    | <b>4.7</b>  | <b>7.3</b>  | <b>-2.1</b> | <b>4.6</b>              | <b>4.6</b>  | <b>-6.3</b>                  | <b>48.2</b> | <b>14.6</b>  | <b>-7.7</b>  | <b>12.6</b> | <b>2.3</b>  |
| H.C.7                      | 13.6                              | 1.2          | 21.5                           | 8.4         | -24.2   | 17.7        | 6.3                     | 25.0        | -33.9                        | 9.5         | -7.4         | 2.7          | 4.2         | 14.4        |
| H.C.8                      | 24.1                              | -12.0        | 48.1                           | 3.6         | -17.2   | -5.9        | 0.1                     | 5.1         | 265.5                        | 43.4        | 35.3         | 1.4          | 18.3        | 4.2         |
| <b>Veneto Total</b>        | <b>18.8</b>                       | <b>-5.6</b>  | <b>32.8</b>                    | <b>6.2</b>  | <b>-20.4</b>                                      | <b>4.4</b>  | <b>3.1</b>              | <b>14.9</b> | <b>28.8</b>                  | <b>29.6</b> | <b>10.6</b>  | <b>2.0</b>   | <b>10.8</b> | <b>9.2</b>  |
| H.C.9                      | -9.1                              | -13.8        | 25.9                           | 200.0       | -16.3   | 15.1        | 11.6                    | 7.4         | 79.8                         | 120.9       | 5.9          | 5.0          | 11.1        | 59.5        |
| H.C.10                     | 40.1                              | -10.3        | 86.6                           | 27.4        | 106.3   | -14.9       | 12.0                    | 58.9        | 2.9                          | 13.9        | 147.7        | -37.7        | 68.2        | 9.1         |
| H.C.11                     | -4.5                              | -27.2        | 65.7                           | 7.7         | -1.0  | 6.5         | 3.9                     | 6.5         | 8.8                          | -41.7       | 4.8          | 13.7         | 18.2        | 6.8         |
| H.C.12                     | 0.9                               | -10.2        | 30.6                           | 15.0        | 3.6   | -2.0        | 1.7                     | 3.6         | 84.2                         | 22.5        | -6.0         | -4.8         | 7.0         | 4.3         |
| <b>Emilia Total</b>        | <b>3.4</b>                        | <b>-17.0</b> | <b>52.4</b>                    | <b>54.2</b> | <b>15.1</b>                                       | <b>-0.7</b> | <b>6.9</b>              | <b>15.8</b> | <b>23.0</b>                  | <b>3.8</b>  | <b>29.2</b>  | <b>-8.9</b>  | <b>22.9</b> | <b>18.9</b> |
| <b>NORTH ITALY TOTAL</b>   | <b>5.0</b>                        | <b>-13.7</b> | <b>37.5</b>                    | <b>20.9</b> | <b>2.6</b>  | <b>-0.1</b> | <b>5.0</b>              | <b>10.2</b> | <b>15.4</b>                  | <b>24.6</b> | <b>19.1</b>  | <b>-6.3</b>  | <b>15.4</b> | <b>9.6</b>  |
| H.C.13                     | 15.6                              | -26.6        | 26.1                           | 0.8         | 4.3   | 1.6         | 3.0                     | 1.3         | 3.3                          | 46.5        | 10.8         | -2.1         | 9.9         | 1.9         |
| H.C.14                     | -3.3                              | -20.4        | 32.4                           | -0.6        | -10.7   | 1.1         | 6.7                     | 5.3         | -44.0                        | 110.7       | 15.5         | -7.6         | 12.8        | 2.6         |
| <b>Marche Total</b>        | <b>3.7</b>                        | <b>-22.8</b> | <b>30.3</b>                    | <b>-0.2</b> | <b>-3.3</b>                                       | <b>1.3</b>  | <b>5.2</b>              | <b>3.8</b>  | <b>-27.4</b>                 | <b>78.5</b> | <b>14.0</b>  | <b>-5.9</b>  | <b>11.7</b> | <b>2.4</b>  |
| H.C.15                     | -21.7                             | -8.7         | -2.4                           | 4.9         | -40.6   | 29.5        | -8.1                    | 2.3         | -16.2                        | 53.7        | -23.2        | -10.0        | -13.1       | 3.8         |
| H.C.16                     | 14.1                              | -15.6        | 55.8                           | 5.2         | -0.5  | 2.7         | -1.1                    | 8.2         | -0.9                         | 36.9        | -15.0        | 1.2          | 5.9         | 6.6         |
| H.C.17                     | -21.3                             | -36.5        | 6.6                            | -4.2        | 2.7   | 5.2         | 25.1                    | 6.7         | -67.6                        | 10.9        | -14.9        | -18.9        | -1.6        | -2.9        |
| H.C.18                     | -16.2                             | -21.7        | 50.4                           | -5.8        | -18.9   | -0.2        | 7.2                     | 13.4        | 119.8                        | -13.5       | -30.4        | -6.1         | 9.3         | 2.0         |
| H.C.19                     | -31.4                             | -30.2        | 2.9                            | -3.2        | 0.1   | -4.4        | 25.0                    | 9.2         | 37.1                         | 100.6       | -27.2        | -2.8         | -1.7        | 1.3         |
| <b>Lazio Total</b>         | <b>-18.0</b>                      | <b>-23.4</b> | <b>13.9</b>                    | <b>-1.7</b> | <b>-11.5</b>                                      | <b>5.9</b>  | <b>4.5</b>              | <b>6.7</b>  | <b>-40.7</b>                 | <b>28.0</b> | <b>-21.0</b> | <b>-10.4</b> | <b>-2.3</b> | <b>1.5</b>  |
| <b>CENTRAL ITALY TOTAL</b> | <b>-12.1</b>                      | <b>-23.2</b> | <b>18.1</b>                    | <b>-1.2</b> | <b>-9.9</b>                                       | <b>4.9</b>  | <b>4.7</b>              | <b>5.9</b>  | <b>-37.9</b>                 | <b>40.2</b> | <b>-14.7</b> | <b>-9.3</b>  | <b>1.2</b>  | <b>1.7</b>  |

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(Continued) Table 18 – Increases/Decreases in Hospitalizations and the Costs of public Hospital Centers between 2013 and 2019, as well as between the latter year and 2020 (first year of the pandemic)

| Hospital Centers               | INPATIENT AND DAY HOSP. ADMISSIONS |        | PURCHASE OF GOODS (Cod. B4010) |        | PURCHASE OF NON-HEALTHCARE SERVICES (Cod. B41570) |        | PERSONNEL (Cod. B42080) |        | DEFERRED COSTS (Cod. B42690) |        | OTHER COSTS |        | TOTAL COSTS |        |       |       |       |       |  |
|--------------------------------|------------------------------------|--------|--------------------------------|--------|---|--------|-------------------------|--------|------------------------------|--------|-------------|--------|-------------|--------|-------|-------|-------|-------|--|
|                                | % Var.                             | % Var. | % Var.                         | % Var. | % Var.  | % Var. | % Var.                  | % Var. | % Var.                       | % Var. | % Var.      | % Var. | % Var.      | % Var. |       |       |       |       |  |
|                                | 13-19                              | 19-20  | 13-19                          | 19-20  | 13-19   | 19-20  | 13-19                   | 19-20  | 13-19                        | 19-20  | 13-19       | 19-20  | 13-19       | 19-20  |       |       |       |       |  |
| H.C.20                         | -36.0                              | -24.3  | -10.4                          | -5.9   | 8.2   | 3.7    | 23.5                    | 11.0   | 24.6                         | 4.2    | 4.6         | -11.8  | 50.9        | 48.5   | -9.0  | 2.5   | 0.6   |       |  |
| H.C.21                         | -21.0                              | -23.4  | -0.5                           | 8.2    | -1.1  | -4.9   | 14.2                    | 6.6    | 12.1                         | -25.1  | 54.3        | -15.3  | 31.7        | 36.0   | -6.0  | 3.3   | 5.9   | 17.8  |  |
| <b>Apulia Total</b>            |                                    |        |                                |        |   |        |                         |        |                              |        |             |        |             |        |       |       |       |       |  |
| H.C.22                         | -11.9                              | -14.0  | 39.9                           | -6.6   | -17.8   | 1.1    | -2.9                    | 0.2    | 242.8                        | -23.5  | 38.6        | -17.2  | 11.1        | 4.1    | -4.1  | 11.1  | 4.1   | 4.1   |  |
| H.C.23                         | 2.7                                | -15.8  | 24.6                           | 6.5    | 2.9   | -0.5   | 9.7                     | 4.9    | 2.662.9                      | -43.6  | 26.7        | 58.9   | 12.9        | 21.1   | 12.9  | 21.1  | 12.9  | 21.1  |  |
| H.C.24                         | -1.5                               | -12.8  | 58.2                           | 13.6   | 10.8  | -0.8   | 23.9                    | 6.9    | 208.2                        | 66.6   | 1.021.4     | -77.4  | 143.5       | -28.2  | 143.5 | -28.2 | 143.5 | -28.2 |  |
| H.C.25                         | -10.0                              | -15.3  | 61.7                           | 2.9    | 3.1   | -1.6   | -0.0                    | 7.9    | 3.0                          | 102.6  | 112.2       | 176.0  | -45.3       | 31.7   | -2.7  | 31.7  | -2.7  | -2.7  |  |
| <b>Calabria Total</b>          |                                    |        |                                |        |   |        |                         |        |                              |        |             |        |             |        |       |       |       |       |  |
| H.C.26                         | -16.1                              | -17.0  | 25.3                           | 3.8    | 12.6  | 0.9    | 4.0                     | 2.1    | -10.7                        | 20.2   | 13.4        | 36.5   | 11.1        | 7.8    | 11.1  | 7.8   | 11.1  | 7.8   |  |
| H.C.27                         | -14.0                              | -20.5  | 46.6                           | 6.1    | 0.8   | 9.7    | 7.6                     | 1.2    | -24.7                        | 26.1   | 14.5        | -9.5   | 16.0        | 2.3    | 16.0  | 2.3   | 16.0  | 2.3   |  |
| H.C.28                         | -13.4                              | -21.0  | 43.1                           | 7.0    | 6.4   | 3.6    | 2.9                     | 6.8    | -50.5                        | 187.6  | 12.6        | 13.5   | 15.7        | 9.4    | 15.7  | 9.4   | 15.7  | 9.4   |  |
| H.C.29                         | -18.8                              | -34.3  | 35.3                           | 8.3    | -5.2  | -20.9  | -21.0                   | 0.7    | 0.3                          | 17.1   | -2.2        | 17.7   | -6.5        | 3.1    | -6.5  | 3.1   | -6.5  | 3.1   |  |
| H.C.30                         | 28.0                               | -46.8  | 89.6                           | 14.3   | -1.9  | 3.9    | -5.0                    | 6.8    | -65.7                        | 490.5  | 152.2       | -20.1  | 30.9        | 8.7    | -20.1 | 30.9  | 8.7   | 8.7   |  |
| H.C.31                         | -24.0                              | -22.6  | 30.4                           | 13.2   | 2.3   | 8.0    | -1.2                    | 2.7    | 64.5                         | 2.3    | 16.0        | -4.3   | 10.5        | 5.6    | -4.3  | 10.5  | 5.6   | 5.6   |  |
| H.C.32                         | -21.9                              | -15.4  | 23.2                           | -1.8   | -35.2   | 4.8    | -6.6                    | 2.4    | -43.4                        | 169.6  | 44.2        | -6.1   | 2.9         | 3.4    | -6.1  | 2.9   | 3.4   | 3.4   |  |
| H.C.33                         | -4.2                               | -17.1  | 52.5                           | 5.8    | 17.2  | 15.4   | 12.2                    | 7.1    | -2.1                         | 156.8  | 12.5        | -7.1   | 24.0        | 6.5    | -7.1  | 24.0  | 6.5   | 6.5   |  |
| <b>Sicily Total</b>            |                                    |        |                                |        |   |        |                         |        |                              |        |             |        |             |        |       |       |       |       |  |
|                                | -11.6                              | -24.4  | 41.6                           | 7.1    | -1.9  | 3.8    | -1.5                    | 3.6    | -21.1                        | 92.7   | 25.6        | 0.3    | 12.7        | 6.1    | 0.3   | 12.7  | 6.1   | 6.1   |  |
| <b>SOUTH and ISLANDS Total</b> |                                    |        |                                |        |   |        |                         |        |                              |        |             |        |             |        |       |       |       |       |  |
|                                | -15.2                              | -22.2  | 28.9                           | 4.8    | -2.7  | 5.6    | 2.0                     | 5.3    | -2.8                         | 93.1   | 45.9        | -11.3  | 14.1        | 4.3    | -11.3 | 14.1  | 4.3   | 4.3   |  |
| <b>ITALY TOTAL</b>             |                                    |        |                                |        |   |        |                         |        |                              |        |             |        |             |        |       |       |       |       |  |
|                                | -6.2                               | -18.5  | 30.1                           | 10.9   | -1.9  | 2.7    | 3.9                     | 7.7    | -8.6                         | 51.8   | 16.2        | -8.4   | 11.8        | 6.2    | -8.4  | 11.8  | 6.2   | 6.2   |  |

Source: survey by Ermeneta – Studi & Strategie di Sistema, 2021

Table 18.4 – Comparison between the % of Costs for Purchase of Goods and the % of Hospitalizations of public Hospital Centers by Region between 2013 and 2019, as well as between 2019 and 2020 (first year of the pandemic)

| Hospital Centers<br>by Region  | 2013-2019                              |                                |   | 2019-2020  |                                |  |
|--------------------------------|--|--------------------------------|---|--|--------------------------------|--|
|                                | $\Delta$ %<br>the Purchase<br>of Goods | $\Delta$ %<br>Hospitalizations | Theoretical<br>imbalance in<br>percentage points<br>between $\Delta$ Costs for<br>the Purchase<br>of Goods and<br>$\Delta$ Hospitalizations | $\Delta$ % Costs for<br>the Purchase<br>of Goods | $\Delta$ %<br>Hospitalizations | Theoretical imbalance<br>in percentage points<br>between $\Delta$ Costs for<br>the Purchase<br>of Goods and<br>$\Delta$ Hospitalizations |
| Piedmont Total                 | 30.6                                   | -0.2                           | <b>30.8</b>   | 4.7  | -15.3                          | <b>20.0</b>  |
| Veneto Total                   | 32.8                                   | 18.8                           | <b>14.0</b>   | 6.2  | - 5.6                          | <b>11.8</b>  |
| Emilia Romagna Total           | 52.4                                   | 3.4                            | <b>49.0</b>   | 54.2   | -17.0                          | <b>71.2</b>  |
| <b>NORTH ITALY TOTAL</b>       | <b>37.5</b>                            | <b>5.0</b>                     | <b>32.5</b>   | <b>20.9</b>                                      | <b>-13.7</b>                   | <b>34.6</b>  |
| Marche Total                   | 30.3                                   | 3.3                            | <b>27.0</b>   | -0.2   | -22.8                          | <b>22.6</b>  |
| Lazio Total                    | 13.9                                   | -18.0                          | <b>31.9</b>   | -1.7   | -23.4                          | <b>21.7</b>  |
| <b>CENTRAL ITALY TOTAL</b>     | <b>18.1</b>                            | <b>-12.1</b>                   | <b>30.2</b>   | <b>-1.2</b>                                      | <b>-23.2</b>                   | <b>22.0</b>  |
| Apulia Total                   | -7.3                                   | -30.7                          | <b>23.4</b>   | -1.1   | -23.9                          | <b>22.8</b>  |
| Calabria Total                 | 45.1                                   | -5.9                           | <b>51.0</b>   | 3.1  | -14.8                          | <b>17.9</b>  |
| Sicily Total                   | 41.6                                   | -11.6                          | <b>53.2</b>   | 7.1  | -24.4                          | <b>31.5</b>  |
| <b>SOUTH and ISLANDS Total</b> | <b>28.9</b>                            | <b>-15.2</b>                   | <b>44.1</b>   | <b>4.8</b>                                       | <b>-22.2</b>                   | <b>27.0</b>  |
| <b>ITALY TOTAL</b>             | <b>30.1</b>                            | <b>-6.2</b>                    | <b>36.3</b>   | <b>10.9</b>                                      | <b>-18.5</b>                   | <b>29.4</b>  |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

Table 18B – Comparison between the % of Other Costs and the % of Hospitalizations of public Hospital Centers by Region between 2013 and 2019, as well as between 2019 and 2020 (first year of the pandemic)

| Hospital Centers<br>by Region  | 2013-2019                 |                                |   | 2019-2020                 |                                |   | Theoretical<br>imbalance in<br>percentage points<br>between<br>$\Delta$ Other Costs and<br>$\Delta$ Hospitalizations |
|--------------------------------|---------------------------|--------------------------------|---|---------------------------|--------------------------------|---|--|
|                                | $\Delta$ %<br>Other Costs | $\Delta$ %<br>Hospitalizations | Imbalance in<br>percentage points<br>between<br>$\Delta$ Other Costs and<br>$\Delta$ Hospitalizations | $\Delta$ %<br>Other Costs | $\Delta$ %<br>Hospitalizations | Imbalance in<br>percentage points<br>between<br>$\Delta$ Other Costs and<br>$\Delta$ Hospitalizations |  |
| Piedmont Total                 | 14.6                      | -0.2                           | 14.8  | -7.7                      | -15.3                          | 7.7   |  |
| Veneto Total                   | 10.6                      | 18.8                           | -8.2  | 2.0                       | -5.6                           | 7.6   |  |
| Emilia Romagna Total           | 29.2                      | 3.4                            | 25.8  | -8.9                      | -17.0                          | 8.7   |  |
| <b>NORTH ITALY TOTAL</b>       | <b>19.1</b>               | <b>5.0</b>                     | <b>14.1</b>   | <b>-6.3</b>               | <b>-13.7</b>                   | <b>7.4</b>  |  |
| Marche Total                   | 14.0                      | 3.3                            | 10.7  | -5.9                      | -22.8                          | 16.9  |  |
| Lazio Total                    | -21.0                     | -18.0                          | 3.0   | -10.4                     | -23.4                          | 13.0  |  |
| <b>CENTRAL ITALY TOTAL</b>     | <b>-14.7</b>              | <b>-12.1</b>                   | <b>-2.6</b>   | <b>-9.3</b>               | <b>-23.2</b>                   | <b>13.9</b>   |  |
| Apulia Total                   | 36.0                      | -30.7                          | 66.7  | -6.0                      | -23.9                          | 17.9  |  |
| Calabria Total                 | 176.0                     | -5.9                           | 181.9   | -45.3                     | -14.8                          | -30.5   |  |
| Sicily Total                   | 25.6                      | -11.6                          | 37.2  | -0.3                      | -24.4                          | 24.1  |  |
| <b>SOUTH and ISLANDS Total</b> | <b>45.9</b>               | <b>-15.2</b>                   | <b>61.1</b>   | <b>-11.3</b>              | <b>-22.2</b>                   | <b>10.9</b>   |  |
| <b>ITALY TOTAL</b>             | <b>16.2</b>               | <b>-6.2</b>                    | <b>22.4</b>   | <b>-8.4</b>               | <b>-18.5</b>                   | <b>10.1</b>   |  |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

Table 19 – Operating results of the Hospital Centers in the eight years considered (in thousands of euros)

| Hospital Centers           | 2013                                     | 2014            | 2015            | 2016            | 2017            | 2018            | 2019            | 2020            |
|----------------------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                            | <i>Operating result as per IS (A.V.)</i> |                 |                 |                 |                 |                 |                 |                 |
| H.C.1                      | 0  | -10,147         | -7,716          | 0               | 1,926           | 0               | 0               | -6,603          |
| H.C.2                      | -5,990                                   | -12,852         | -18,864         | -6,428          | -2,406          | -               | 1,814           | -19,419         |
| H.C.3                      | 0  | -5,619          | 0               | 0               | 0               | 1,156           | -               | -13,741         |
| H.C.4                      | 0  | -5,737          | -4,486          | 0               | 1,180           | -               | -               | -13,978         |
| H.C.5                      | 0  | -8,432          | -6,568          | 0               | -1,495          | -3,818          | 511             | -12,963         |
| H.C.6                      | -12,750                                  | -30,648         | -15,081         | -11,040         | -17,478         | -120,997        | -102,504        | -31,338         |
| <b>Piedmont Total</b>      | <b>-18,740</b>                           | <b>-73,435</b>  | <b>-52,715</b>  | <b>-17,468</b>  | <b>-18,273</b>  | <b>-123,659</b> | <b>-100,179</b> | <b>-98,042</b>  |
| H.C.7                      | -25,609                                  | -22,835         | -17,047         | -10,491         | 0               | 0               | 5,637           | -24,375         |
| H.C.8                      | -24,950                                  | -13,451         | 1,000           | 0               | 0               | 0               | 1,425           | -33,486         |
| <b>Veneto Total</b>        | <b>-50,559</b>                           | <b>-36,286</b>  | <b>-16,047</b>  | <b>-10,491</b>  | <b>-</b>        | <b>-</b>        | <b>7,062</b>    | <b>-57,861</b>  |
| H.C.9                      | 0  | 0               | 0               | 0               | 0               | 0               | 0               | 0               |
| H.C.10                     | 0  | 0               | 0               | 0               | 0               | 0               | 0               | 0               |
| H.C.11                     | 0  | 0               | 0               | 0               | 0               | 0               | 0               | 0               |
| H.C.12                     | 0  | 0               | 0               | 0               | 0               | 0               | 0               | 0               |
| <b>Emilia Total</b>        | <b>-</b>                                 | <b>-</b>        | <b>-</b>        | <b>-</b>        | <b>-</b>        | <b>-</b>        | <b>-</b>        | <b>-</b>        |
| <b>NORTH ITALY TOTAL</b>   | <b>-69,299</b>                           | <b>-109,721</b> | <b>-68,762</b>  | <b>-27,959</b>  | <b>-18,273</b>  | <b>-123,659</b> | <b>-93,117</b>  | <b>-155,903</b> |
| H.C.13                     | -  | 0               | 0               | 0               | 0               | 0               | 0               | 0               |
| H.C.14                     | -  | 0               | 0               | 0               | 0               | 0               | 0               | 0               |
| <b>Marche Total</b>        | <b>0</b>                                 | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        | <b>0</b>        |
| H.C.15                     | -151,274                                 | -158,632        | -161,799        | -155,718        | -130,712        | -116,314        | -113,719        | -132,948        |
| H.C.16                     | -91,594                                  | -102,291        | -98,853         | -81,733         | -83,599         | -77,401         | -57,726         | -83,397         |
| H.C.17                     | -77,273                                  | -74,610         | -92,543         | -140,252        | -104,166        | -87,743         | -88,327         | -92,648         |
| H.C.18                     | -102,291                                 | -53,708         | -54,160         | -49,108         | -41,510         | -40,432         | -48,230         | -51,327         |
| H.C.19                     | -55,349                                  | -73,601         | -62,567         | -41,794         | -24,902         | -19,500         | -19,589         | -34,213         |
| <b>Lazio Total</b>         | <b>-477,781</b>                          | <b>-462,842</b> | <b>-469,922</b> | <b>-468,605</b> | <b>-384,889</b> | <b>-341,390</b> | <b>-327,591</b> | <b>-394,533</b> |
| <b>CENTRAL ITALY TOTAL</b> | <b>-477,781</b>                          | <b>-462,842</b> | <b>-469,922</b> | <b>-468,605</b> | <b>-384,889</b> | <b>-341,390</b> | <b>-327,591</b> | <b>-394,533</b> |

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(Continued) Table 19 – Operating results of the Hospital Centers in the eight years considered (in thousands of euros)

| Hospital Centers               | Operating result as per IS (A.V.) |                 |                 |                 |                 |                 |                 |                 |  |  |
|--------------------------------|-----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|
|                                | 2013                              | 2014            | 2015            | 2016            | 2017            | 2018            | 2019            | 2020            |  |  |
| H.C. 20                        | 0                                 | 0               | -28,102         | -19,736         | -9,740          | -41,114         | -14,876         | -61,644         |  |  |
| H.C. 21                        | 0                                 | 0               | 0               | 0               | 0               | 0               | 0               | -45,316         |  |  |
| <b>Apulia Total</b>            | -                                 | -               | <b>-28,102</b>  | <b>-19,736</b>  | <b>-9,740</b>   | <b>-41,114</b>  | <b>-14,876</b>  | <b>-106,960</b> |  |  |
| H.C. 22                        | -4,584                            | -6,007          | -1,880          | 0               | 0               | 0               | -12,231         | -666            |  |  |
| H.C. 23                        | -1,682                            | -3,764          | -2,265          | 0               | -12,930         | -27,743         | -14,544         | -54,257         |  |  |
| H.C. 24                        | -15,516                           | -14,562         | -29,858         | -42,000         | -12,319         | -20,942         | -101,787        | -72,371         |  |  |
| H.C. 25                        | -                                 | -17,377         | -20,279         | 0               | 0               | 0               | 0               | -               |  |  |
| <b>Catania Total</b>           | <b>-21,782</b>                    | <b>-41,710</b>  | <b>-54,282</b>  | <b>-42,000</b>  | <b>-25,249</b>  | <b>-48,685</b>  | <b>-128,562</b> | <b>-127,294</b> |  |  |
| H.C. 26                        | 0                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               |  |  |
| H.C. 27                        | 0                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               |  |  |
| H.C. 28                        | 0                                 | 788             | 0               | 0               | 0               | 0               | 0               | 0               |  |  |
| H.C. 29                        | 0                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               |  |  |
| H.C. 30                        | 0                                 | 0               | 0               | 0               | 0               | 0               | 0               | 0               |  |  |
| H.C. 31                        | 0                                 | 2,456           | 2,680           | 0               | 0               | 0               | 0               | 0               |  |  |
| H.C. 32                        | 0                                 | 0               | 0               | 0               | 0               | 0               | -50,699         | 0               |  |  |
| H.C. 33                        | 0                                 | 2209            | 0               | 1120            | 0               | 1,666           | 0               | 0               |  |  |
| <b>Sicily Total</b>            | <b>-</b>                          | <b>5,453</b>    | <b>2,680</b>    | <b>1,120</b>    | <b>-</b>        | <b>1,666</b>    | <b>-50,699</b>  | <b>-</b>        |  |  |
| <b>SOUTH and ISLANDS Total</b> | <b>-21,782</b>                    | <b>-36,257</b>  | <b>-79,704</b>  | <b>-60,616</b>  | <b>-34,989</b>  | <b>-88,133</b>  | <b>-194,137</b> | <b>-234,254</b> |  |  |
| <b>ITALY TOTAL</b>             | <b>-568,862</b>                   | <b>-608,820</b> | <b>-618,388</b> | <b>-557,180</b> | <b>-438,151</b> | <b>-553,182</b> | <b>-614,845</b> | <b>-784,690</b> |  |  |

Source: survey by Ermeneità – Studi &amp; Strategie di Sistema, 2020





*Part Two*  
*Statistical indicators*



## *1. Facility data*

### **1.1. The presence of the public and private component institutions of the National Health Service**

The updates of the facility data of the hospital sector of the National Health Service continue to be taken from one of the two sources that the Ministry of Health makes available, that of the “Open Data”, currently released in the 2010-2019 version. Processing the information available in this area of the ministerial portal makes it possible to get an overview of the gradual reorganization of the Italian hospital and healthcare institutes which, since 2004, has focused mainly on the entire public hospital network. This network has, as has already been mentioned several times, in fact been subject to aggregations and transformations into new types of institutions, mainly from a hospital system directly managed by local health authorities towards organizational forms within variously articulated Hospital-Center systems (Hospital Centers, Centers integrated with universities, Centers integrated with the NHS). In the privately-operated component, however, the trend, already found in some Regions, especially Lazio, of the reconversion or the actual downgrading of many accredited facilities, has been relegated to less qualified production activities such as long-term care or residential care. More in general, the data of the Ministry of Health for 2019 indicate a halt to the reduction of the presence of hospitals directly managed by local health authorities and accredited hospitals. Compared to 2015, the new reference year for the data presented, it can be seen that the total of public and private healthcare institutions decreased from 1,049 to 997 units in 2019, a total reduction of -5%. Tables S/1 and S/2 show, in particular:

- in the public sector, above all a decrease in the number of Hospital Centers (-7%) and directly managed Hospitals (-6.3%), followed by the Hospital Centers integrated with universities (-5.6%); overall, public healthcare and assimilated institutions have seen a gradual decline during the

period considered, with a final change of -5.7%, although it must be pointed out that there are more reconversions of types or aggregations than of real divestments;

- in the context of accredited hospitals in the strict sense (those that the Ministry classifies as Accredited healthcare facilities), there is confirmation of the trend towards a less pronounced downsizing, which saw its presence in the hospital system decrease from 501 units in 2015 to 480 in 2019 (-4.2%).

The ratio of publicly-operated hospital component to privately-operated hospital component of the National Health Service within the total number of hospital institutions shows a national average of 43.7% for the former and 56.3% for the latter (Table S/4), and is fairly well balanced in most Italian regions, again keeping in mind the larger size and the average number of patient beds found in the public institutions.

Considering the ratio of public/private institutions from Region to Region as reported in the data for 2019, we can see in which geographical areas there is a greater number of public institutions and where there is a sort of balance of the ‘somewhat mixed system’ between these two sectors (Table S/4):

- a greater number of public facilities is found especially in Basilicata, Sardinia, Friuli Venezia Giulia, Umbria, Abruzzo, Tuscany and in the autonomous provinces of Bolzano and Trento;
- the presence of a somewhat mixed system (with greater balance between the types of institutions) is instead found mainly in Apulia, the Aosta Valley, Sicily, and Calabria.

## 1.2. Bed distribution

Focusing on the analysis of number of patient beds, rather than on the number of facilities, whose public/private ratios are, as has already been mentioned, strongly affected by institutions’ size, it can be seen that in Italy in 2019, the hospital system had more than 187,000 patient beds available for inpatient-admission services, with a rather steady composition over time of 69.9% from public facilities and 30.1% from private facilities (Table S/5).

With the exception of Lazio, a situation which sees a truly mixed system in operation also in terms of patient beds, the territorial distribution throughout the rest of Italy sees a more or less clear prevalence of public facilities, a prevalence accentuated also by the penalizing measures relating to the reorganization of the hospital network guided by Ministerial Decree 70 of 2015, which have already undergone complete transposition in many regions.

For the supply sector covered by the private facilities, represented in this case solely by facilities belonging to AIOP, it is instead possible to present an update to 2021, with a comparison limited to 2019 compared to the other fewer accredited components in Table S/6. This shows almost 28,000 beds for inpatient-admission purposes out of a total of just over 40,000, a percentage amounting to nearly 71%. In this specific instance, the comparison relates to the ministerial classification of ‘Accredited healthcare facilities’.

The Regional distribution of AIOP’s network of institutions in 2021 shows a concentration among NHS accredited facilities according to the most prevalent nosological classifications (Table S/7):

- multi-specialist (174 out of 515 institutions);
- RSA/assisted living homes (149 out of 515 institutions).
- rehabilitation (66 out of 515 institutions);
- surgical (65 out of 515 institutions);
- neuro-psychiatry (27 out of 515 institutions);
- long-stay care (19 out of 515 institutions);
- medical (15 out of 515 institutions).

If we consider the different types of activities (see Tables S/8 and S/9), also belonging to the AIOP-associated institutions (2021), the greater concentrations of patient beds at the national level are: surgical, medical, rehabilitation, long-stay care, neuro-psychiatry, and a significantly increase in assisted living homes (*R.S.A., Residenze Sanitarie Assistenziali*). There is also a large and significant amount for highly specialized areas (almost 900 patient beds), especially cardiac surgery.

### 1.3. Medical equipment

The description of the distribution of equipment still refers to the latest update available, that of 2019. It attests to the solidity of the technological mechanism that supports and qualifies the hospital services and that, in most of the Italian Regions, also makes a decisive contribution in terms of specialized assistance locally. The availability by Region and by type of equipment are shown in Tables S/10 (Public and assimilated facilities), S/11 (Code 5.1 Accredited hospitals) and S/12 (Non-accredited private healthcare facilities).

The data for the first two types of facilities confirm the significance of the contribution that the private hospital component provides to the supply of advanced technological services, continuing to ensure significant territorial compensation within the repeatedly invoked concept of the “mixed system”.

Table S/10 (Public and assimilated facilities) highlights that the bulk of the most sophisticated equipment (Computerized Axial Tomography – CT, Hemodialysis machines – HD, Magnetic Resonance Tomography – MRT, Linear Accelerators – LINACs) are mainly concentrated in hospitals in the North of Italy, except for Hyperbaric Chambers, which are much widespread in the South.

With reference to this equipment, Table S/11 shows how accredited hospitals tend to “compensate” this imbalance with significant amounts of their own equipment situated in the South compared to the rest of the country, including Hyperbaric Chambers, CT devices and Hemodialysis machines.

Table S/1 – Evolution in the number of public and assimilated, and accredited hospitals

|   | 2015         |              |              | 2016         |              |              | 2017         |              |            | 2018         |            |              | 2019       |              |  |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|--------------|------------|--------------|------------|--------------|--|
|   | A.V.         | %            | A.V.         | %            | A.V.         | %            | A.V.         | %            | A.V.       | %            | A.V.       | %            | A.V.       | %            |  |
| - Hospital Centers                              | 57           | 5.4          | 57           | 5.5          | 55           | 5.5          | 53           | 5.3          | 53         | 5.3          | 53         | 5.3          | 53         | 5.3          |  |
| - Directly managed hospitals                    | 351          | 33.5         | 347          | 33.6         | 327          | 32.6         | 327          | 32.7         | 329        | 32.7         | 329        | 33.0         | 329        | 33.0         |  |
| - Hospital Centers integrated with the NHS      | 9            | 0.9          | 9            | 0.9          | 9            | 0.9          | 9            | 0.9          | 9          | 0.9          | 9          | 0.9          | 9          | 0.9          |  |
| - Hospital Centers integrated with universities | 18           | 1.7          | 18           | 1.7          | 16           | 1.6          | 17           | 1.7          | 17         | 1.7          | 17         | 1.7          | 17         | 1.7          |  |
| - University Polyclinics                        | 2            | 0.2          | 2            | 0.2          | 2            | 0.2          | 2            | 0.2          | 2          | 0.2          | 2          | 0.2          | 2          | 0.2          |  |
| - Institutes for Treatment and Research         | 64           | 6.1          | 63           | 6.1          | 63           | 6.3          | 63           | 6.3          | 63         | 6.3          | 63         | 6.3          | 63         | 6.3          |  |
| - Religiously-affiliated classif. hospitals     | 27           | 2.6          | 26           | 2.5          | 27           | 2.7          | 28           | 2.8          | 28         | 2.8          | 28         | 2.8          | 28         | 2.8          |  |
| - Institutes-ASL Facilities                     | 18           | 1.7          | 18           | 1.7          | 17           | 1.7          | 14           | 1.4          | 14         | 1.4          | 14         | 1.4          | 14         | 1.4          |  |
| - Research facilities                           | 2            | 0.2          | 2            | 0.2          | 2            | 0.2          | 2            | 0.2          | 2          | 0.2          | 2          | 0.2          | 2          | 0.2          |  |
| - Total public and assimilated institutions     | 548          | 52.2         | 542          | 52.4         | 518          | 51.5         | 515          | 51.5         | 517        | 51.5         | 517        | 51.9         | 517        | 51.9         |  |
| - Accredited hospitals (1)                      | 501          | 47.8         | 492          | 47.6         | 487          | 48.5         | 485          | 48.5         | 480        | 48.5         | 480        | 48.1         | 480        | 48.1         |  |
| <b>Grand Total</b>                              | <b>1,049</b> | <b>100.0</b> | <b>1,034</b> | <b>100.0</b> | <b>1,005</b> | <b>100.0</b> | <b>1,000</b> | <b>100.0</b> | <b>997</b> | <b>100.0</b> | <b>997</b> | <b>100.0</b> | <b>997</b> | <b>100.0</b> |  |

(1) Code 5.1 Institutes (Accredited private healthcare facility) in the ministerial classification.

Source: processing based on data from the Ministry of Health – Open Data 2015 – 2019



Table S/2 – Evolution in the number of public and assimilated, and accredited hospitals (% increase)

|   | 2016/2015 | 2017/2016 | 2018/2017 | 2019/2018 | 2019/2015 |
|---|-----------|-----------|-----------|-----------|-----------|
| - Hospital Centers                              | 0.0       | -3.5      | -3.6      | 0.0       | -7.0      |
| - Directly managed hospitals                    | -1.1      | -5.8      | 0.0       | 0.6       | -6.3      |
| - Hospital Centers integrated with the NHS      | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| - Hospital Centers integrated with universities | 0.0       | -11.1     | 6.3       | 0.0       | -5.6      |
| - University Polyclinics                        | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| - Institutes for Treatment and Research         | -1.6      | 0.0       | 0.0       | 0.0       | -1.6      |
| - Religiously-affiliated classif. hospitals     | -3.7      | 3.8       | 3.7       | 0.0       | 3.7       |
| - Institutes-ASL Facilities                     | 0.0       | -5.6      | -17.6     | 0.0       | -22.2     |
| - Research facilities                           | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| - Total public and assimilated institutions     | -1.1      | -4.4      | -0.6      | 0.4       | -5.7      |
| - Accredited hospitals (1)                      | -1.8      | -1.0      | -0.4      | -1.0      | -4.2      |
| Grand Total                                     | -1.4      | -2.8      | -0.5      | -0.3      | -5.0      |

(1) Code 5.1 Institutes (Accredited private healthcare facility) in the ministerial classification.

Source: processing based on data from the Ministry of Health – Open Data 2015 – 2019

Table S/3 – Publicly-operated and privately-operated agencies of the NHS by region. Year 2019 (A.V.)

| Regions         | Publicly-operated agencies |                            |  |   | Privately-operated agencies                      |                                |                                       |                                  |                |                     | Total Institutions |                               |
|-----------------|----------------------------|----------------------------|--|---|--|--------------------------------|---------------------------------------|----------------------------------|----------------|---------------------|--------------------|-------------------------------|
|                 | Hospital Centers           | Directly managed hospitals | Hospital Centers integrated with the NHS | Hospital Centers integrated with universities | Scientific and public institutes and foundations | Private University Polyclinics | Institutes for Treatment and Research | Religiously-affiliated hospitals | ASL Facilities | Research facilities |                    | Accredited private hospitals' |
| Piedmont        | 3                          | 20                         | -  | 3   | 1  | -                              | 2                                     | -                                | 6              | -                   | 38                 | 73                            |
| Aosta Valley    | -                          | 1                          | -  | -   | -  | -                              | -                                     | -                                | -              | -                   | 1                  | 2                             |
| Lombardy        | 27                         | -                          | -  | -   | 5  | -                              | 21                                    | 5                                | -              | -                   | 64                 | 122                           |
| A.P. of Bolzano | -                          | 7                          | -  | -   | -  | -                              | -                                     | -                                | -              | -                   | 3                  | 10                            |
| A.P. of Trento  | -                          | 7                          | -  | -   | -  | -                              | -                                     | 1                                | -              | -                   | 5                  | 13                            |
| Veneto          | 1                          | 11                         | -  | 1   | 2  | -                              | 1                                     | 5                                | 2              | -                   | 17                 | 40                            |
| Friuli V.G.     | -                          | 8                          | -  | -   | 2  | -                              | -                                     | -                                | -              | -                   | 5                  | 15                            |
| Liguria         | -                          | 6                          | -  | -   | 2  | -                              | 1                                     | 2                                | -              | -                   | 8                  | 19                            |
| Emilia R.       | -                          | 15                         | -  | 4   | 2  | -                              | 1                                     | -                                | 1              | -                   | 44                 | 67                            |
| Tuscany         | -                          | 31                         | -  | 4   | 1  | -                              | 1                                     | -                                | 2              | 1                   | 21                 | 61                            |
| Umbria          | 2                          | 8                          | -  | -   | -  | -                              | -                                     | -                                | -              | -                   | 5                  | 15                            |
| Marche          | 1                          | 5                          | -  | 1   | 1  | -                              | -                                     | -                                | -              | -                   | 14                 | 22                            |
| Lazio           | 2                          | 32                         | 1  | 2   | 3  | 2                              | 3                                     | 8                                | 2              | -                   | 59                 | 114                           |
| Abruzzo         | -                          | 17                         | -  | -   | -  | -                              | -                                     | -                                | -              | -                   | 10                 | 27                            |
| Molise          | -                          | 3                          | -  | -   | -  | -                              | 1                                     | -                                | -              | 1                   | 3                  | 8                             |
| Campania        | 6                          | 34                         | 2  | 1   | 1  | -                              | 1                                     | 4                                | -              | -                   | 59                 | 108                           |
| Apulia          | -                          | 24                         | 1  | 1   | 4  | -                              | 1                                     | 2                                | -              | -                   | 26                 | 59                            |
| Basilicata      | 1                          | 7                          | -  | -   | 1  | -                              | -                                     | -                                | -              | -                   | 1                  | 10                            |
| Calabria        | 4                          | 18                         | -  | -   | 1  | -                              | -                                     | -                                | -              | -                   | 29                 | 52                            |
| Sicily          | 5                          | 53                         | 3  | -   | 2  | -                              | 2                                     | 1                                | 1              | -                   | 59                 | 126                           |
| Sardinia        | 1                          | 22                         | 2  | -   | -  | -                              | -                                     | -                                | -              | -                   | 9                  | 34                            |
| North           | 31                         | 75                         | -  | 8   | 14   | -                              | 26                                    | 13                               | 9              | -                   | 185                | 361                           |
| Center          | 5                          | 76                         | 1  | 7   | 5  | 2                              | 4                                     | 8                                | 4              | 1                   | 99                 | 212                           |
| South           | 17                         | 178                        | 8  | 2   | 9  | 2                              | 5                                     | 7                                | 1              | 1                   | 196                | 424                           |
| <i>Italy</i>    | <i>53</i>                  | <i>329</i>                 | <i>9</i>                                 | <i>17</i>                                     | <i>28</i>  | <i>2</i>                       | <i>35</i>                             | <i>28</i>                        | <i>14</i>      | <i>2</i>            | <i>480</i>         | <i>997</i>                    |

(1) Code 5.1 Institutes (Accredited private healthcare facility) in the ministerial classification. Source: processing by *Ermeneta*, based on data from the *Ministry of Health – Open Data 2019*

Table S/4 – Publicly-operated and privately-operated agencies of the NHS by region. Year 2019 (%)

| Regions         | Publicly-operated agencies         |  |   |  | Privately-operated agencies    |                                       |                                  |                           |                     |   |                             |                              |              |  | Total Institutions |
|-----------------|------------------------------------|--|---|--|--------------------------------|---------------------------------------|----------------------------------|---------------------------|---------------------|---|-----------------------------|------------------------------|--------------|--|--------------------|
|                 | Hospital Centers managed hospitals | Hospital Centers integrated with the NHS | Hospital Centers integrated with universities | Hospital Centers and public institutes and foundations | Private University Polyclinics | Institutes for Treatment and Research | Religiously-affiliated hospitals | Institutes-ASL Facilities | Research facilities | Accredited private hospitals <sup>1</sup> | Publicly-operated component | Privately-operated component |              |  |                    |
| Piedmont        | 4.1                                | 27.4                                     | 0.0   | 4.1  | 0.0                            | 2.7                                   | 0.0                              | 8.2                       | 0.0                 | 52.1                                      | 37.0                        | 63.0                         | 100.0        |  |                    |
| Aosta Valley    | 0.0                                | 50.0                                     | 0.0   | 0.0  | 0.0                            | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 50.0                                      | 50.0                        | 50.0                         | 100.0        |  |                    |
| Lombardy        | 22.1                               | 0.0                                      | 0.0   | 4.1  | 0.0                            | 17.2                                  | 4.1                              | 0.0                       | 0.0                 | 52.5                                      | 26.2                        | 73.8                         | 100.0        |  |                    |
| A.P. of Bolzano | 0.0                                | 70.0                                     | 0.0   | 0.0  | 0.0                            | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 30.0                                      | 70.0                        | 30.0                         | 100.0        |  |                    |
| A.P. of Trento  | 0.0                                | 53.8                                     | 0.0   | 0.0  | 0.0                            | 0.0                                   | 7.7                              | 0.0                       | 0.0                 | 38.5                                      | 53.8                        | 46.2                         | 100.0        |  |                    |
| Veneto          | 2.5                                | 27.5                                     | 0.0   | 2.5  | 0.0                            | 2.5                                   | 12.5                             | 5.0                       | 0.0                 | 42.5                                      | 37.5                        | 62.5                         | 100.0        |  |                    |
| Friuli V.G.     | 0.0                                | 53.3                                     | 0.0   | 0.0  | 13.3                           | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 33.3                                      | 66.7                        | 33.3                         | 100.0        |  |                    |
| Liguria         | 0.0                                | 31.6                                     | 0.0   | 10.5   | 0.0                            | 5.3                                   | 10.5                             | 0.0                       | 0.0                 | 42.1                                      | 42.1                        | 37.9                         | 100.0        |  |                    |
| Emilia R.       | 0.0                                | 22.4                                     | 0.0   | 3.0  | 0.0                            | 1.5                                   | 0.0                              | 1.5                       | 0.0                 | 65.7                                      | 31.3                        | 68.7                         | 100.0        |  |                    |
| Tuscany         | 0.0                                | 50.8                                     | 0.0   | 6.6  | 1.6                            | 1.6                                   | 0.0                              | 3.3                       | 1.6                 | 34.4                                      | 59.0                        | 41.0                         | 100.0        |  |                    |
| Umbria          | 13.3                               | 53.3                                     | 0.0   | 0.0  | 0.0                            | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 33.3                                      | 66.7                        | 33.3                         | 100.0        |  |                    |
| Marche          | 4.5                                | 22.7                                     | 0.0   | 4.5  | 4.5                            | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 63.6                                      | 36.4                        | 63.6                         | 100.0        |  |                    |
| Lazio           | 1.8                                | 28.1                                     | 0.9   | 1.8  | 2.6                            | 2.6                                   | 7.0                              | 1.8                       | 0.0                 | 51.8                                      | 35.1                        | 64.9                         | 100.0        |  |                    |
| Abruzzo         | 0.0                                | 63.0                                     | 0.0   | 0.0  | 0.0                            | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 37.0                                      | 63.0                        | 37.0                         | 100.0        |  |                    |
| Molise          | 0.0                                | 37.5                                     | 0.0   | 0.0  | 0.0                            | 12.5                                  | 0.0                              | 0.0                       | 0.0                 | 37.5                                      | 37.5                        | 62.5                         | 100.0        |  |                    |
| Campania        | 5.6                                | 31.5                                     | 1.9   | 0.9  | 0.9                            | 0.9                                   | 3.7                              | 0.0                       | 0.0                 | 54.6                                      | 40.7                        | 59.3                         | 100.0        |  |                    |
| Apulia          | 0.0                                | 40.7                                     | 1.7   | 1.7  | 6.8                            | 1.7                                   | 3.4                              | 0.0                       | 0.0                 | 44.1                                      | 50.8                        | 49.2                         | 100.0        |  |                    |
| Basilicata      | 10.0                               | 70.0                                     | 0.0   | 0.0  | 10.0                           | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 10.0                                      | 90.0                        | 10.0                         | 100.0        |  |                    |
| Calabria        | 7.7                                | 34.6                                     | 0.0   | 0.0  | 1.9                            | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 55.8                                      | 44.2                        | 55.8                         | 100.0        |  |                    |
| Sicily          | 4.0                                | 42.1                                     | 2.4   | 0.0  | 1.6                            | 1.6                                   | 0.8                              | 0.8                       | 0.0                 | 46.8                                      | 50.0                        | 50.0                         | 100.0        |  |                    |
| Sardinia        | 2.9                                | 64.7                                     | 5.9   | 0.0  | 0.0                            | 0.0                                   | 0.0                              | 0.0                       | 0.0                 | 26.5                                      | 73.5                        | 26.5                         | 100.0        |  |                    |
| North           | 8.6                                | 20.8                                     | 0.0   | 2.2  | 3.9                            | 7.2                                   | 3.6                              | 2.5                       | 0.0                 | 51.2                                      | 35.5                        | 64.5                         | 100.0        |  |                    |
| Center          | 2.4                                | 35.8                                     | 0.5   | 3.3  | 2.4                            | 1.9                                   | 3.8                              | 1.9                       | 0.5                 | 46.7                                      | 44.3                        | 55.7                         | 100.0        |  |                    |
| South           | 4.0                                | 42.0                                     | 1.9   | 0.5  | 2.1                            | 1.2                                   | 1.7                              | 0.2                       | 0.2                 | 46.2                                      | 50.5                        | 49.5                         | 100.0        |  |                    |
| <i>Italy</i>    | <i>5.3</i>                         | <i>33.0</i>                              | <i>0.9</i>                                    | <i>1.7</i>   | <i>2.8</i>                     | <i>3.5</i>                            | <i>2.8</i>                       | <i>1.4</i>                | <i>0.2</i>          | <i>48.1</i>                               | <i>43.7</i>                 | <i>56.3</i>                  | <i>100.0</i> |  |                    |

(1) Code 5.1 Institutes (Accredited private healthcare facility) in the ministerial classification.

Source: processing by Ermeneta, based on data from the Ministry of Health – Open Data 2019

Table S/5 – Patient beds of publicly- and privately-operated agencies of the NHS used for inpatient admissions, by Region, 2019

| Regions         | 2019                                      |                |  |                | 2018           |                |                                       |                |  |
|-----------------|---|----------------|--|----------------|----------------|----------------|---------------------------------------|----------------|--|
|                 | Publicly-operated agencies of the NHS (1) |                | Privately-operated agencies of the NHS (1) |                | Total 2019     |                | Publicly-operated agencies of the NHS |                | Privately-operated agencies of the NHS |
|                 | Patient beds                              | % of the total | Patient beds                               | % of the total | Patient beds   | % of the total | agencies of the NHS                   | % of the total |  |
| Piedmont        | 10,190                                    | 69.9           | 4,382                                      | 30.1           | 14,572         | 100.0          | 69.2                                  | 30.8           | 100.0                                  |
| Aosta Valley    | 370                                       | 83.3           | 74   | 16.7           | 444            | 100.0          | 83.5                                  | 16.5           | 100.0                                  |
| Lombardy        | 21,768                                    | 62.5           | 13,044                                     | 37.5           | 34,812         | 100.0          | 62.8                                  | 37.2           | 100.0                                  |
| A.P. of Bolzano | 1,532                                     | 89.6           | 178  | 10.4           | 1,710          | 100.0          | 84.8                                  | 15.2           | 100.0                                  |
| A.P. of Trento  | 1,223                                     | 64.8           | 664  | 35.2           | 1,887          | 100.0          | 65.9                                  | 34.1           | 100.0                                  |
| Veneto          | 13,020                                    | 81.4           | 2,977                                      | 18.6           | 15,997         | 100.0          | 81.4                                  | 18.6           | 100.0                                  |
| Friuli V.G.     | 3,418                                     | 89.6           | 397  | 10.4           | 3,815          | 100.0          | 90.1                                  | 9.9            | 100.0                                  |
| Liguria         | 4,154                                     | 82.9           | 858  | 17.1           | 5,012          | 100.0          | 82.2                                  | 17.8           | 100.0                                  |
| Emilia R.       | 12,319                                    | 75.5           | 4,008                                      | 24.5           | 16,327         | 100.0          | 75.6                                  | 24.4           | 100.0                                  |
| Tuscany         | 8,444                                     | 82.2           | 1,829                                      | 17.8           | 10,273         | 100.0          | 82.3                                  | 17.7           | 100.0                                  |
| Umbria          | 2,591                                     | 91.2           | 249  | 8.8            | 2,840          | 100.0          | 90.5                                  | 9.5            | 100.0                                  |
| Marche          | 3,795                                     | 81.9           | 839  | 18.1           | 4,634          | 100.0          | 82.1                                  | 17.9           | 100.0                                  |
| Lazio           | 9,051                                     | 49.3           | 9,305                                      | 50.7           | 18,356         | 100.0          | 49.3                                  | 50.7           | 100.0                                  |
| Abruzzo         | 3,003                                     | 76.5           | 922  | 23.5           | 3,925          | 100.0          | 76.2                                  | 23.8           | 100.0                                  |
| Molise          | 493                                       | 55.4           | 397  | 44.6           | 890            | 100.0          | 58.2                                  | 41.8           | 100.0                                  |
| Campania        | 8,977                                     | 61.6           | 5,605                                      | 38.4           | 14,582         | 100.0          | 59.5                                  | 40.5           | 100.0                                  |
| Apulia          | 8,334                                     | 72.0           | 3,241                                      | 28.0           | 11,575         | 100.0          | 72.0                                  | 28.0           | 100.0                                  |
| Basilicata      | 1,578                                     | 97.5           | 40   | 2.5            | 1,618          | 100.0          | 97.5                                  | 2.5            | 100.0                                  |
| Calabria        | 3,209                                     | 66.1           | 1,647                                      | 33.9           | 4,856          | 100.0          | 64.8                                  | 35.2           | 100.0                                  |
| Sicily          | 9,184                                     | 65.4           | 4,866                                      | 34.6           | 14,050         | 100.0          | 65.1                                  | 34.9           | 100.0                                  |
| Sardinia        | 3,997                                     | 82.7           | 838  | 17.3           | 4,835          | 100.0          | 81.2                                  | 18.8           | 100.0                                  |
| North           | 67,994                                    | 71.9           | 26,582                                     | 28.1           | 94,576         | 100.0          | 71.9                                  | 28.1           | 100.0                                  |
| Center          | 23,881                                    | 66.1           | 12,222                                     | 33.9           | 36,103         | 100.0          | 66.2                                  | 33.8           | 100.0                                  |
| South           | 38,775                                    | 68.8           | 17,556                                     | 31.2           | 56,331         | 100.0          | 68.0                                  | 32.0           | 100.0                                  |
| <i>Italy</i>    | <i>130,650</i>                            | <i>69.9</i>    | <i>56,360</i>                              | <i>30.1</i>    | <i>187,010</i> | <i>100.0</i>   | <i>69.6</i>                           | <i>30.4</i>    | <i>100.0</i>                           |

(1) For the classification of the institutions see Table S/3).

Source: processing by *Ermeneia* – data from the *Ministry of Health, Open Data 2019*

Table S/6 – NHS Accredited Hospitals<sup>1</sup>, by region—Institutions and Patient beds, 2019

|                | AIOIP        |                      |              | ARIS                 |              |                      | Others       |                      |              | Total                |              |                      |
|----------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|
|                | Institutions | Accred. patient beds | Institutions | Accred. patient beds | Institutions | Accred. patient beds | Institutions | Accred. patient beds | Institutions | Accred. patient beds | Institutions | Accred. patient beds |
|                |              | 26                   | 2,006        | 4                    | 444          | 8                    | 591          | 38                   | 591          | 38                   | 3,041        |                      |
| – Piedmont     | 1            | 74                   | -            | -                    | -            | -                    | 1            | -                    | 1            | 74                   |              |                      |
| – Aosta Valley | 36           | 4,305                | 14           | 1,911                | 14           | 1,250                | 64           | 1,250                | 64           | 7,466                |              |                      |
| – Lombardy     | 2            | 109                  | -            | -                    | 1            | 69                   | 3            | 69                   | 3            | 178                  |              |                      |
| – Bolzano      | 3            | 326                  | 1            | 88                   | 1            | 145                  | 5            | 145                  | 5            | 559                  |              |                      |
| – Trento       | 17           | 1,615                | -            | -                    | -            | -                    | 17           | -                    | 17           | 1,615                |              |                      |
| – Veneto       | 2            | 173                  | -            | -                    | 3            | 224                  | 5            | 224                  | 5            | 397                  |              |                      |
| – Friuli V.G.  | 2            | 135                  | 1            | 11                   | 5            | 155                  | 8            | 155                  | 8            | 301                  |              |                      |
| – Liguria      | 41           | 3,619                | 1            | 76                   | 2            | 127                  | 44           | 127                  | 44           | 3,822                |              |                      |
| – Emilia R.    | 12           | 907                  | 7            | 259                  | 2            | 290                  | 21           | 290                  | 21           | 1,456                |              |                      |
| – Tuscany      | 4            | 189                  | 1            | 60                   | -            | -                    | 5            | -                    | 5            | 249                  |              |                      |
| – Umbria       | 11           | 596                  | 1            | 35                   | 2            | 208                  | 14           | 208                  | 14           | 839                  |              |                      |
| – Marche       | 40           | 3,059                | 5            | 300                  | 14           | 1,371                | 59           | 1,371                | 59           | 4,730                |              |                      |
| – Lazio        | 2            | 401                  | 2            | 87                   | 6            | 434                  | 10           | 434                  | 10           | 922                  |              |                      |
| – Abruzzo      | 2            | 100                  | -            | -                    | 1            | 40                   | 3            | 40                   | 3            | 140                  |              |                      |
| – Molise       | 50           | 4,242                | -            | -                    | 9            | 651                  | 59           | 651                  | 59           | 4,893                |              |                      |
| – Campania     | 14           | 1,176                | 1            | 54                   | 11           | 1,067                | 26           | 1,067                | 26           | 2,297                |              |                      |
| – Apulia       | 1            | 40                   | -            | -                    | -            | -                    | 1            | -                    | 1            | 40                   |              |                      |
| – Basilicata   | 14           | 821                  | -            | -                    | 15           | 826                  | 29           | 826                  | 29           | 1,647                |              |                      |
| – Calabria     | 48           | 3,400                | -            | -                    | 11           | 517                  | 59           | 517                  | 59           | 3,917                |              |                      |
| – Sicily       | 8            | 788                  | -            | -                    | 1            | 50                   | 9            | 50                   | 9            | 838                  |              |                      |
| – Sardinia     | 130          | 12,362               | 21           | 2,530                | 34           | 2,561                | 185          | 2,561                | 185          | 17,453               |              |                      |
| – North        | 67           | 4,751                | 14           | 654                  | 18           | 1,869                | 99           | 1,869                | 99           | 7,274                |              |                      |
| – Center       | 139          | 10,968               | 3            | 141                  | 54           | 3,585                | 196          | 3,585                | 196          | 14,694               |              |                      |
| – South        | 336          | 28,081               | 38           | 3,325                | 106          | 8,015                | 480          | 8,015                | 480          | 39,421               |              |                      |
| – Italy        | 70.0         | 71.2                 | 7.9          | 8.4                  | 22.1         | 20.3                 | 100.0        | 20.3                 | 100.0        | 100.0                |              |                      |

(1) Code 5.1 Institutes (Accredited private healthcare facility) in the ministerial classification.

Source: processing by Ermeneta, based on data from the Ministry of Health, Open Data 2019 and AIOIP

Table S7 -- Regional distribution of AIOF-associated institutions according to the most prevalent nosological classifications--Year 2021

| Regions      | Multi-specialist |                | Medical    |                | Surgical   |                | Neuro-psychiatry |                | Long-stay care pts |                | Rehabilitation |                | RSA        |                | Totals     |                | Rehabilitation Centers |                |
|--------------|------------------|----------------|------------|----------------|------------|----------------|------------------|----------------|--------------------|----------------|----------------|----------------|------------|----------------|------------|----------------|------------------------|----------------|
|              | Accredited       | Non-accredited | Accredited | Non-accredited | Accredited | Non-accredited | Accredited       | Non-accredited | Accredited         | Non-accredited | Accredited     | Non-accredited | Accredited | Non-accredited | Accredited | Non-accredited | Accredited             | Non-accredited |
| Piedmont     | 14               | 3              | -          | -              | 1          | 4              | -                | -              | 3                  | -              | 5              | -              | 9          | -              | 35         | 4              | -                      | -              |
| Aosta Valley | -                | -              | -          | -              | -          | -              | -                | -              | -                  | -              | 1              | -              | -          | -              | 1          | -              | -                      | -              |
| Lombardy     | 26               | 2              | 2          | 1              | 2          | 2              | -                | -              | -                  | 13             | -              | 54             | 5          | 99             | 8          | 1              | -                      | -              |
| Bolzano      | -                | -              | -          | -              | -          | -              | -                | -              | 1                  | -              | 3              | -              | -          | 3              | -          | -              | -                      | -              |
| Trento       | 2                | -              | -          | -              | -          | -              | -                | -              | -                  | -              | -              | -              | -          | 3              | -          | -              | -                      | -              |
| Veneto       | 9                | 1              | -          | -              | 2          | 3              | -                | -              | -                  | 6              | -              | 2              | -          | 22             | 1          | -              | -                      | -              |
| Friuli V.G.  | 2                | -              | -          | -              | -          | -              | -                | -              | -                  | -              | -              | -              | 1          | 2              | 1          | -              | -                      | -              |
| Liguria      | 1                | 2              | -          | -              | -          | -              | -                | -              | -                  | 1              | -              | 1              | -          | 2              | 2          | -              | -                      | -              |
| Emilia R.    | 24               | 1              | 1          | -              | 1          | 6              | -                | -              | 3                  | 7              | -              | 10             | 1          | 52             | 2          | -              | -                      | -              |
| Tuscany      | 5                | -              | 1          | 7              | 1          | 2              | -                | -              | 1                  | 1              | -              | 6              | -          | 23             | 1          | -              | -                      | -              |
| Umbria       | 2                | -              | 2          | -              | -          | -              | -                | -              | 1                  | 1              | -              | 1              | -          | 7              | -          | -              | -                      | -              |
| Marche       | 7                | -              | 1          | -              | 1          | 1              | -                | -              | 1                  | 3              | -              | 3              | -          | 16             | -          | -              | -                      | -              |
| Lazio        | 20               | 11             | 5          | 8              | 7          | 7              | 1                | 4              | 4                  | 6              | -              | 39             | 1          | 86             | 22         | 5              | -                      | -              |
| Abruzzo      | 2                | -              | -          | -              | -          | -              | -                | -              | -                  | -              | -              | -              | 1          | 3              | -          | -              | 2                      | -              |
| Molise       | 3                | -              | -          | -              | -          | -              | -                | -              | -                  | 1              | -              | -              | -          | 4              | -          | -              | 1                      | -              |
| Campania     | 24               | -              | 2          | 2              | -          | -              | -                | 3              | -                  | 7              | -              | 5              | -          | 53             | 2          | 1              | -                      | -              |
| Apulia       | 9                | -              | 1          | -              | -          | -              | -                | -              | -                  | 1              | -              | 9              | -          | 21             | -          | -              | 6                      | -              |
| Basilicata   | -                | -              | -          | -              | -          | -              | -                | -              | 1                  | -              | -              | -              | -          | 1              | -          | -              | -                      | -              |
| Calabria     | 1                | -              | 1          | 8              | 1          | -              | -                | -              | -                  | 5              | -              | 2              | -          | 17             | 1          | -              | -                      | -              |
| Sicily       | 18               | -              | 2          | -              | 21         | 2              | -                | -              | -                  | 5              | -              | 5              | -          | 56             | -          | -              | -                      | -              |
| Sardinia     | 5                | -              | 3          | -              | -          | -              | -                | 1              | -                  | -              | -              | -              | -          | 9              | -          | -              | -                      | -              |
| North        | 78               | 9              | 3          | 5              | 2          | 15             | -                | 7              | -                  | 36             | -              | 75             | 7          | 219            | 18         | 1              | -                      | -              |
| Center       | 34               | 11             | 6          | 1              | 15         | 10             | 1                | 7              | -                  | 11             | -              | 49             | 1          | 132            | 23         | 7              | -                      | -              |
| South        | 62               | -              | 6          | -              | 45         | 3              | 2                | 5              | -                  | 19             | -              | 25             | -          | 164            | 3          | 10             | -                      | -              |
| Italy        | 174              | 20             | 15         | 1              | 65         | 14             | 27               | 1              | 19                 | 66             | -              | 149            | 8          | 515            | 44         | 18             | -                      | -              |

Source: AIOF

Table S/8 – Regional distribution of patient beds of the AIOIP-associated institutions according to the different types of activities – Year 2021

| Regions        | High Speciality |                    | Medical    |                    | Surgical   |                    | Neuro-psychiatry |                    | Long-stay care plus |                    | Rehabilitation |                    | RSA        |                    | Totals     |                    | Rehabilitation Centers |                    |
|----------------|-----------------|--------------------|------------|--------------------|------------|--------------------|------------------|--------------------|---------------------|--------------------|----------------|--------------------|------------|--------------------|------------|--------------------|------------------------|--------------------|
|                | Accredited      | Non-<br>accredited | Accredited | Non-<br>accredited | Accredited | Non-<br>accredited | Accredited       | Non-<br>accredited | Accredited          | Non-<br>accredited | Accredited     | Non-<br>accredited | Accredited | Non-<br>accredited | Accredited | Non-<br>accredited | Accredited             | Non-<br>accredited |
| – Piedmont     | 90              | 10                 | 404        | 86                 | 692        | 259                | 264              | 32                 | 413                 | 18                 | 617            | 10                 | 904        | 26                 | 3,384      | 441                | -                      | -                  |
| – Aosta Valley | -               | -                  | -          | -                  | 12         | 4                  | -                | -                  | -                   | 64                 | -              | -                  | -          | -                  | 76         | 4                  | -                      | -                  |
| – Lombardy     | 441             | 18                 | 2,673      | 89                 | 3,024      | 185                | 103              | 20                 | 10                  | -                  | 2,289          | 55                 | 5,930      | 600                | 14,470     | 967                | 60                     | -                  |
| – Bolzano      | -               | -                  | 15         | 8                  | -          | -                  | -                | -                  | 20                  | 22                 | 169            | 33                 | -          | -                  | 204        | 63                 | -                      | -                  |
| – Trento       | -               | -                  | 106        | -                  | 50         | -                  | -                | -                  | 162                 | 17                 | 30             | -                  | 21         | -                  | 369        | 17                 | -                      | -                  |
| – Veneto       | -               | -                  | 480        | 73                 | 706        | 117                | 372              | 18                 | 40                  | -                  | 704            | 52                 | 450        | -                  | 2,752      | 260                | 28                     | -                  |
| – Friuli V.G.  | -               | -                  | 62         | 17                 | 153        | 20                 | -                | -                  | -                   | -                  | 12             | -                  | -          | 77                 | 227        | 114                | -                      | -                  |
| – Liguria      | 15              | -                  | 41         | 47                 | 15         | 73                 | -                | -                  | -                   | -                  | 67             | -                  | -          | -                  | 138        | 120                | -                      | -                  |
| – Emilia R.    | 73              | 2                  | 1,052      | 35                 | 1,504      | 159                | 674              | 2                  | 570                 | 5                  | 919            | 51                 | 639        | 296                | 5,431      | 550                | -                      | -                  |
| – Tuscany      | 21              | -                  | 224        | -                  | 687        | 50                 | 105              | 1                  | 182                 | -                  | 424            | 10                 | 349        | -                  | 1,992      | 61                 | 126                    | -                  |
| – Umbria       | -               | -                  | 16         | -                  | 188        | -                  | -                | -                  | 43                  | -                  | 132            | 25                 | 20         | 20                 | 399        | 45                 | -                      | -                  |
| – Marche       | -               | -                  | 202        | -                  | 311        | -                  | 50               | -                  | 142                 | -                  | 180            | -                  | 315        | 9                  | 1,200      | 9                  | 70                     | -                  |
| – Lazio        | -               | 40                 | 1,296      | 389                | 1,573      | 975                | 563              | 23                 | 573                 | 3                  | 1,056          | 428                | 3,383      | 215                | 8,444      | 2,073              | 684                    | -                  |
| – Abruzzo      | -               | -                  | 119        | 44                 | 140        | 73                 | 100              | -                  | -                   | -                  | 54             | 54                 | 28         | 27                 | 441        | 198                | 303                    | -                  |
| – Molise       | 40              | -                  | 157        | 52                 | 114        | -                  | -                | -                  | -                   | -                  | 129            | 100                | 30         | -                  | 470        | 152                | -                      | 53                 |
| – Campania     | 81              | 13                 | 926        | 131                | 2,173      | 380                | -                | -                  | 557                 | 55                 | 1,203          | 12                 | 439        | -                  | 5,379      | 591                | 80                     | -                  |
| – Apulia       | 78              | -                  | 542        | 67                 | 502        | 126                | -                | -                  | -                   | -                  | 140            | 28                 | 783        | 363                | 2,045      | 584                | 1,163                  | 27                 |
| – Basilicata   | -               | -                  | -          | -                  | -          | -                  | -                | -                  | 16                  | -                  | 166            | -                  | 120        | -                  | 302        | -                  | 54                     | -                  |
| – Calabria     | -               | -                  | 48         | 3                  | 408        | 30                 | -                | -                  | 125                 | -                  | 430            | -                  | 76         | -                  | 1,087      | 33                 | -                      | -                  |
| – Sicily       | 77              | 2                  | 1,178      | 29                 | 1,838      | 18                 | 109              | 23                 | 83                  | 1                  | 639            | 43                 | 395        | 93                 | 4,319      | 209                | -                      | -                  |
| – Sardinia     | -               | -                  | 169        | 8                  | 359        | 21                 | -                | -                  | 90                  | -                  | 147            | -                  | -          | -                  | 765        | 29                 | -                      | -                  |
| – North        | 619             | 30                 | 4,833      | 355                | 6,156      | 817                | 1,413            | 72                 | 1,215               | 62                 | 4,871          | 201                | 7,944      | 999                | 27,051     | 2,536              | 88                     | -                  |
| – Center       | 21              | 40                 | 1,738      | 389                | 2,759      | 1,025              | 718              | 24                 | 940                 | 3                  | 1,792          | 463                | 4,067      | 244                | 12,035     | 2,188              | 880                    | -                  |
| – South        | 276             | 15                 | 3,139      | 334                | 5,534      | 648                | 209              | 23                 | 871                 | 56                 | 2,908          | 237                | 1,871      | 483                | 14,808     | 1,796              | 1,600                  | 80                 |
| – Italy        | 916             | 85                 | 9,710      | 1,078              | 14,449     | 2,490              | 2,340            | 119                | 3,026               | 121                | 9,571          | 901                | 13,882     | 1,726              | 53,894     | 6,520              | 2,568                  | 80                 |

Source: AIOIP

Table S/9 – Regional distribution of patient beds of the AIOIP-associated institutions according to the different types of activities and regions. Year 2021 (Composition %)

| Regions           | High Speciality |                | Medical     |                | Surgical    |                | Neuro-psychiatry |                | Long-stay care ps |                | Rehabilitation |                | RSA         |                | Total        |                |
|-------------------|-----------------|----------------|-------------|----------------|-------------|----------------|------------------|----------------|-------------------|----------------|----------------|----------------|-------------|----------------|--------------|----------------|
|                   | Accredited      | Non-accredited | Accredited  | Non-accredited | Accredited  | Non-accredited | Accredited       | Non-accredited | Accredited        | Non-accredited | Accredited     | Non-accredited | Accredited  | Non-accredited | Accredited   | Non-accredited |
| - Piedmont        | 2.7             | 2.3            | 11.9        | 19.5           | 20.4        | 58.7           | 7.8              | 7.3            | 12.2              | 4.1            | 18.2           | 2.3            | 26.7        | 5.9            | 100.0        | 100.0          |
| - Aosta Valley    | -               | -              | -           | -              | 15.8        | 100.0          | -                | -              | -                 | -              | 84.2           | -              | -           | -              | 100.0        | 100.0          |
| - Lombardy        | 3.0             | 1.9            | 18.5        | 9.2            | 20.9        | 19.1           | 0.7              | 2.1            | 0.1               | -              | 15.8           | 5.7            | 41.0        | 62.0           | 100.0        | 100.0          |
| - A.P. of Bolzano | -               | -              | 7.4         | 12.7           | -           | -              | -                | -              | 9.8               | 34.9           | 82.8           | 52.4           | -           | -              | 100.0        | 100.0          |
| - A.P. of Trento  | -               | -              | 28.7        | -              | 13.6        | -              | -                | -              | 43.9              | 100.0          | 8.1            | -              | 5.7         | -              | 100.0        | 100.0          |
| - Veneto          | -               | -              | 17.4        | 28.1           | 25.7        | 45.0           | 13.5             | 6.9            | 1.5               | -              | 25.6           | 20.0           | 16.4        | -              | 100.0        | 100.0          |
| - Friuli V.G.     | -               | -              | 27.3        | 14.9           | 67.4        | 17.5           | -                | -              | -                 | -              | 5.3            | -              | -           | 67.5           | 100.0        | 100.0          |
| - Liguria         | 10.9            | -              | 29.7        | 39.2           | 10.9        | 60.8           | -                | -              | -                 | -              | 48.6           | -              | -           | -              | 100.0        | 100.0          |
| - Emilia R.       | 1.3             | 0.4            | 19.4        | 6.4            | 27.7        | 28.9           | 12.4             | 0.4            | 10.5              | 0.9            | 16.9           | 9.3            | 11.8        | 53.8           | 100.0        | 100.0          |
| - Tuscany         | 1.1             | -              | 11.2        | -              | 34.5        | 82.0           | 5.3              | 1.6            | 9.1               | -              | 21.3           | 16.4           | 17.5        | -              | 100.0        | 100.0          |
| - Umbria          | -               | -              | 4.0         | -              | 47.1        | -              | -                | -              | 10.8              | -              | 33.1           | 55.6           | 5.0         | 44.4           | 100.0        | 100.0          |
| - Marche          | -               | -              | 16.8        | -              | 25.9        | -              | 4.2              | -              | 11.8              | -              | 15.0           | -              | 26.3        | 100.0          | 100.0        | 100.0          |
| - Lazio           | -               | 1.9            | 15.3        | 18.8           | 18.6        | 47.0           | 6.7              | 1.1            | 6.8               | 0.1            | 12.5           | 20.6           | 40.1        | 10.4           | 100.0        | 100.0          |
| - Abruzzo         | -               | -              | 27.0        | 22.2           | 31.7        | 36.9           | 22.7             | -              | -                 | -              | 12.2           | 27.3           | 6.3         | 13.6           | 100.0        | 100.0          |
| - Molise          | 8.5             | -              | 33.4        | 34.2           | 24.3        | 64.3           | -                | -              | 10.4              | 9.3            | 27.4           | 65.8           | 6.4         | -              | 100.0        | 100.0          |
| - Campania        | 1.5             | 2.2            | 17.2        | 22.2           | 40.4        | 21.6           | -                | -              | -                 | -              | 22.4           | 2.0            | 8.2         | -              | 100.0        | 100.0          |
| - Apulia          | 3.8             | -              | 26.5        | 11.5           | 24.5        | -              | -                | -              | -                 | -              | 6.8            | 4.8            | 38.3        | 62.2           | 100.0        | 100.0          |
| - Basilicata      | -               | -              | -           | -              | -           | -              | -                | -              | 5.3               | -              | 55.0           | -              | 39.7        | -              | 100.0        | -              |
| - Calabria        | -               | -              | 4.4         | 9.1            | 37.5        | 90.9           | -                | -              | 11.5              | -              | 39.6           | -              | 7.0         | -              | 100.0        | 100.0          |
| - Sicily          | 1.8             | 1.0            | 27.3        | 13.9           | 42.6        | 8.6            | 2.5              | 11.0           | 1.9               | 0.5            | 14.8           | 20.6           | 9.1         | 44.5           | 100.0        | 100.0          |
| - Sardinia        | -               | -              | 22.1        | 27.6           | 46.9        | 72.4           | -                | -              | 11.8              | -              | 19.2           | -              | -           | -              | 100.0        | 100.0          |
| North             | 2.3             | 1.2            | 17.9        | 14.0           | 22.8        | 32.2           | 5.2              | 2.8            | 4.5               | 2.4            | 18.0           | 7.9            | 29.4        | 39.4           | 100.0        | 100.0          |
| Center            | 0.2             | 1.8            | 14.4        | 17.8           | 22.9        | 46.8           | 6.0              | 1.1            | 7.8               | 0.1            | 14.9           | 21.2           | 33.8        | 11.2           | 100.0        | 100.0          |
| South             | 1.9             | 0.8            | 21.2        | 18.6           | 37.4        | 36.1           | 1.4              | 1.3            | 5.9               | 3.1            | 19.6           | 13.2           | 12.6        | 26.9           | 100.0        | 100.0          |
| <i>Italy</i>      | <i>1.7</i>      | <i>1.3</i>     | <i>18.0</i> | <i>16.5</i>    | <i>26.8</i> | <i>38.2</i>    | <i>4.3</i>       | <i>1.8</i>     | <i>5.6</i>        | <i>1.9</i>     | <i>17.8</i>    | <i>13.8</i>    | <i>25.8</i> | <i>26.5</i>    | <i>100.0</i> | <i>100.0</i>   |

Source: AIOIP



Table S/10 – Technical and biomedical equipment for diagnosis and treatment in public hospital and assimilated facilities. 2019

| Regions         | HC | Echo   | CT    | HD     | ACCA  | MON    | MRI | OT    | RU    | LV     | PXU   | LINAC | RCT   | AIA   | CGC | AM    | SL     | ADC   |
|-----------------|----|--------|-------|--------|-------|--------|-----|-------|-------|--------|-------|-------|-------|-------|-----|-------|--------|-------|
| Piedmont        | -  | 1,197  | 87    | 1,275  | 179   | 3,810  | 41  | 521   | 208   | 1,065  | 189   | 28    | 81    | 325   | 20  | 629   | 1,154  | 104   |
| Aosta Valley    | -  | 54     | 2     | 29     | 5     | 93     | 2   | 9     | 3     | 33     | 8     | 1     | 1     | 18    | -   | 23    | 60     | 4     |
| Lombardy        | 2  | 3,000  | 182   | 2,296  | 293   | 10,333 | 129 | 1,148 | 599   | 2,489  | 411   | 66    | 207   | 697   | 53  | 1,252 | 3,256  | 190   |
| A.P. of Bolzano | -  | 194    | 9     | 125    | 25    | 690    | 6   | 66    | 47    | 146    | 31    | -     | 9     | 32    | 1   | 93    | 406    | 16    |
| A.P. of Trento  | -  | 144    | 12    | 134    | 16    | 556    | 7   | 84    | 5     | 207    | 19    | 4     | 8     | 41    | 2   | 64    | 360    | 15    |
| Veneto          | -  | 1,545  | 82    | 1,057  | 188   | 5,042  | 68  | 747   | 181   | 1,960  | 229   | 33    | 79    | 354   | 16  | 711   | 2,217  | 98    |
| Friuli V.G.     | 1  | 472    | 24    | 466    | 68    | 1,631  | 15  | 272   | 53    | 418    | 60    | 12    | 26    | 148   | 4   | 173   | 822    | 41    |
| Liguria         | 2  | 425    | 35    | 484    | 85    | 1,697  | 26  | 228   | 94    | 492    | 89    | 13    | 32    | 154   | 8   | 273   | 507    | 47    |
| Emilia R.       | 1  | 1,262  | 79    | 1,172  | 135   | 4,608  | 55  | 622   | 172   | 1,336  | 200   | 26    | 87    | 410   | 11  | 712   | 1,809  | 95    |
| Tuscany         | 4  | 1,442  | 88    | 1,276  | 201   | 4,595  | 51  | 561   | 197   | 1,841  | 181   | 21    | 97    | 526   | 21  | 627   | 1,793  | 101   |
| Umbria          | -  | 321    | 21    | 434    | 46    | 784    | 12  | 126   | 33    | 237    | 39    | 8     | 25    | 154   | 5   | 164   | 339    | 36    |
| Marche          | -  | 474    | 34    | 415    | 34    | 1,182  | 22  | 165   | 52    | 377    | 61    | 10    | 24    | 121   | 10  | 167   | 476    | 46    |
| Lazio           | 3  | 1,244  | 116   | 1,118  | 147   | 5,084  | 75  | 544   | 227   | 1,456  | 237   | 41    | 127   | 552   | 31  | 735   | 1,488  | 129   |
| Abruzzo         | -  | 392    | 26    | 473    | 101   | 898    | 11  | 147   | 48    | 357    | 64    | 8     | 32    | 145   | 12  | 128   | 344    | 36    |
| Molise          | -  | 87     | 9     | 119    | 51    | 280    | 9   | 44    | 21    | 81     | 26    | 2     | 9     | 46    | 5   | 46    | 105    | 20    |
| Campania        | 8  | 945    | 89    | 493    | 185   | 3,122  | 25  | 475   | 180   | 1,067  | 206   | 17    | 99    | 355   | 13  | 625   | 996    | 136   |
| Apulia          | 2  | 1,012  | 71    | 1,211  | 333   | 2,477  | 40  | 358   | 205   | 955    | 162   | 19    | 108   | 396   | 21  | 420   | 860    | 157   |
| Basilicata      | -  | 176    | 13    | 146    | 21    | 374    | 10  | 72    | 33    | 174    | 22    | 4     | 22    | 54    | 4   | 77    | 182    | 21    |
| Calabria        | 6  | 349    | 34    | 430    | 84    | 949    | 30  | 139   | 57    | 261    | 67    | 15    | 51    | 149   | 21  | 191   | 255    | 52    |
| Sicily          | 14 | 1,116  | 124   | 674    | 248   | 4,189  | 60  | 510   | 222   | 1,142  | 289   | 22    | 113   | 325   | 34  | 729   | 1,305  | 150   |
| Sardinia        | 3  | 531    | 34    | 622    | 98    | 1,352  | 22  | 178   | 84    | 431    | 70    | 9     | 44    | 176   | 10  | 232   | 489    | 62    |
| North           | 6  | 8,293  | 512   | 7,038  | 994   | 28,460 | 349 | 3,697 | 1,362 | 8,146  | 1,236 | 183   | 550   | 2,179 | 115 | 3,930 | 10,591 | 610   |
| Center          | 7  | 3,481  | 259   | 3,243  | 428   | 11,645 | 160 | 1,396 | 509   | 3,911  | 518   | 80    | 273   | 1,353 | 67  | 1,693 | 4,096  | 312   |
| South           | 33 | 4,608  | 400   | 4,168  | 1,121 | 13,641 | 207 | 1,923 | 850   | 4,468  | 906   | 96    | 478   | 1,646 | 120 | 2,448 | 4,536  | 634   |
| Italy           | 46 | 16,382 | 1,171 | 14,449 | 2,543 | 53,746 | 716 | 7,016 | 2,721 | 16,525 | 2,660 | 359   | 1,281 | 5,178 | 302 | 8,071 | 19,223 | 1,556 |

HC: Hyperbaric Chamber, Echo: Echo-Tomography, CT: Computerized Axial Tomography, HD: Hemodialysis machine, ACCA: Automated Clinical Chemistry Analyzer, MON: Monitor, MRT: Magnetic Resonance Tomography, OT: Operating Table, RU: Radiological Unit, LV: Lung Ventilator, PXU: Portable X-ray Unit, LINAC: Linear Accelerator, RCT: Remote Controlled X-ray Table, AIA: Automated Immunoassay Analyzer, CGC: Computerized Gamma Camera, AM: Anesthesia Machine, SL: Shadowless Lamp, ADC: Automated Differential Cell counter.

Source: processing by *Ermeneia* – data from the Ministry of Health

Table S/11 – Technical and biomedical equipment for diagnosis and treatment in accredited hospitals<sup>1</sup>, 2019

| Regions         | HC        | Echo         | CT         | HD           | ACCA       | MON          | MRI        | OT           | RU         | LV           | PXU        | LINAC     | RCT        | AIA        | CGC       | AM           | SL           | ADC        |
|-----------------|-----------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|-----------|------------|------------|-----------|--------------|--------------|------------|
| Piedmont        | 1         | 138          | 15         | 4            | 32         | 325          | 19         | 70           | 41         | 57           | 36         | 1         | 29         | 29         | -         | 81           | 111          | 31         |
| Aosta Valley    | -         | 1            | 1          | -            | 1          | 6            | -          | 2            | 1          | 2            | 1          | 1         | 1          | 1          | -         | 2            | 4            | 1          |
| Lombardy        | 6         | 654          | 51         | 202          | 118        | 1,911        | 52         | 255          | 138        | 393          | 97         | 17        | 60         | 86         | 3         | 253          | 542          | 60         |
| A.P. of Bolzano | -         | 10           | 2          | -            | 1          | 9            | 3          | 3            | 3          | -            | 1          | 3         | 2          | 1          | -         | -            | 6            | 1          |
| A.P. of Trento  | -         | 20           | 3          | -            | 2          | 16           | 3          | 4            | 5          | 2            | 2          | -         | 3          | 2          | -         | 5            | 9            | 3          |
| Veneto          | -         | 114          | 13         | 1            | 19         | 225          | 16         | 50           | 24         | 49           | 25         | -         | 10         | 19         | -         | 49           | 83           | 14         |
| Friuli V.G.     | 1         | 53           | 4          | 23           | 10         | 65           | 8          | 24           | 9          | 9            | 5          | -         | 5          | 9          | -         | 20           | 28           | 7          |
| Liguria         | -         | 13           | 1          | 2            | 4          | 48           | -          | 10           | 4          | 19           | 7          | -         | 4          | 4          | -         | 14           | 19           | 4          |
| Emilia R.       | 1         | 207          | 35         | 77           | 23         | 577          | 32         | 129          | 61         | 194          | 72         | 2         | 39         | 25         | 2         | 144          | 232          | 20         |
| Tuscany         | -         | 79           | 12         | 24           | 20         | 302          | 10         | 63           | 25         | 99           | 31         | 3         | 17         | 11         | -         | 67           | 79           | 19         |
| Umbria          | -         | 15           | 4          | -            | 8          | 38           | 4          | 19           | 8          | 13           | 15         | -         | 6          | 2          | -         | 19           | 22           | 3          |
| Marche          | -         | 54           | 9          | -            | 10         | 157          | 12         | 30           | 15         | 32           | 23         | -         | 11         | 16         | -         | 29           | 55           | 11         |
| Lazio           | 1         | 261          | 43         | 561          | 73         | 887          | 38         | 171          | 101        | 183          | 80         | 4         | 72         | 71         | 6         | 204          | 246          | 70         |
| Abruzzo         | -         | 54           | 9          | 9            | 20         | 130          | 14         | 27           | 13         | 39           | 11         | -         | 15         | 19         | -         | 31           | 48           | 11         |
| Molise          | -         | 11           | 3          | -            | 7          | 16           | -          | 4            | 5          | 7            | 4          | -         | 4          | 3          | -         | 5            | 6            | 3          |
| Campania        | 2         | 284          | 50         | 54           | 87         | 688          | 27         | 205          | 101        | 245          | 71         | 4         | 64         | 78         | 25        | 236          | 295          | 83         |
| Apulia          | -         | 149          | 22         | 57           | 41         | 389          | 15         | 70           | 45         | 138          | 37         | 3         | 29         | 42         | 2         | 75           | 132          | 28         |
| Basilicata      | -         | -            | -          | -            | 1          | -            | -          | -            | -          | -            | -          | -         | -          | -          | -         | -            | -            | 1          |
| Calabria        | 1         | 91           | 16         | 4            | 27         | 235          | 15         | 67           | 31         | 92           | 27         | 1         | 22         | 24         | 7         | 75           | 96           | 32         |
| Sicily          | -         | 217          | 47         | 28           | 94         | 570          | 27         | 151          | 87         | 183          | 72         | 6         | 59         | 50         | 6         | 186          | 241          | 69         |
| Sardinia        | -         | 66           | 5          | 112          | 17         | 160          | 3          | 35           | 12         | 45           | 13         | -         | 10         | 8          | -         | 42           | 41           | 8          |
| North           | 9         | 1,210        | 125        | 309          | 210        | 3,182        | 133        | 545          | 286        | 725          | 246        | 23        | 153        | 176        | 5         | 568          | 1,034        | 141        |
| Center          | 1         | 409          | 68         | 585          | 111        | 1,384        | 64         | 283          | 149        | 327          | 149        | 7         | 106        | 100        | 6         | 319          | 402          | 103        |
| South           | 3         | 872          | 152        | 264          | 294        | 2,188        | 101        | 559          | 294        | 749          | 235        | 14        | 203        | 224        | 40        | 650          | 859          | 235        |
| <i>Italy</i>    | <i>13</i> | <i>2,491</i> | <i>345</i> | <i>1,158</i> | <i>615</i> | <i>6,754</i> | <i>298</i> | <i>1,387</i> | <i>729</i> | <i>1,801</i> | <i>630</i> | <i>44</i> | <i>462</i> | <i>500</i> | <i>51</i> | <i>1,537</i> | <i>2,295</i> | <i>479</i> |

(1) Code 5.1 Institutes (Accredited private healthcare facility) in the ministerial classification

HC: Hyperbaric Chamber, Echo: Echo-Tomography, CT: Computerized Axial Tomography, HD: Hemodialysis machine, ACCA: Automated Clinical Chemistry Analyzer, MON: Monitor, MRT: Magnetic Resonance Tomography, OT: Operating Table, RU: Radiological Unit, LV: Lung Ventilator, PXU: Portable X-ray Unit, LINAC: Linear Accelerator, RCT: Remote Controlled X-ray Table, AIA: Automated Immunoassay Analyzer, CGC: Computerized Gamma Camera, AM: Anesthesia Machine, SL: Shadowless Lamp, ADC: Automated Differential Cell counter.

Source: processing by *Ermeneta* – data from the *Ministry of Health*

Table S/12 – Technical and biomedical equipment for diagnosis and treatment in non-accredited private healthcare facilities. 2019

| Regions         | HC | Echo | CT | HD | ACCA | MON | MRI | OT  | RU | LV  | PXU | LINAC | RCT | AIA | CGC | AM  | SL  | ADC |
|-----------------|----|------|----|----|------|-----|-----|-----|----|-----|-----|-------|-----|-----|-----|-----|-----|-----|
| Piedmont        | -  | 47   | 4  | -  | 3    | 76  | 3   | 28  | 12 | 12  | 5   | -     | 5   | 3   | -   | 33  | 45  | 6   |
| Lombardy        | -  | 33   | 4  | 1  | 4    | 79  | 5   | 33  | 12 | 29  | 8   | -     | 5   | 3   | 1   | 33  | 48  | 8   |
| A.P. of Bolzano | -  | 10   | 3  | -  | 1    | 52  | 5   | 13  | 12 | 8   | 7   | -     | 2   | 2   | -   | 14  | 16  | 2   |
| A.P. of Trento  | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Veneto          | -  | 2    | -  | -  | -    | 5   | -   | 2   | 1  | -   | 1   | -     | 1   | -   | -   | 2   | 4   | -   |
| Friuli V.G.     | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Liguria         | -  | 6    | 2  | -  | -    | 24  | 2   | 10  | 3  | 2   | 5   | -     | 2   | 1   | -   | 8   | 11  | 1   |
| Emilia R.       | -  | 25   | 2  | 1  | 4    | 61  | 2   | 11  | 5  | 17  | 4   | -     | 4   | -   | -   | 15  | 33  | 1   |
| Tuscany         | -  | 30   | 3  | 1  | 3    | 63  | 2   | 23  | 6  | 10  | 8   | 1     | 2   | 1   | -   | 20  | 35  | 3   |
| Umbria          | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Marche          | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Lazio           | -  | 163  | 23 | 72 | 27   | 405 | 23  | 117 | 46 | 113 | 41  | 4     | 25  | 26  | 4   | 147 | 177 | 31  |
| Abruzzo         | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Molise          | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Campania        | -  | 10   | 1  | -  | 1    | 25  | -   | 7   | 1  | 5   | 1   | -     | 1   | 2   | -   | 7   | 10  | 1   |
| Apulia          | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Basilicata      | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Calabria        | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| Sicily          | -  | -    | -  | -  | -    | -   | -   | 2   | -  | 1   | -   | -     | -   | -   | -   | 1   | 2   | -   |
| Sardinia        | -  | -    | -  | -  | -    | -   | -   | -   | -  | -   | -   | -     | -   | -   | -   | -   | -   | -   |
| North           | -  | 123  | 15 | 2  | 12   | 297 | 17  | 97  | 45 | 68  | 30  | -     | 19  | 9   | 1   | 105 | 157 | 18  |
| Center          | -  | 193  | 26 | 73 | 30   | 468 | 25  | 140 | 52 | 123 | 49  | 5     | 27  | 27  | 4   | 167 | 212 | 34  |
| South           | -  | 10   | 1  | 0  | 1    | 27  | 0   | 9   | 1  | 6   | 1   | -     | 1   | 2   | -   | 8   | 12  | 1   |
| Italy           | -  | 326  | 42 | 75 | 43   | 792 | 42  | 246 | 98 | 197 | 80  | 5     | 47  | 38  | 5   | 280 | 381 | 53  |

HC: Hyperbaric Chamber; Echo: Echo-Tomography, CT: Computerized Axial Tomography, HD: Hemodialysis machine, ACCA: Automated Clinical Chemistry Analyzer, MON: Monitor, MRI: Magnetic Resonance Tomography, OT: Operating Table, RU: Radiological Unit, LV: Lung Ventilator, PXU: Portable X-ray Unit, LINAC: Linear Accelerator, RCT: Remote Controlled x-ray Table, AIA: Automated Immunoassay Analyzer, CGC: Computerized Gamma Camera, AM: Anesthesia Machine, SL: Shadowless Lamp, ADC: Automated Differential Cell counter.

Source: processing by *Ermeneta* – data from the Ministry of Health

## *2. Activity data*

### **2.1. In-hospital days and patient bed occupancy rate**

The data in Table S/13, now updated to the year 2019 thanks to the availability of Ministerial flows on the activity data referring to that period, confirm the trend towards a gradual but progressive decline in the number of patient beds available in the hospital system, which have gone from almost 193,000 in 2015 to 187,000 in 2019, for a decrease of -2.9%. This decrease seems to have affected the public and assimilated component slightly more (-3.2%), than the accredited component (-2.1%) as shown by the data in Table S/14.

The tables also show the continuous decrease of in-hospital stay days, which went from almost 55 million in 2015 to 52.6 million in 2019, with an overall decline of -4.2%; a decline at less marked rates than in previous years but which was in any case -4.1% for public facilities, and -4.8% for accredited hospitals. This phenomenon is, for the latter, still largely attributable to regional policies aimed at reducing the budget for accredited hospitals.

Table S/15 shows a comparison of the 2019 in-hospital stay values with the previous year.

The overall average in-hospital stay remains at the level of 8 days and is higher for accredited hospitals (9 days): the result is mainly linked to the focus of these facilities on covering areas such as long-term care and rehabilitation. The data changes when considering acute patient cases: in fact, Table S/16 shows that it is down to 7.4 days for public facilities and Table S/18 shows a number of 5.2 days for accredited hospitals.

The overall patient bed occupancy rate, again displayed in Table S/15, considering both components of the hospital system was 77.1% in 2019 a decrease compared to the 77.4% of the previous year.

If we consider only the acute case admissions, the average length of stay remained substantially unchanged between 2019 and 2017 for both public facilities (Table S/16) and private facilities (Table S/18). In the same period

the utilization rate tends to decrease for accredited hospitals (Table S/18) while it grows by almost one point for public facilities (Table S/16).

## 2.2. Types of admissions and discharges

The data of in-hospital days and treated cases may also be deduced from the calculation of hospital discharge records (*SDO, Schede di Dimissione Ospedaliera*), for which a 2019 consolidated version is available.

These calculations, again based again on the CMS 24.0 version of the Medicare DRGs adopted since 2009 (and still in use), provide a very detailed picture of the different service provider components of the National Health Service, making it possible to obtain some complexity and performance indicators, such as those of average weight and the case-mix index. The results are shown both for the totality of the healthcare institutions, and for AIOP-affiliated facilities, for which a more recent 2020 update is available.

Tables S/20 and S/21 offer the ability to observe how, in 2019, for the set of regimes and types of in-hospital stays, almost 8.5 million patients were treated by the hospital system; and of these, 2.1 million (or 26.3%) were discharged from all the accredited hospitals. It should be pointed out that, with reference to the *SDO* data flows and in contrast to its other publications, since 2009 the Ministry of Health has incorporated so-called private obligatorily affiliated institutions (otherwise known as ‘publicly assimilated’ institutions), such as private polyclinics, private research hospitals (IRCCS), private foundations, religiously affiliated hospitals, USL facilities and research facilities, into the column of private data in Table S/20 creating a new ‘expanded private’ sector which in 2019 accounted for almost 28.3% of the overall supply of in-hospital stay days. The “private” item in this table, on the other hand, also contains a residual portion pertaining to the non-accredited private sector shown in the two tables that follow.

The number of in-hospital days for inpatient admissions breaks down to 37.5 million for public facilities and 15.2 million for the ‘expanded accredited private’ facilities, whereas the volume of day-hospital admissions is 3.7 million and 1.1 million, respectively.

The total data in Table S/20 also includes discharges (more than 308,000) and in-hospital days (nearly 924,000) related to DRG 391 (normal newborns) that the Ministry of Health does not report in subsequent tables by type of institution.

The number of discharged patients and in-hospital days given by type of institution, type of activity and admission shows a greater proportional contribution by accredited hospitals relating to rehabilitation (76.6% inpatient

admissions) and long-stay care (53% of in-hospital days) (see Tables S/21 and S/22).

### **2.3. Prevalent DRGs**

The calculations on the Ministerial data flows from the hospital discharge records provided in the 2019 *SDO* Report allow us to quantify the activity of the entire hospital sector without disaggregations between the public and private components of the NHS (Table S/23), whereas, as usual, for the data relating to AIOP area services, the data collecting resources of its regional offices and affiliated facilities make it possible to anticipate the 2020 results (Table S/24).

The two tables mentioned display the top 60 DRGs as they relate to number of discharges for inpatient admissions for acute cases for all hospitals and AIOP accredited hospitals, respectively. A North, Central, and South territorial breakdown is also provided for the latter (Tables S/25, S/26 and S/27).

Table S/28 illustrates in-hospital stay activity for acute patients receiving day hospital treatment in public and private healthcare institutions, with reference to the 30 most frequent DRGs. Tables S/29 and S/30 show the DRG classifications of patients who made use of inpatient rehabilitation treatment services in public and private hospitals as a whole (2019) and, more specifically, in AIOP accredited hospitals (2020).

At the combined public-private level, the most common DRG is still childbirth with 255,738 discharges in 2019 (compared to 289,883 units in 2015) amounting to 4.2% of cases (Table S/23).

In the AIOP accredited hospitals (Tab. S/24), on the other hand, surgery to replace major joints or reimplantation of the lower limbs is in first place for 2020 (with 49,796 cases amounting to 10.7% of the total) followed by the DRG of childbirth with 12,398 caesarean cases and 12,241 for natural births.

For the comparison of complexity indicators (average weight and case-mix index) for public institutions and accredited hospitals, please refer to the specific section of Part One of the Report.

### **2.4. Activities classified according to major diagnostic categories**

Tables S/31 to S/35 show a more aggregate classification of the same data deriving from the analysis of the hospital discharge records reported in the

previous tables in a form that groups them within the so-called Major Diagnostic Categories (MDC) into which DRGs are merged as reported in the aforementioned annual *SDO* Report of the Ministry of Health.

In inpatient admissions for acute cases, once again illnesses and disorders of the cardiovascular system stand out with 863,505 cases in 2019, compared to 929,239 cases recorded in 2015, and for illnesses and disorders of the musculoskeletal system and connective tissue, with 792,307 cases in 2019 (compared to 808,557 in 2015), as shown by the data in Table S/31.

The greatest average hospital stay (well above the 7 days general total) is that for Pre MDC (35.4 days), HIV infections (17.4 days), multiple major trauma (14.5 days), burns (14.3 days), again as shown in Table S/31.

Day hospital activities for acute cases once again display illnesses and disorders of the musculoskeletal system and connective tissue (239,551 cases) (Table S/32).

Rehabilitation activities for inpatient admissions were greatest among illnesses and disorders of the musculoskeletal system and connective tissue (with 146,360 cases), followed by illnesses and disorders of the nervous system (with 69,642 cases) and illnesses and disorders of the cardiovascular system (with 45,491 cases), as shown in Table S/33.

Day hospital admissions for rehabilitation (Table S/34) show a greater concentration for the same diagnostic categories than inpatient admissions, although in a different order: in first place are illnesses and disorders of the nervous system (11,411 cases), second place are illnesses and disorders of the musculoskeletal system and connective tissue (5,386 cases), and finally the cases that fall within the MDC Factors influencing health status and use of health services (3,854 cases).

## **2.5. Activities classified according to specialty**

In terms of classification by clinical discipline (or discharge ward), which constitutes a further interesting method of analyzing the activity data of hospital facilities, inferred from the analysis of the HSP forms and normally shown in Tables S/36 to S/60, also in line with 2019 thanks to the update provided by the Ministry of Health.

All of the information and related indicators keep providing a kind of real database to be used for information and/or further analysis, since we compare the results of the activities of the accredited hospitals as a whole to those specifically registered with AIOP both at the national level (Table S/36) and at the level of the individual Regions (Tables S/37 to S/57).

The data are then re-aggregated and divided for large areas of the country (Tables S/58, S/59 and S/60).

## 2.6. A brief summary of the “waves” of the Covid-19 virus

The epoch-making event that abruptly and dramatically impacted the social, political and economic life of the entire planet, as well as the stability of the most advanced healthcare systems in the world, can officially be dated to the announcement of the first cases detected in China at the end of December 2019. An “atypical” pneumonia of unknown origin that soon assumed the form of a new viral disease capable of being transmitted from human to human was in fact a new coronavirus called Covid-19 (*Coronavirus Disease*).

The crisis caused by the species jump (natural or laboratory) of the virus still seems completely far away from not only final resolution, but even from a partial but effective control of the situation, mainly due to the mutations of the disease and the as yet significant resistance to the mass vaccination of the population, that so far has proved to be the only possible form of defense. From the first lockdown in Wuhan, to the most recent ones implemented in many countries in the Western world, we have witnessed and registered four waves of the pandemic, including the latest one that is currently underway as this Report is being prepared and has not yet reached its peak.

As of December 31, 2021, the final date of this survey, there were more than 6 million cases in Italy, equal to just over 10% of the population, over 137,000 deaths, 5 million cured and 901,000 people currently testing positive for the virus. The WHO dashboard reported a total of 103 million cases with 1.6 million deaths for Europe, and a global figure of 290 million total cases with 5.4 million deaths.

Using the data made available by the Ministry of Health, the Italian National Institute of Health, the Civil Protection Department, and Agenas Tables S/61 and S/62 were constructed with the cases of the four waves, Tables S/63 and S/64 with both non-critical and intensive care admissions, and Charts 1 and 2 with the system-wide impact on patient beds of these hospitalizations.

The weighty effects of the first wave are immediately evident in the first columns of Table S/61: 105,792 total cases as of March 31, 2020, with Lombardy as the Italian epicenter of the pandemic (43,208 cases) followed by the other Region immediately overwhelmed by infections, Emilia Romagna (14,074 cases), then by Piedmont (9,301 cases), and by the Region deemed the source of yet another large outbreak, Veneto (9,155 cases). In this first



phase, 80 percent of the cases were concentrated in the North, while the Southern Regions stood at under 2,100 cases, with 4 of these (Molise, Basilicata Calabria and Sardinia) under 800 cases. The first official survey available that of February 24, reported 229 total cases, 172 in Lombardy, 33 in Veneto, 18 in Emilia Romagna and 3 in Piedmont, with 101 hospitalizations in non-critical areas and 26 patients in intensive care. The night of the unauthorized train flight from the red zones of the North to their respective home Regions on March 8, 2020 undoubtedly contributed heavily to the reshaping of the map and the number of infections. One week later in fact, cases had more than tripled (from 7,375 to 24,747) and by March 31, the multiplier had gone to 14.3 points with the South having seen its share of infections increase from 3.4% to 8.2%. The failure of local health authorities, overwhelmed by the speed of the spread of cases, and the out-of-control flows of asymptomatic patients (especially young and very young), to track the spread, subsequently completed the picture shown in the Tables.

As can be seen again in Table S/61, the first “wave” was seen at the end of the second quarter of 2020, when the cumulative cases had become 240,578 with an increase of almost 135,000 units and with Piedmont in the lead in the multiplication of infections (+3.4 times), followed by Molise (+3.1 times), Liguria (+2.9 times) and the A.P. of Trento (+2.8 times).

After an intermediate summer phase that saw a more limited increase of 74,283 new cases, the second “wave” took shape, recording an increase of 1.8 million new infections at the end of the fourth quarter: with a cumulative figure, as of December 31, 2020, of more than 2.1 million people who had encountered the virus equal to 6.7 times the total figure of September 30th that year, giving shape to a new Italian geography of the Covid virus: the explosion of cases in Campania (+14.9 times), Basilicata (+13.4 times), Sicily (+13.2 times) and in Calabria (+12.1 times) brought the South to second place in the breakdown by territorial area, and saw the North drop to 60.3% of total cases, the South number 22.9% and the Center account for 16.8%.

Table S/62 mainly attests to the arrival of a third “wave” – albeit slowed down by vaccinations – which still amounted to 1.4 million infections at the end of the first quarter of 2021, and then rose by another 675,000 at the end of the second quarter and a further 409,000 at the end of the third quarter.

Table S/62 also manages to show a downward trend in the infections in the North, accounting for at 55.2%, whereas the South numbered 26.5% and the Center increased to 18.3%. The temporary balance reported on as of December 31, 2021 numbered 6.1 million total cases, yet showed slowdown in the speed of replication recorded during the year. This balance showed Lombardy still in first place with a total of 1,217,364 cases (19.9% of the total), followed, with larger values than the other Regions, by Veneto with 645,723

(10.5%), Campania with 583,262 (9.5%), Emilia Romagna with 536,922 (8.8%), Lazio with 505,274 (8.2%), and by Piedmont with 494,769 (8.1%).

However, the fourth quarter of 2021 signaled the start of a fourth “wave”, with 1.5 million new infections, which would then accelerate in a more than rapid run-up during the month of January 2022.

Table S/63, on the other hand, shows the quarterly trend of hospitalizations in general and intensive care wards, the latter area characterized in the initial phase of the pandemic by a dramatic stress and need-for-care level, which forced the regional health services to resort to emergency solutions with respirators being placed even in non-hospital-standard premises.

The situation thus had gradually stabilized in the first half of 2020, thanks also to the important contribution by the private hospital component and that of the AIOP facilities in particular (as attested to in other parts of this Report), and due to a reorientation of patients towards local medical care.

But this does not mean that it is not possible to detect some sort of mirroring of the trend of hospital admissions among the four “waves” of the virus mentioned above, given that the use of hospital care (both in general and intensive care wards):

- exceeded 28,000 Covid patients in inpatient wards and reached 4,000 units in intensive care wards (as a result of the first “wave”);
- significantly decreased between the first and second quarter of 2020 (in relation to the slowdown of the first “wave”);
- began to rise again at the end of the third quarter of 2020 and then accelerated at the end of the same year and even more at the beginning of 2021 (with the uptick of a second “wave”);
- then it decreased as can be seen from the data at the end of the second quarter of 2021 (in line with the slowdown of the third “wave”);
- and finally, regained new vigor (fortunately to a limited extent thanks to the now more extensive vaccinations) in the last quarter of 2021 and at the very beginning of 2022 (the onset of the fourth “wave”).

The table shows the regional and territorial breakdown of the number of patients positive in the 2020 and 2021 quarters who were treated in general hospital wards or in intensive care units. It shows, especially how the pressure on these two hospital areas gradually decreased, going from 36.3% of hospitalizations in general wards and from 5.2% in intensive care units as of March 31, 2020 to values of 1.2% and 0.1%, respectively, as of December 31, 2021. This is a clear and unequivocal consequence of the massive vaccination campaign that rendered a large part of the population safe with the administration of the second dose and at the beginning of December 2021, of the third dose.

A final figure on the use of hospital services for Covid patients is attested to in Charts 1 and 2, which report the occupancy values of non-critical area and intensive care area patient beds, respectively, observed by Agenas monitoring in the period December 14 – December 31 2021. In both cases, and despite an evolving situation, the two final values (18% for admissions in non-critical areas and 14% for intensive care) exceeded the thresholds of the so-called White Zone (as specified in the Legislative Decree of July 23, 2021, no. 105 “Urgent measures to deal with the epidemiological emergency caused by COVID-19 and for the safe performance of social and economic activities”) but were, as of December 31, 2021, below the limits to be classified as a Red Zone.

## 2.7. Services lost

The Covid-19 pandemic required a rapid response from healthcare systems to deal with the ongoing emergency, in terms of managing the new urgent care needs and reducing the impact on other services, both in qualitative and quantitative terms.

One way of measuring the resilience capacity of the National Health Service as a whole and of the Regional Health Services therefore consists in assessing whether the activity volumes of 2019 were maintained during 2020.

The simplest data is that relating to hospital activity as a whole (see Table S/65) and thus for the totality of hospital admissions in the two years being compared. The national data showing a drop of 21% is certainly indicative of a significant decrease in the volumes of services provided: in the comparison between the two years, more than one in five hospital admissions in 2019 was not repeated in 2020, an effect that is only minimally attributable to the progressive and systematic decrease in hospital admissions that has been reported as the trend for years.

The coefficient of variation ( $CV = 0.19$ ) gives us a substantially limited size of the variability, even if, within the same geographical areas, it is possible to see how the decrease in hospital admissions has occurred, in the North from the minimum of 15.2% in Veneto up to of 23.8% in Lombardy; in Central Italy from 16.4% in Lazio to 21.3% in Marche, and in the South and Islands from 18.3% in Abruzzo to 30.6% in Calabria.

If we then look at the data relating to outpatient specialists (see Table S/66), the decrease is considerably greater both if we consider the national average value, equal to 30.3%, and if we consider the average value within

the individual geographical areas. In this case, the internal variability is also worthy of attention, with a coefficient of variation of 0.38 and large ranges in the North, Center and South and Islands.

By way of example, the South and the Islands represent the area that was comparatively least affected by the loss of these therapeutic, rehabilitative and diagnostic services, Campania reported a decrease of 14.3%, but Calabria 39.2% and Basilicata 67.7%.

The decrease in hospital admissions on an annual basis in 2020 compared to 2019 is thus more marked in the South, although the latter was significantly less affected by the virus (in particular compared to the North). For outpatient specialist services, the percentage drop is greater by about 2 percentage points compared to the national average in the Regions of Northern and Central Italy: but in the South the average decrease of 28% (and for just the first nine months of year) shows much higher peaks in four Regions, winding up inappropriately taking away services from residents.

Table S/67 is more detailed in showing the decrease in volumes of activity in different macro-categories of services.

It shows how the quantitative downsizing of healthcare services does not exclusively concern scheduled hospital admissions, which could potentially be deferred, but also services with a degree of urgency. The latter, although they undergo a comparatively smaller drop compared to other types of health services, experience a noteworthy downsizing equal to -14.3% which, in some regional systems even amounted to a negative variation that hit 20.0% in Campania and Sardinia, or even exceeded 25.0% in Apulia and Calabria.

With respect to the information assessed relating to elective activity, it is essential to accurately monitor the resilience of the system as regards delayed provision of services and any negative effect in terms of outcomes for portions of services postponed beyond the normal time limits for preventing relapses in terms of safety and appropriateness. Parallel to this, with regard to urgent activity – for which some detail is shown in Table S/68 – it is necessary to carefully evaluate the data in terms of variables that may have influenced both the supply and the demand for this type of service in the pandemic period, starting from the tunnel effect, understood here as an underestimation of symptoms not attributable to Covid, from the, partly correlated, under-diagnosis of illnesses, and the reduction of condition-specific risk factors due to reduced mobility during the lockdown period. With respect to the decrease of urgent services, even more than for the scheduled activities, it is essential to assess the progress of clinical outcomes, both in the short and in the medium to long term.

With regard to the under-diagnosis of clinical conditions and the impact in terms of health outcomes, Table S/69 shows the alarming data relating to

the change in the screening for clinical conditions whose outcome is strongly influenced by the promptness of diagnosis and which, nationally, was 43.4% for cervical screening cervical, 37.7% for breast screening, and 46.0% for colorectal screening.

In this case, the interregional diversity is more marked than elsewhere, to the point that the national average value is scarcely informative: it is enough to look at how many Regions not only exceed 50.0% but also go beyond 60.0% or even 70.0%.

## 2.8. Patient mobility

The section of the Report dedicated to activity data is, as usual, rounded out by the issue of healthcare mobility; a perspective that offers an analysis of the topic by referring to aspects more properly connected with the characteristics of the demand for hospital admissions expressed by citizens, based on their perception of the quality of care offered by the various Regional Health Services. Thus, an alternative interpretation of the hospital production data depicted in the previous sections is rendered possible, by observing the dynamics of the inter-regional flows of patients, elaborated starting from the data contained in the Ministerial matrices on hospital mobility.

The analysis of inter-regional healthcare mobility, in addition to playing a key role as a tool for regional planning, helps us to assess, among other things, the propensity of citizens to make use of the principle of free choice that should be guaranteed by our system.

Table S/70 gives us a picture of the temporal evolution of this propensity, expressing it in terms of synthetic indices of attraction and flight over the last five years available, all completed by a final column showing the most recent net balance of the flow of acute patients entering and leaving their respective territorial areas.

The data extracted from the inter-regional mobility matrices of the *SDO* Report, referred to 2019 as well, confirm the historical attractiveness of Regions such as Lombardy, constantly at the top of this ranking with active balances of almost 70,500 units for the area of acute cases alone, Emilia Romagna, Veneto, Tuscany, Umbria and Friuli Venezia Giulia. Also appearing to be confirmed is the marked tendency to receive hospital care from other regional systems, evidently considered more reliable and more accessible, shown over time by the people of Campania, Calabria, Sicily, Apulia, Abruzzo, Liguria, Sardinia, Basilicata, Marche, and Lazio.

Considering the mobility flow data for all regimes and types of hospitalization as a whole, there were more than 713,000 patients, who, in 2019, chose to go to other regional systems, with an active balance for Lombardy that in this case exceeds 98,000 units.

The phenomenon of mobility, as has often been pointed out, continues to be a sensitive topic in the debate on the reorganization of the hospital network performances, as is that of the freedom to choose the place for treatment. However, instead of reconsidering the organization and quality levels of their healthcare systems, most Regions simply try to limit their effects by making agreements between healthcare systems in neighboring areas (and others) in order to bring patient flows under control. The State-Regions Conference addressed this issue and intervened decisively to change the behavior of the most attractive Regions, cutting funding by 50% relative to the increases in flows reported for the accredited sector in the two-year period 2014-2015, and 60% for those observed in 2016, safeguarding only highly-specialized services. On this delicate matter, also due to the economic balances of many of the privately-operated agencies of the NHS, the AIOP regional Presidents were once again this year requested to identify the orientation of the citizens and to evaluate their effects on the incoming mobility flows.

Table S/13 – Patient beds, in-hospital days, and occupancy rate – Inpatient admissions

|                                   | 2015           |                   |              | 2016           |                   |              | 2017           |                   |              | 2018           |                   |              | 2019           |                   |              |
|-----------------------------------|----------------|-------------------|--------------|----------------|-------------------|--------------|----------------|-------------------|--------------|----------------|-------------------|--------------|----------------|-------------------|--------------|
|                                   | Patient beds   | In-hospital days  | O.R. %       | Patient beds   | In-hospital days  | O.R. %       | Patient beds   | In-hospital days  | O.R. %       | Patient beds   | In-hospital days  | O.R. %       | Patient beds   | In-hospital days  | O.R. %       |
| Public and assim. Hospitals       | 152,434        | 44,770,385        | 80.5         | 151,037        | 44,117,257        | 80.0         | 148,487        | 43,735,099        | 80.7         | 148,142        | 43,553,597        | 80.5         | 147,589        | 42,939,396        | 79.7         |
| Accredited Hospitals <sup>1</sup> | 40,249         | 10,198,993        | 69.4         | 40,517         | 9,955,185         | 67.3         | 40,261         | 9,835,873         | 66.9         | 40,309         | 9,701,982         | 65.9         | 39,421         | 9,707,532         | 67.5         |
| <i>Total</i>                      | <i>192,683</i> | <i>54,969,378</i> |              | <i>191,554</i> | <i>54,072,442</i> |              | <i>188,748</i> | <i>53,570,972</i> |              | <i>188,451</i> | <i>53,255,579</i> |              | <i>187,010</i> | <i>52,646,928</i> |              |
|                                   | %              | %                 | %            | %              | %                 | %            | %              | %                 | %            | %              | %                 | %            | %              | %                 | %            |
| Public and assim. Hospitals       | 79.1           | 81.4              | 81.6         | 78.8           | 81.6              | 81.6         | 78.7           | 81.6              | 80.7         | 78.6           | 81.8              | 80.5         | 78.9           | 81.6              | 81.6         |
| Accredited Hospitals <sup>1</sup> | 20.9           | 18.6              | 18.4         | 21.2           | 18.4              | 18.4         | 21.3           | 18.4              | 19.3         | 21.4           | 18.2              | 19.5         | 21.1           | 18.4              | 18.4         |
| <i>Total</i>                      | <i>100.0</i>   | <i>100.0</i>      | <i>100.0</i> | <i>100.0</i>   | <i>100.0</i>      | <i>100.0</i> | <i>100.0</i>   | <i>100.0</i>      | <i>100.0</i> | <i>100.0</i>   | <i>100.0</i>      | <i>100.0</i> | <i>100.0</i>   | <i>100.0</i>      | <i>100.0</i> |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: processing by *Ermeneia* of data contained in the Report "Attività gestionali ed economiche delle Usl e Aziende Ospedaliere" and "SDO Reports". Ministry of Health, Years 2015, 2016, 2017, 2018 and 2019

Table S/14 – Annual increase of activity, patient beds, and in-hospital days

|                                   | 2016/2015    |                  |             | 2017/2016    |                  |             | 2018/2017    |                  |             | 2019/2018    |                  |             |
|-----------------------------------|--------------|------------------|-------------|--------------|------------------|-------------|--------------|------------------|-------------|--------------|------------------|-------------|
|                                   | Patient beds | In-hospital days | O.R. %      | Patient beds | In-hospital days | O.R. %      | Patient beds | In-hospital days | O.R. %      | Patient beds | In-hospital days | O.R. %      |
| Public and assim. hospitals       | -0.9         | -1.5             | -1.7        | -0.9         | -0.2             | -0.4        | -0.4         | -0.4             | -1.4        | -3.2         | -4.1             | -4.1        |
| Accredited hospitals <sup>1</sup> | 0.7          | -2.4             | -0.6        | -1.2         | 0.1              | -1.4        | -2.2         | 0.1              | -2.2        | 0.1          | -2.1             | -4.8        |
| <i>Total</i>                      | <i>-0.6</i>  | <i>-1.6</i>      | <i>-1.5</i> | <i>-0.9</i>  | <i>-0.2</i>      | <i>-0.6</i> | <i>-0.8</i>  | <i>-0.8</i>      | <i>-1.1</i> | <i>-2.9</i>  | <i>-4.2</i>      | <i>-4.2</i> |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: processing by *Ermeneia* of data contained in the Report "Attività gestionali ed economiche delle Usl e Aziende Ospedaliere", and "SDO Reports". Ministry of Health, Years 2015, 2016, 2017, 2018 and 2019

Table S/15 – Public and accredited hospitals – Activity data for inpatient admissions. Year 2019

| Type of institution                             | 2019           |                  |                   | 2018                   |                  |                        |                  |
|---|----------------|------------------|-------------------|------------------------|------------------|------------------------|------------------|
|   | Patient beds   | Discharged pts   | Days              | Average length of stay | Occupancy rate % | Average length of stay | Occupancy rate % |
| – Total public and assimilated hospitals        | 147,589        | 5,325,920        | 42,939,396        | 8.1                    | 79.7             | 8.0                    | 80.5             |
| – Accredited hospitals <sup>1</sup>             | 39,421         | 1,030,164        | 9,707,532         | 9.4                    | 67.5             | 9.2                    | 65.9             |
| <i>Total public and accredited institutions</i> | <i>187,010</i> | <i>6,356,084</i> | <i>52,646,928</i> | <i>8.3</i>             | <i>77.1</i>      | <i>8.2</i>             | <i>77.4</i>      |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: processing by *Ermeneia* – data from the Ministry of Health

Table S/16 – Activities of acute hospital-stay (\*) in public hospital facilities, by region. Year 2019 and comparison with the year 2017

| Regions           | Patient beds actually used | Admissions       | Days spent in hospital | 2019                   |                    |   | 2017                   |                    |   |
|-------------------|----------------------------|------------------|------------------------|------------------------|--------------------|---|------------------------|--------------------|---|
|                   |                            |                  |                        | Average length of stay | Occupancy rate (%) | Hospitalization rate (per 1,000 inhab.) | Average length of stay | Occupancy rate (%) | Hospitalization rate (per 1,000 inhab.) |
| - Piedmont        | 10,044                     | 363,941          | 2,823,146              | 7.8                    | 77.0               | 84.1                                    | 7.8                    | 75.2               | 82.1                                    |
| - Aosta Valley    | 363                        | 12,750           | 101,758                | 8.0                    | 76.8               | 101.5                                   | 7.5                    | 72.9               | 103.2                                   |
| - Lombardy        | 22,914                     | 864,643          | 6,528,011              | 7.5                    | 78.1               | 86.4                                    | 7.4                    | 79.2               | 89.9                                    |
| - A.P. of Bolzano | 1,446                      | 57,958           | 392,421                | 6.8                    | 74.4               | 109.3                                   | 7.0                    | 74.3               | 113.3                                   |
| - A.P. of Trento  | 1,229                      | 50,748           | 362,539                | 7.1                    | 80.8               | 93.3                                    | 7.2                    | 79.2               | 93.5                                    |
| - Veneto          | 12,292                     | 472,197          | 3,678,067              | 7.8                    | 82.0               | 96.7                                    | 7.7                    | 80.7               | 95.2                                    |
| - Friuli V.G.     | 3,272                      | 129,068          | 933,358                | 7.2                    | 78.2               | 106.6                                   | 7.1                    | 76.8               | 105.6                                   |
| - Liguria         | 4,378                      | 163,961          | 1,281,788              | 7.8                    | 80.2               | 107.0                                   | 7.7                    | 82.4               | 106.4                                   |
| - Emilia R.       | 10,569                     | 463,145          | 3,300,114              | 7.1                    | 85.5               | 103.9                                   | 6.9                    | 81.4               | 105.9                                   |
| - Tuscany         | 8,761                      | 363,924          | 2,421,977              | 6.7                    | 75.7               | 98.3                                    | 6.7                    | 75.7               | 97.8                                    |
| - Umbria          | 2,100                      | 92,436           | 653,662                | 7.1                    | 85.3               | 105.8                                   | 6.9                    | 85.4               | 109.8                                   |
| - Marche          | 3,552                      | 138,113          | 1,056,180              | 7.6                    | 81.5               | 90.8                                    | 7.6                    | 78.1               | 91.8                                    |
| - Lazio           | 11,983                     | 419,712          | 3,256,335              | 7.8                    | 74.5               | 72.7                                    | 7.7                    | 76.4               | 76.6                                    |
| - Abruzzo         | 2,784                      | 106,184          | 794,202                | 7.5                    | 78.2               | 81.6                                    | 7.3                    | 82.0               | 86.1                                    |
| - Molise          | 722                        | 29,545           | 211,346                | 7.2                    | 80.2               | 97.3                                    | 7.2                    | 81.1               | 104.8                                   |
| - Campania        | 9,147                      | 363,110          | 2,655,005              | 7.3                    | 79.5               | 63.3                                    | 7.0                    | 80.7               | 65.9                                    |
| - Apulia          | 8,110                      | 344,727          | 2,430,975              | 7.1                    | 82.1               | 86.7                                    | 7.0                    | 82.7               | 89.9                                    |
| - Basilicata      | 1,317                      | 51,471           | 361,907                | 7.0                    | 75.3               | 92.1                                    | 6.7                    | 73.0               | 96.5                                    |
| - Calabria        | 3,092                      | 124,204          | 911,001                | 7.3                    | 80.7               | 65.0                                    | 7.0                    | 79.4               | 63.9                                    |
| - Sicily          | 9,196                      | 343,119          | 2,683,041              | 7.8                    | 79.9               | 69.9                                    | 7.6                    | 80.6               | 70.8                                    |
| - Sardinia        | 3,671                      | 131,575          | 954,775                | 7.3                    | 71.3               | 81.1                                    | 7.2                    | 73.1               | 91.5                                    |
| North             | 66,507                     | 2,578,411        | 19,401,202             | 7.5                    | 79.9               | 93.3                                    | 7.4                    | 79.1               | 94.4                                    |
| Center            | 26,396                     | 1,014,185        | 7,388,154              | 7.3                    | 76.7               | 85.5                                    | 7.2                    | 77.1               | 87.6                                    |
| South             | 38,039                     | 1,493,935        | 11,002,252             | 7.4                    | 79.2               | 73.5                                    | 7.2                    | 80.0               | 76.3                                    |
| <b>Italy</b>      | <b>130,942</b>             | <b>5,086,531</b> | <b>37,791,608</b>      | <b>7.4</b>             | <b>79.1</b>        | <b>85.0</b>                             | <b>7.3</b>             | <b>79.0</b>        | <b>86.8</b>                             |

(\*) The following specialties are excluded: 22 – Residual mental health facilities, 28 – Spinal care unit, 56 – Functional recovery and rehabilitation, 60 – Long-stay care pts, 75 – Neurological rehabilitation.

Note: latest Ministry data available at the date of publication of the Report.

Source: data from the Ministry of Health



Table S/17 – Activities of non-acute hospital stay (\*) in public hospital facilities, by region. Year 2019 and comparison with the year 2017

| Regions           | 2019       |                        |                    | 2017                   |                    |                    |
|-------------------|------------|------------------------|--------------------|------------------------|--------------------|--------------------|
|                   | Admissions | Days spent in hospital | Occupancy rate (%) | Average length of stay | Occupancy rate (%) | Occupancy rate (%) |
| Piedmont          | 21,444     | 591,903                | 85.8               | 27.6                   | 28.1               | 84.5               |
| - Aosta Valley    | 383        | 10,408                 | 95.1               | 27.2                   | 24.6               | 91.1               |
| - Lombardy        | 51,146     | 1,284,645              | 88.7               | 25.1                   | 24.4               | 91.0               |
| - A.P. of Bolzano | 1,986      | 34,721                 | 77.3               | 17.5                   | 18.4               | 76.9               |
| - A.P. of Trento  | 1,153      | 38,257                 | 102.8              | 33.2                   | 29.6               | 87.9               |
| - Veneto          | 22,805     | 595,571                | 87.2               | 26.1                   | 25.4               | 86.1               |
| - Friuli V.G.     | 2,537      | 79,460                 | 97.6               | 31.3                   | 29.0               | 109.8              |
| - Liguria         | 11,517     | 222,140                | 83.5               | 19.3                   | 19.8               | 85.1               |
| - Emilia Romagna  | 22,163     | 522,769                | 90.1               | 23.6                   | 22.1               | 83.7               |
| - Tuscany         | 5,762      | 153,777                | 86.2               | 26.7                   | 24.8               | 82.2               |
| - Umbria          | 5,233      | 112,737                | 90.3               | 21.5                   | 21.5               | 96.6               |
| - Marche          | 4,324      | 84,657                 | 85.6               | 19.6                   | 20.5               | 81.5               |
| - Lazio           | 9,893      | 376,267                | 87.2               | 38.0                   | 34.8               | 75.9               |
| - Abruzzo         | 4,080      | 66,637                 | 82.6               | 16.3                   | 17.4               | 83.8               |
| - Molise          | 725        | 23,627                 | 93.8               | 32.6                   | 29.0               | 66.2               |
| - Campania        | 5,633      | 145,872                | 79.5               | 25.9                   | 26.5               | 82.9               |
| - Apulia          | 7,803      | 200,571                | 83.5               | 25.7                   | 26.2               | 83.9               |
| - Basilicata      | 2,230      | 68,953                 | 68.9               | 30.9                   | 32.4               | 74.7               |
| - Calabria        | 1,133      | 23,246                 | 54.9               | 20.5                   | 17.7               | 49.9               |
| - Sicily          | 8,722      | 352,803                | 85.5               | 40.4                   | 39.0               | 83.2               |
| - Sardinia        | 596        | 27,147                 | 87.5               | 45.5                   | 34.5               | 90.7               |
| North             | 135,134    | 3,379,874              | 88.0               | 25.0                   | 24.5               | 87.7               |
| Center            | 2,284      | 727,438                | 87.3               | 28.9                   | 27.7               | 80.4               |
| South             | 30,922     | 908,856                | 81.5               | 29.4                   | 28.8               | 80.6               |
| Italy             | 191,268    | 5,016,168              | 86.6               | 26.2                   | 25.6               | 85.2               |

(\*) The following specialties are included: 22 – Residual mental health facilities, 28: Spinal care unit, 56 – Functional recovery and rehabilitation, 60 – Long-stay care pts, 75 – Neurological rehabilitation.

Note: latest Ministry data available at the date of publication of the Report.

Source: data from the Ministry of Health

Table S/18 – Activities of acute hospital-stay (\*) in accredited hospitals<sup>1</sup>, by region. Year 2019 and comparison with the year 2017

| Regions           | Patient beds actually used | Admissions | Days spent in hospital | 2019                   |                    |   | 2017                   |                    |   |
|-------------------|----------------------------|------------|------------------------|------------------------|--------------------|---|------------------------|--------------------|---|
|                   |                            |            |                        | Average length of stay | Occupancy rate (%) | Hospitalization rate (per 1,000 inhab.) | Average length of stay | Occupancy rate (%) | Hospitalization rate (per 1,000 inhab.) |
| – Piedmont        | 572                        | 24,638     | 105,694                | 4.3                    | 50.6               | 5.7                                     | 4.4                    | 49.9               | 5.4                                     |
| – Aosta Valley    | 10                         | 712        | 1,963                  | 2.8                    | 53.8               | 5.7                                     | 2.4                    | 6.0                | 51.1                                    |
| – Lombardy        | 4,258                      | 183,007    | 919,055                | 5.0                    | 59.1               | 18.3                                    | 4.7                    | 60.4               | 19.5                                    |
| – A.P. of Bolzano | 15                         | 458        | 5,157                  | 11.3                   | 94.2               | 0.9                                     | 11.2                   | 92.2               | 1.3                                     |
| – A.P. of Trento  | 120                        | 2,516      | 19,976                 | 7.9                    | 45.6               | 4.6                                     | 7.4                    | 47.9               | 5.3                                     |
| – Veneto          | 977                        | 26,970     | 241,037                | 8.9                    | 67.6               | 5.5                                     | 9.1                    | 70.4               | 5.2                                     |
| – Friuli V.G.     | 294                        | 8,645      | 41,734                 | 4.8                    | 38.9               | 7.1                                     | 5.0                    | 41.0               | 7.0                                     |
| – Liguria         | 83                         | 2,861      | 14,048                 | 4.9                    | 46.4               | 1.9                                     | 5.8                    | 59.2               | 1.4                                     |
| – Emilia R.       | 2,065                      | 90,184     | 468,297                | 5.2                    | 62.1               | 20.2                                    | 4.9                    | 60.3               | 20.9                                    |
| – Tuscany         | 807                        | 28,186     | 130,843                | 4.6                    | 44.4               | 7.6                                     | 4.8                    | 50.0               | 8.2                                     |
| – Umbria          | 199                        | 5,199      | 17,691                 | 3.4                    | 24.4               | 6.0                                     | 2.9                    | 28.4               | 7.1                                     |
| – Marche          | 378                        | 16,453     | 72,813                 | 4.4                    | 52.8               | 10.8                                    | 4.9                    | 57.0               | 9.9                                     |
| – Lazio           | 2,541                      | 83,716     | 473,050                | 5.7                    | 51.0               | 14.5                                    | 5.8                    | 45.1               | 11.3                                    |
| – Abruzzo         | 355                        | 14,354     | 70,197                 | 4.9                    | 54.2               | 11.0                                    | 5.4                    | 63.9               | 16.2                                    |
| – Molise          | 80                         | 2,181      | 13,657                 | 6.3                    | 46.8               | 7.2                                     | 5.6                    | 40.6               | 6.8                                     |
| – Campania        | 3,404                      | 134,810    | 719,077                | 5.3                    | 57.9               | 23.5                                    | 5.9                    | 27.5               | 64.0                                    |
| – Apulia          | 1,640                      | 64,485     | 309,849                | 4.8                    | 51.8               | 16.2                                    | 4.6                    | 54.6               | 16.5                                    |
| – Basilicata      | –                          | –          | –                      | –                      | –                  | 0.0                                     | –                      | –                  | 0.0                                     |
| – Calabria        | 892                        | 29,091     | 137,764                | 4.7                    | 42.3               | 15.2                                    | 4.7                    | 38.1               | 13.2                                    |
| – Sicily          | 2,920                      | 83,793     | 443,795                | 5.3                    | 41.6               | 17.1                                    | 5.3                    | 40.7               | 15.0                                    |
| – Sardinia        | 621                        | 15,619     | 63,486                 | 4.1                    | 28.0               | 9.6                                     | 4.4                    | 31.7               | 11.0                                    |
| – North           | 8,394                      | 339,991    | 1,816,961              | 5.3                    | 59.3               | 12.3                                    | 5.1                    | 59.9               | 12.7                                    |
| – Center          | 3,925                      | 133,554    | 694,397                | 5.2                    | 48.5               | 11.3                                    | 5.2                    | 46.6               | 9.9                                     |
| – South           | 9,912                      | 344,333    | 1,757,825              | 5.1                    | 48.6               | 16.9                                    | 5.4                    | 52.1               | 17.8                                    |
| – Italy           | 22,231                     | 817,878    | 4,269,183              | 5.2                    | 52.6               | 13.7                                    | 5.2                    | 54.1               | 13.9                                    |

(\*) The following specialties are excluded: 22 – Residual mental health facilities, 28 – Spinal care unit, 56 – Functional recovery and rehabilitation, 60 – Long-stay care pts, 75 – Neurological rehabilitation.

(1) Code 5.1. Institutes (Accredited private healthcare facilities) in the ministerial classification.

Note: latest Ministry data available at the date of publication of the Report.

Source: data from the Ministry of Health

Table S/19 – Activities of non-acute hospital stay (\*) in accredited hospitals<sup>1</sup>, by region. Year 2019 and comparison with the year 2017

| Regions           | Patient beds actually used | Admissions | Days spent in hospital | 2019                   |                    | 2017                   |                    |
|-------------------|----------------------------|------------|------------------------|------------------------|--------------------|------------------------|--------------------|
|                   |                            |            |                        | Average length of stay | Occupancy rate (%) | Average length of stay | Occupancy rate (%) |
| – Piedmont        | 2,240                      | 19,117     | 549,003                | 28.7                   | 67.1               | 29.6                   | 63.9               |
| – Aosta Valley    | 64                         | 821        | 14,364                 | 17.5                   | 61.5               | 17.7                   | 64.6               |
| – Lombardy        | 3,135                      | 47,074     | 1,078,228              | 22.9                   | 94.2               | 22.8                   | 95.4               |
| – A.P. of Bolzano | 232                        | 3,861      | 79,595                 | 20.6                   | 94.0               | 21.5                   | 97.3               |
| – A.P. of Trento  | 439                        | 6,831      | 155,099                | 22.7                   | 96.8               | 21.6                   | 101.5              |
| – Veneto          | 626                        | 9,893      | 192,553                | 19.5                   | 84.3               | 20.3                   | 86.5               |
| – Friuli V.G.     | 196                        | 1,587      | 27,816                 | 17.5                   | 38.9               | 19.6                   | 77.8               |
| – Liguria         | 199                        | 3,363      | 60,730                 | 18.1                   | 83.6               | 19.0                   | 72.3               |
| – Emilia Romagna  | 1,619                      | 28,702     | 544,538                | 19.0                   | 92.1               | 19.3                   | 91.9               |
| – Tuscany         | 588                        | 7,044      | 154,911                | 22.0                   | 72.2               | 21.3                   | 80.1               |
| – Umbria          | 31                         | 921        | 11,902                 | 12.9                   | 105.2              | 13.7                   | 59.7               |
| – Marche          | 461                        | 5,123      | 141,095                | 27.5                   | 83.9               | 29.4                   | 88.7               |
| – Lazio           | 2,475                      | 27,631     | 817,666                | 29.6                   | 90.5               | 28.1                   | 90.2               |
| – Abruzzo         | 404                        | 4,819      | 118,925                | 24.7                   | 80.6               | 23.8                   | 84.4               |
| – Molise          | 60                         | 651        | 15,051                 | 23.1                   | 68.7               | 24.4                   | 68.8               |
| – Campania        | 1,574                      | 15,819     | 467,580                | 29.6                   | 81.4               | 32.0                   | 74.6               |
| – Apulia          | 650                        | 7,280      | 190,521                | 26.2                   | 80.3               | 23.2                   | 81.9               |
| – Basilicata      | 40                         | 333        | 11,949                 | 35.9                   | 81.8               | 21.0                   | 21.0               |
| – Calabria        | 749                        | 9,457      | 218,060                | 23.1                   | 79.8               | 26.4                   | 75.5               |
| – Sicily          | 899                        | 13,946     | 306,828                | 22.0                   | 93.5               | 21.6                   | 84.0               |
| – Sardinia        | 237                        | 3,553      | 65,817                 | 18.5                   | 76.1               | 17.8                   | 72.0               |
| – North           | 8,750                      | 121,249    | 2,701,926              | 22.3                   | 84.6               | 22.5                   | 85.4               |
| – Center          | 3,555                      | 40,719     | 1,125,574              | 27.6                   | 86.7               | 26.7                   | 87.9               |
| – South           | 4,613                      | 55,858     | 1,394,731              | 25.0                   | 82.8               | 25.2                   | 77.9               |
| – Italy           | 16,918                     | 217,826    | 5,222,231              | 24.0                   | 84.6               | 23.9                   | 83.9               |

(\*) The following specialties are included: 22 – Residual mental health facilities, 28 – Spinal care unit, 56 – Functional recovery and rehabilitation, 60 – Long-stay care pts, 75 – Neurological rehabilitation.

(1) Code 5.1. Institutes (Accredited private healthcare facilities) in the ministerial classification.

Note: latest Ministry data available at the date of publication of the Report.

Source: data from the Ministry of Health

Table S20 – Hospital Discharge Records (SDO): recorded activity, national grand total, and totals for public and private institutions – Discharged pts and in-hospital days, Year 2019

|   | Number of cases  |                  | Number of days   |                   |
|---|------------------|------------------|------------------|-------------------|
|   | Public           | Private          | Public           | Private           |
| – Inpatient admissions for acute cases    | 4,579,078        | 1,427,314        | 6,006,392        | 7,870,822         |
| – Day hospital for acute cases            | 1,257,614        | 490,524          | 1,748,138        | 818,440           |
| – Rehabilitation for inpatient admissions | 72,867           | 239,112          | 311,979          | 6,237,940         |
| – Rehabilitation – Day hospital           | 11,074           | 17,328           | 28,402           | 309,703           |
| – Long-term care                          | 51,249           | 47,432           | 98,681           | 1,285,074         |
| – Normal newborns <sup>(1)</sup>          | 245,003          | 63,304           | 308,307          | 187,343           |
| <b>Total</b>                              | <b>6,216,885</b> | <b>2,285,014</b> | <b>8,501,899</b> | <b>16,709,322</b> |

Public institutions: Hospital Centers, University Hospital Centers and Public Policlinics, Public I.R.C.C.S. and Public Foundations, Directly managed hospitals.

Private institutions: Private Policlinics, Private I.R.C.C.S. and Private Foundations, Classified Hospitals, USL Facilities, Research Facilities, Accredited Hospitals<sup>2</sup>, and Non-accredited Private Healthcare Facilities.

The item “Long-stay care” includes discharged pts from inpatient admissions and day-hospital.

(1) Classified in the DRG 391.

(2) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: data from the Ministry of Health – SDO 2019

Table S21 – Distribution of discharged pts classified according to type of institution, activity, and admission<sup>(1)</sup>, Year 2019

| Type of institution                       | Acute                |              |                  |              |                |              | Rehabilitation       |              |               |              |               |              |
|---|----------------------|--------------|------------------|--------------|----------------|--------------|----------------------|--------------|---------------|--------------|---------------|--------------|
|   | Inpatient admissions |              | Day hospital     |              | %              |              | Inpatient admissions |              | Day hospital  |              | %             |              |
|   | Number               | %            | Number           | %            | Number         | %            | Number               | %            | Number        | %            | Number        | %            |
| – Public institutions                     | 4,579,078            | 76.2         | 1,257,614        | 71.9         | 72,867         | 23.3         | 11,074               | 39.0         | 51,249        | 51.9         | 47,069        | 47.7         |
| – Accredited hospitals (as a whole)       | 1,366,943            | 22.8         | 481,042          | 27.5         | 238,878        | 76.6         | 17,324               | 61.0         | 4             | 0.0          | 363           | 0.4          |
| – Non-accr. Private Healthcare Facilities | 60,371               | 1.0          | 9,482            | 0.6          | 234            | 0.1          | 4                    | 0.0          | 0.0           | 0.0          | 98,681        | 100.0        |
| <b>Total</b>                              | <b>6,006,392</b>     | <b>100.0</b> | <b>1,748,138</b> | <b>100.0</b> | <b>311,979</b> | <b>100.0</b> | <b>28,402</b>        | <b>100.0</b> | <b>98,681</b> | <b>100.0</b> | <b>98,681</b> | <b>100.0</b> |

(1) Data for normal newborns is not included.

Source: data from the Ministry of Health – SDO 2019

Table S22 – Distribution of in-hospital days classified according to type of institution, activity, and admission<sup>(1)</sup>, Year 2019

| Type of institution                       | Acute                |              |                  |              |                  |              | Rehabilitation       |              |                  |              |                  |              |
|---|----------------------|--------------|------------------|--------------|------------------|--------------|----------------------|--------------|------------------|--------------|------------------|--------------|
|   | Inpatient admissions |              | Day hospital     |              | %                |              | Inpatient admissions |              | Day hospital     |              | %                |              |
|   | Number               | %            | Number           | %            | Number           | %            | Number               | %            | Number           | %            | Number           | %            |
| – Public institutions                     | 34,418,490           | 81.4         | 3,593,434        | 81.5         | 1,923,795        | 23.5         | 138,246              | 30.9         | 1,118,616        | 46.5         | 1,273,213        | 53.0         |
| – Accredited hospitals (as a whole)       | 7,679,429            | 18.2         | 808,668          | 18.3         | 6,233,385        | 76.4         | 309,699              | 69.1         | 1,273,213        | 53.0         | 11,861           | 0.5          |
| – Non-accr. Private Healthcare Facilities | 191,393              | 0.4          | 9,772            | 0.2          | 4,555            | 0.1          | 4                    | 0.0          | 0.0              | 0.0          | 11,861           | 0.5          |
| <b>Total</b>                              | <b>42,289,312</b>    | <b>100.0</b> | <b>4,411,874</b> | <b>100.0</b> | <b>8,161,735</b> | <b>100.0</b> | <b>447,949</b>       | <b>100.0</b> | <b>2,403,690</b> | <b>100.0</b> | <b>2,403,690</b> | <b>100.0</b> |

(1) Data for normal newborns is not included.

Source: data from the Ministry of Health – SDO 2019

Table S/23 – Total number of public and private healthcare facilities: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases, Year 2019

| Rank | DRG   | Discharges |          | % In-hospital days | Average length of stay |
|------|---|------------|----------|--------------------|------------------------|
|      |   | Number     | % cumul. |                    |                        |
| 1    | 373 Vaginal Delivery W/O Complicating Diagnoses                         | 255,738    | 4.2      | 2.1                | 3.5                    |
| 2    | 544 Major Joint Replacement or Reattachment of Lower Extremity          | 188,059    | 3.1      | 3.5                | 8.0                    |
| 3    | 087 Pulmonary Edema & Respiratory Failure                               | 174,793    | 2.9      | 10.3               | 10.0                   |
| 4    | 127 Heart Failure & Shock   | 165,426    | 2.7      | 13.0               | 9.4                    |
| 5    | 371 Cesarean Section W/O Cc   | 122,842    | 2.0      | 15.1               | 4.6                    |
| 6    | 359 Uterine & Adnexa Proc For Non-Malignancy W/O Cc                     | 94,204     | 1.6      | 16.6               | 3.3                    |
| 7    | 089 Simple Pneumonia & Pleurisy Age >17 W Cc                            | 87,515     | 1.5      | 18.1               | 11.0                   |
| 8    | 014 Intracranial Hemorrhage Or Cerebral Infarction                      | 86,360     | 1.4      | 19.5               | 10.2                   |
| 9    | 576 Septicemia W/O Mv 96+ Hours Age >17                                 | 85,999     | 1.4      | 20.9               | 2.7                    |
| 10   | 494 Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc                      | 81,032     | 1.3      | 22.3               | 13.3                   |
| 11   | 430 Psychoses   | 77,092     | 1.3      | 23.6               | 2.4                    |
| 12   | 316 Renal failure   | 75,188     | 1.2      | 24.8               | 1.7                    |
| 13   | 311 Transurethral Procedures W/O Cc                                     | 75,135     | 1.2      | 26.1               | 3.2                    |
| 14   | 125 Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag      | 66,872     | 1.1      | 27.2               | 0.5                    |
| 15   | 557 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx | 63,736     | 1.1      | 28.2               | 1.1                    |
| 16   | 558 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx | 52,639     | 0.9      | 29.1               | 0.5                    |
| 17   | 219 Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc  | 52,338     | 0.9      | 30.0               | 0.8                    |
| 18   | 390 Neonate W Other Significant Problems                                | 45,782     | 0.8      | 30.7               | 4.0                    |
| 19   | 183 Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc       | 44,355     | 0.7      | 31.5               | 5.3                    |
| 20   | 224 Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc    | 44,176     | 0.7      | 32.2               | 2.8                    |
| 21   | 162 Inguinal & Femoral Hernia Procedures Age >17 W/O Cc                 | 43,798     | 0.7      | 32.9               | 1.7                    |
| 22   | 467 Other Factors Influencing Health Status                             | 41,198     | 0.7      | 33.6               | 0.3                    |
| 23   | 211 Hip & Femur Procedures Except Major Joint Age >17 W/O Cc            | 41,150     | 0.7      | 34.3               | 1.0                    |
| 24   | 225 Foot Procedures   | 40,487     | 0.7      | 35.0               | 2.0                    |
| 25   | 203 Malignancy Of Hepatobiliary System Or Pancreas                      | 38,774     | 0.6      | 35.6               | 9.5                    |
| 26   | 410 Chemotherapy W/O Acute Leukemia As Secondary Diagnosis              | 38,150     | 0.6      | 36.3               | 5.0                    |
| 27   | 082 Respiratory Neoplasms   | 37,418     | 0.6      | 36.9               | 10.4                   |
| 28   | 518 Perc Cardio Proc W/O Coronary Artery Stent Or Ami                   | 37,303     | 0.6      | 37.5               | 3.2                    |
| 29   | 552 Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx           | 37,248     | 0.6      | 38.1               | 4.9                    |
| 30   | 503 Knee Procedures W/O Pdx Of Infection                                | 36,874     | 0.6      | 38.7               | 0.2                    |

(Continued) Table S/23 – Total number of public and private healthcare institutions: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases, 2019

| Rank | DRG   | Discharges |          | % In-hospital days | Average length of stay |
|------|---|------------|----------|--------------------|------------------------|
|      |   | Number     | % cumal. |                    |                        |
| 31   | 337 Transurethral Prostatectomy W/O Cc                            | 35,871     | 0.6      | 0.3                | 4.0                    |
| 32   | 149 Major Small & Large Bowel Procedures W/O Cc                   | 35,824     | 0.6      | 0.8                | 9.2                    |
| 33   | 395 Red Blood Cell Disorders Age >17                              | 35,379     | 0.6      | 40.5               | 8.4                    |
| 34   | 090 Simple Pneumonia & Pleurisy Age >17 W/O Cc                    | 34,223     | 0.6      | 0.7                | 8.5                    |
| 35   | 124 Circulatory Disorders Except Armi, W Card Cath & Complex Ding | 33,142     | 0.6      | 41.6               | 7.0                    |
| 36   | 210 Hip & Femur Procedures Except Major Joint Age >17 W Cc        | 32,403     | 0.5      | 42.2               | 13.3                   |
| 37   | 290 Thyroid Procedures  | 32,018     | 0.5      | 42.7               | 2.9                    |
| 38   | 260 Subtotal Mastectomy For Malignancy W/O Cc                     | 31,163     | 0.5      | 43.2               | 2.0                    |
| 39   | 500 Back & Neck Procedures Except Spinal Fusion W/O Cc            | 30,689     | 0.5      | 43.7               | 3.9                    |
| 40   | 055 Miscellaneous Ear, Nose, Mouth & Throat Procedures            | 29,758     | 0.5      | 44.2               | 1.9                    |
| 41   | 158 Anal & Stomal Procedures W/O Cc                               | 29,627     | 0.5      | 44.7               | 2.0                    |
| 42   | 012 Degenerative Nervous System Disorders                         | 28,714     | 0.5      | 45.2               | 8.5                    |
| 43   | 208 Disorders Of The Biliary Tract W/O Cc                         | 28,198     | 0.5      | 45.7               | 6.7                    |
| 44   | 524 Transient Ischemia  | 28,077     | 0.5      | 46.1               | 6.9                    |
| 45   | 288 O.R. Procedures For Obesity                                   | 27,100     | 0.5      | 46.6               | 3.7                    |
| 46   | 174 G.I. Hemorrhage w CC  | 26,982     | 0.4      | 47.0               | 9.3                    |
| 47   | 479 Other Vascular Procedures W/O Cc                              | 26,184     | 0.4      | 47.5               | 4.7                    |
| 48   | 088 Chronic Obstructive Pulmonary Disease                         | 25,910     | 0.4      | 47.9               | 8.6                    |
| 49   | 207 Disorders Of The Biliary Tract W Cc                           | 25,146     | 0.4      | 48.3               | 10.3                   |
| 50   | 204 Disorders Of Pancreas Except Malignancy                       | 25,000     | 0.4      | 48.7               | 9.0                    |
| 51   | 381 Abortion W D&C, Aspiration Curettage Or Hysterotomy           | 24,635     | 0.4      | 49.1               | 1.7                    |
| 52   | 160 Hernia Procedures Except Inguinal & Femoral Age >17 W/O Cc    | 24,108     | 0.4      | 49.5               | 3.0                    |
| 53   | 053 Sinus & Mastoid Procedures Age >17                            | 24,052     | 0.4      | 49.9               | 2.5                    |
| 54   | 234 Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc          | 23,673     | 0.4      | 50.3               | 3.8                    |
| 55   | 098 Bronchitis & Asthma Age 0-17                                  | 23,646     | 0.4      | 50.7               | 4.5                    |
| 56   | 296 Nutritional & Misc Metabolic Disorders Age >17 W Cc           | 23,447     | 0.4      | 51.1               | 8.8                    |
| 57   | 389 Full Term Neonate W Major Problems                            | 23,431     | 0.4      | 51.5               | 6.8                    |
| 58   | 139 Cardiac Arrhythmia & Conduction Disorders W/O Cc              | 23,044     | 0.4      | 51.9               | 3.9                    |
| 59   | 202 Cirrhosis & Alcoholic Hepatitis                               | 22,699     | 0.4      | 52.3               | 10.2                   |
| 60   | 172 Digestive Malignancy W Cc                                     | 22,577     | 0.4      | 52.6               | 11.4                   |
|      | Total (top 60 DRGs)   | 3,168,401  | 52.6     | 49.2               | 7.0                    |
|      | Grand Total   | 6,020,466  | 100.0    | 100.0              | 7.0                    |

Source: data from the Ministry of Health – SDO 2019

Table S24 – AIOF accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases, 2020

| Rank | DRG   | Discharges |      | % in-hospital days | Average length of stay | In-hospital days |
|------|---|------------|------|--------------------|------------------------|------------------|
|      |   | Number     | %    |                    |                        |                  |
| 1    | 544 Major Joint Replacement or Reattachment of Lower Extremity          | 49,796     | 10.7 | 11.4               | 5.9                    | 294,408          |
| 2    | 371 Cesarean Section W/O Cc   | 12,398     | 2.7  | 13.4               | 3.8                    | 47,613           |
| 3    | 373 Vaginal Delivery W/O Complicating Diagnoses                         | 12,241     | 2.6  | 16.0               | 3.4                    | 41,912           |
| 4    | 127 Heart Failure & Shock   | 10,706     | 2.3  | 18.3               | 3.7                    | 94,897           |
| 5    | 359 Uterine & Adnexa Proc For Non-Malignancy W/O Cc                     | 8,375      | 1.8  | 20.1               | 3.2                    | 26,669           |
| 6    | 311 Transurethral Procedures W/O Cc                                     | 8,251      | 1.8  | 21.9               | 2.7                    | 22,536           |
| 7    | 503 Knee Procedures W/O Pdx Of Infection                                | 8,200      | 1.8  | 23.7               | 1.4                    | 11,816           |
| 8    | 225 Foot Procedures   | 8,160      | 1.8  | 25.4               | 1.2                    | 10,041           |
| 9    | 494 Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc                      | 7,994      | 1.7  | 27.1               | 0.8                    | 20,812           |
| 10   | 224 Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc    | 7,296      | 1.6  | 28.7               | 1.8                    | 13,448           |
| 11   | 125 Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag      | 7,209      | 1.6  | 30.3               | 2.3                    | 16,856           |
| 12   | 288 O.R. Procedures For Obesity   | 6,989      | 1.5  | 31.8               | 3.4                    | 23,954           |
| 13   | 470 Ungroupable (cases which could not be assigned to valid DRGs)       | 5,867      | 1.3  | 33.0               | 2.9                    | 74,823           |
| 14   | 498 Spinal Fusion Except Cervical W/O Cc                                | 5,858      | 1.3  | 34.3               | 4.4                    | 25,779           |
| 15   | 558 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx | 5,821      | 1.3  | 35.5               | 3.0                    | 17,406           |
| 16   | 087 Pulmonary Edema & Respiratory Failure                               | 5,699      | 1.2  | 36.8               | 2.5                    | 63,550           |
| 17   | 223 Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc       | 5,428      | 1.2  | 37.9               | 1.4                    | 7,772            |
| 18   | 518 Perc Cardio Proc W/O Coronary Artery Stent Or Ami                   | 5,368      | 1.2  | 39.1               | 0.6                    | 14,400           |
| 19   | 337 Transurethral Prostatectomy W/O Cc                                  | 5,352      | 1.2  | 40.2               | 0.7                    | 19,009           |
| 20   | 089 Simple Pneumonia & Pleurisy Age > 17 W Cc                           | 4,722      | 1.0  | 41.3               | 2.4                    | 62,144           |
| 21   | 500 Back & Neck Procedures Except Spinal Fusion W/O Cc                  | 4,155      | 0.9  | 42.1               | 0.5                    | 12,101           |
| 22   | 104 Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath           | 4,078      | 0.9  | 43.0               | 1.7                    | 44,582           |
| 23   | 430 Psychoses   | 4,027      | 0.9  | 43.9               | 2.1                    | 52,885           |
| 24   | 467 Other Factors Influencing Health Status                             | 3,845      | 0.8  | 44.7               | 0.5                    | 12,065           |
| 25   | 245 Bone Diseases & Specific Arthropathies W/O Cc                       | 3,218      | 0.7  | 45.4               | 0.8                    | 21,804           |
| 26   | 012 Degenerative Nervous System Disorders                               | 3,215      | 0.7  | 46.1               | 1.0                    | 25,826           |
| 27   | 090 Simple Pneumonia & Pleurisy Age > 17 W/O Cc                         | 3,192      | 0.7  | 46.8               | 1.5                    | 37,604           |
| 28   | 234 Other Musculosket Sys & Conn Tiss O.R. Proc W/O Cc                  | 3,105      | 0.7  | 47.5               | 2.1                    | 6,581            |
| 29   | 479 Other Vascular Procedures W/O Cc                                    | 3,092      | 0.7  | 48.1               | 0.4                    | 9,720            |
| 30   | 491 Major Joint & Limb Reattachment Procedures Of Upper Extremity       | 3,088      | 0.7  | 48.8               | 0.5                    | 13,477           |
| 31   | 158 Anal & Stomal Procedures W/O Cc                                     | 3,039      | 0.7  | 49.4               | 0.2                    | 5,377            |
| 32   | 552 Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx           | 3,017      | 0.6  | 50.1               | 3.7                    | 11,169           |
| 33   | 316 Renal failure   | 3,011      | 0.6  | 50.7               | 1.0                    | 25,111           |

(Continued) Table S/24 – AIOIP accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases, 2020

| Rank | DRG   | Discharges |      | % in-hospital days | Average length of stay | In-hospital days |
|------|---|------------|------|--------------------|------------------------|------------------|
|      |   | Number     | %    |                    |                        |                  |
| 34   | 410 Chemotherapy W/O Acute Leukemia As Secondary Diagnosis              | 2,880      | 0.6  | 51.4               | 3.0                    | 8,729            |
| 35   | 243 Medical Back Problems   | 2,849      | 0.6  | 52.0               | 5.9                    | 16,682           |
| 36   | 545 Revision Of Hip Or Knee Replacement                                 | 2,844      | 0.6  | 52.6               | 8.0                    | 22,629           |
| 37   | 305 Kidney And Ureter Procedures For Non-Neoplasm Without Cc            | 2,813      | 0.6  | 53.2               | 3.5                    | 9,711            |
| 38   | 297 Nutritional & Misc Metabolic Disorders Age >17 W/O Cc               | 2,807      | 0.6  | 53.8               | 0.5                    | 13,895           |
| 39   | 139 Cardiac Arrhythmia & Conduction Disorders W/O Cc                    | 2,718      | 0.6  | 54.4               | 3.0                    | 8,145            |
| 40   | 227 Soft Tissue Procedures W/O Cc                                       | 2,682      | 0.6  | 55.0               | 1.6                    | 4,348            |
| 41   | 219 Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc  | 2,661      | 0.6  | 55.5               | 0.2                    | 11,147           |
| 42   | 162 Inguinal & Femoral Hernia Procedures Age >17 W/O Cc                 | 2,618      | 0.6  | 56.1               | 1.5                    | 3,804            |
| 43   | 232 Arthroscopy   | 2,489      | 0.5  | 56.6               | 0.1                    | 1.1              |
| 44   | 290 Thyroid Procedures  | 2,401      | 0.5  | 57.1               | 2.7                    | 2,756            |
| 45   | 120 Other Circulatory System O.R. Procedures                            | 2,384      | 0.5  | 57.7               | 0.3                    | 8,251            |
| 46   | 014 Intracranial Hemorrhage Or Cerebral Infarction                      | 2,381      | 0.5  | 58.2               | 0.9                    | 10.0             |
| 47   | 538 Local Excis & Remove of Int Fix Dev Except Hip & Femur W/O Cc       | 2,250      | 0.5  | 58.6               | 0.2                    | 2.0              |
| 48   | 149 Major Small & Large Bowel Procedures W/O Cc                         | 2,185      | 0.5  | 59.1               | 0.6                    | 16,689           |
| 49   | 248 Tendonitis, Myositis & Bursitis                                     | 2,069      | 0.4  | 59.6               | 3.3                    | 6,772            |
| 50   | 211 Hip & Femur Procedures Except Major Joint Age >17 W/O Cc            | 2,037      | 0.4  | 60.0               | 0.6                    | 15,995           |
| 51   | 203 Malignancy Of Hepatobiliary System Or Pancreas                      | 1,959      | 0.4  | 60.4               | 0.6                    | 14,622           |
| 52   | 557 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx | 1,928      | 0.4  | 60.8               | 0.5                    | 13,647           |
| 53   | 136 Cardiac Congenital & Valvular Disorders Age >17 W/O Cc              | 1,899      | 0.4  | 61.2               | 0.6                    | 14,718           |
| 54   | 082 Respiratory Neoplasms   | 1,895      | 0.4  | 61.7               | 0.5                    | 13,517           |
| 55   | 335 Major Male Pelvic Procedures W/O Cc                                 | 1,868      | 0.4  | 62.1               | 0.5                    | 11,713           |
| 56   | 260 Subtotal Mastectomy For Malignancy W/O Cc                           | 1,867      | 0.4  | 62.5               | 0.2                    | 4,005            |
| 57   | 189 Other Digestive System Diagnoses Age >17 W/O Cc                     | 1,796      | 0.4  | 62.8               | 0.2                    | 4,832            |
| 58   | 131 Peripheral Vascular Disorders W/O Cc                                | 1,777      | 0.4  | 63.2               | 0.4                    | 9,013            |
| 59   | 145 Other Circulatory System Diagnoses W/O Cc                           | 1,772      | 0.4  | 63.6               | 0.3                    | 8,926            |
| 60   | 133 Atherosclerosis W/O Cc  | 1,758      | 0.4  | 64.0               | 0.3                    | 8,402            |
|      | Total (top 60 DRGs)   | 297,399    | 64.0 |                    |                        | 1,476,120        |
|      | Grand Total   | 464,789    |      |                    | 5.5                    | 2,573,161        |

Source: processing by Ermeneta, based on data from AIOIP



Table S/25 – AIOP accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admission for acute cases in the North of Italy, 2020

| Rank | DRG   | Discharges |          | % in-hospital days | Average length of stay | In-hospital days |
|------|---|------------|----------|--------------------|------------------------|------------------|
|      |   | Number     | % cumul. |                    |                        |                  |
| 1    | 544 Major Joint Replacement or Reattachment of Lower Extremity          | 28,850     | 12.5     | 12.5               | 6.0                    | 173,111          |
| 2    | 225 Foot Procedures   | 5,565      | 2.4      | 14.9               | 1.0                    | 5,531            |
| 3    | 470 Ungroupable (cases which could not be assigned to valid DRGs)       | 5,471      | 2.4      | 17.3               | 13.4                   | 73,302           |
| 4    | 503 Knee Procedures W/O Pdx Of Infection                                | 4,778      | 2.1      | 19.3               | 1.5                    | 7,008            |
| 5    | 127 Heart Failure & Shock   | 4,336      | 1.9      | 21.2               | 10.0                   | 43,417           |
| 6    | 224 Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc    | 4,316      | 1.9      | 23.1               | 1.4                    | 6,085            |
| 7    | 311 Transurethral Procedures W/O Cc                                     | 4,128      | 1.8      | 24.9               | 2.3                    | 9,408            |
| 8    | 089 Simple Pneumonia & Pleurisy Age >17 W Cc                            | 3,759      | 1.6      | 26.5               | 13.9                   | 52,278           |
| 9    | 518 Perc Cardio Proc W/O Coronary Artery Stent Or Ami                   | 3,436      | 1.5      | 28.0               | 2.7                    | 9,231            |
| 10   | 288 O.R. Procedures For Obesity   | 3,289      | 1.4      | 29.4               | 2.8                    | 9,345            |
| 11   | 359 Uterine & Adnexa Proc For Non-Malignancy W/O Cc                     | 3,032      | 1.3      | 30.7               | 2.8                    | 8,433            |
| 12   | 373 Vaginal Delivery W/O Complicating Diagnoses                         | 2,887      | 1.3      | 32.0               | 3.6                    | 10,364           |
| 13   | 223 Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc       | 2,886      | 1.2      | 33.2               | 1.3                    | 3,655            |
| 14   | 498 Spinal Fusion Except Cervical W/O Cc                                | 2,750      | 1.2      | 34.4               | 4.5                    | 12,316           |
| 15   | 087 Pulmonary Edema & Respiratory Failure                               | 2,707      | 1.2      | 35.6               | 14.2                   | 38,510           |
| 16   | 494 Laparoscopic Cholecystectomy W/O C.D.E.; W/O Cc                     | 2,665      | 1.2      | 36.7               | 2.3                    | 6,207            |
| 17   | 090 Simple Pneumonia & Pleurisy Age >17 W/O Cc                          | 2,544      | 1.1      | 37.8               | 12.7                   | 32,234           |
| 18   | 243 Medical Back Problems   | 2,481      | 1.1      | 38.9               | 1.0                    | 14,644           |
| 19   | 430 Psychoses   | 2,457      | 1.1      | 40.0               | 15.4                   | 37,838           |
| 20   | 337 Transurethral Prostatectomy W/O Cc                                  | 2,341      | 1.0      | 41.0               | 3.1                    | 7,368            |
| 21   | 245 Bone Diseases & Specific Arthropathies W/O Cc                       | 2,309      | 1.0      | 42.0               | 7.5                    | 17,266           |
| 22   | 125 Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag      | 2,272      | 1.0      | 43.0               | 0.4                    | 5,525            |
| 23   | 232 Arthroscopy   | 2,181      | 0.9      | 43.9               | 1.1                    | 2,297            |
| 24   | 500 Back & Neck Procedures Except Spinal Fusion W/O Cc                  | 2,178      | 0.9      | 44.9               | 2.6                    | 5,689            |
| 25   | 558 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx | 2,155      | 0.9      | 45.8               | 3.1                    | 6,669            |
| 26   | 104 Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath           | 2,145      | 0.9      | 46.7               | 11.5                   | 24,640           |
| 27   | 139 Cardiac Arrhythmia & Conduction Disorders W/O Cc                    | 1,901      | 0.8      | 47.6               | 3.1                    | 5,806            |
| 28   | 158 Anal & Stomal Procedures W/O Cc                                     | 1,868      | 0.8      | 48.4               | 1.3                    | 2,484            |
| 29   | 227 Soft Tissue Procedures W/O Cc                                       | 1,687      | 0.7      | 49.1               | 1.4                    | 2,334            |
| 30   | 012 Degenerative Nervous System Disorders                               | 1,680      | 0.7      | 49.8               | 1.1                    | 15,684           |
| 31   | 467 Other Factors Influencing Health Status                             | 1,636      | 0.7      | 50.5               | 9.3                    | 8,550            |
| 32   | 491 Major Joint & Limb Reattachment Procedures Of Upper Extremity       | 1,550      | 0.7      | 51.2               | 4.1                    | 6,339            |
| 33   | 538 Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc        | 1,532      | 0.7      | 51.9               | 1.9                    | 2,920            |

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(Continued) Table S/25 – AIOIP accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admission for acute cases in the North of Italy, 2020

| Rank | DRG   | Discharges |          | % in-hospital days | Average length of stay | In-hospital days |
|------|---|------------|----------|--------------------|------------------------|------------------|
|      |   | Number     | % cumul. |                    |                        |                  |
| 34   | 133 Atherosclerosis W/O Cc  | 1,521      | 0.7      | 52.5               | 5.0                    | 7,544            |
| 35   | 545 Revision Of Hip Or Knee Replacement                                 | 1,504      | 0.7      | 53.2               | 8.1                    | 12,224           |
| 36   | 014 Intracranial Hemorrhage Or Cerebral Infarction                      | 1,498      | 0.6      | 53.8               | 10.3                   | 15,443           |
| 37   | 179 Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc  | 1,487      | 0.6      | 54.5               | 3.8                    | 5,590            |
| 38   | 479 Other Vascular Procedures W/O Cc                                    | 1,474      | 0.6      | 55.1               | 3.4                    | 4,966            |
| 39   | 297 Nutritional & Misc Metabolic Disorders Age >17 W/O Cc               | 1,362      | 0.6      | 55.7               | 6.0                    | 8,184            |
| 40   | 136 Cardiac Congenital & Valvular Disorders Age >17 W/O Cc              | 1,320      | 0.6      | 56.3               | 9.9                    | 12,765           |
| 41   | 371 Cesarean Section W/O Cc   | 1,277      | 0.6      | 56.8               | 4.5                    | 5,773            |
| 42   | 234 Other Musculoskel Sys & Conn Tiss O.R. Proc W/O Cc                  | 1,274      | 0.6      | 57.4               | 1.7                    | 2,201            |
| 43   | 552 Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx           | 1,241      | 0.5      | 57.9               | 4.3                    | 5,289            |
| 44   | 248 Tendonitis, Myositis & Bursitis                                     | 1,223      | 0.5      | 58.4               | 4.1                    | 5,032            |
| 45   | 211 Hip & Femur Procedures Except Major Joint Age >17 W/O Cc            | 1,216      | 0.5      | 59.0               | 0.7                    | 7,850            |
| 46   | 131 Peripheral Vascular Disorders W/O Cc                                | 1,187      | 0.5      | 59.5               | 5.7                    | 6,810            |
| 47   | 335 Major Male Pelvic Procedures W/O Cc                                 | 1,165      | 0.5      | 60.0               | 6.2                    | 7,267            |
| 48   | 162 Inguinal & Femoral Hernia Procedures Age >17 W/O Cc                 | 1,155      | 0.5      | 60.5               | 0.1                    | 1,465            |
| 49   | 557 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx | 1,097      | 0.5      | 61.0               | 0.5                    | 7,925            |
| 50   | 053 Sinus & Mastoid Procedures Age >17                                  | 1,064      | 0.5      | 61.4               | 0.1                    | 1,817            |
| 51   | 461 O.R. Proc W Diagnoses of Other Contact W Health Services            | 998        | 0.4      | 61.8               | 0.2                    | 2,877            |
| 52   | 316 Renal failure   | 996        | 0.4      | 62.3               | 10.3                   | 10,232           |
| 53   | 428 Disorders Of Personality & Impulse Control                          | 990        | 0.4      | 62.7               | 21.8                   | 21,570           |
| 54   | 523 Ale/Drug Abuse Or Depend W/O Rehabilitation Therapy W/O Cc          | 964        | 0.4      | 63.1               | 1.5                    | 11,099           |
| 55   | 055 Miscellaneous Ear, Nose, Mouth & Throat Procedures                  | 954        | 0.4      | 63.5               | 0.1                    | 1,139            |
| 56   | 395 Red Blood Cell Disorders Age >17                                    | 930        | 0.4      | 63.9               | 9.8                    | 9,109            |
| 57   | 189 Other Digestive System Diagnoses Age >17 W/O Cc                     | 907        | 0.4      | 64.3               | 0.6                    | 2,378            |
| 58   | 149 Major Small & Large Bowel Procedures W/O Cc                         | 898        | 0.4      | 64.7               | 7.8                    | 6,970            |
| 59   | 081 Respiratory Infections And Inflammations, Age 0-17                  | 892        | 0.4      | 65.1               | 14.2                   | 12,644           |
| 60   | 203 Malignancy Of Hepatobiliary System Or Pancreas                      | 883        | 0.4      | 65.5               | 8.1                    | 7,118            |
|      | Total (top 60 DRGs)   | 151,249    | 65.5     |                    | 5.8                    | 871,449          |
|      | Grand Total (North)   | 230,939    |          |                    | 6.3                    | 1,446,055        |

Source: processing by *Ermeneta*, based on data from AIOIP

Table S/26 – AIOP accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the Center of Italy, 2020

| Rank | DRG  | Discharges |          | % in-hospital days | Average length of stay | In-hospital days |
|------|--|------------|----------|--------------------|------------------------|------------------|
|      |  | Number     | % cumul. |                    |                        |                  |
| 1    | 544 Major Joint Replacement or Reattachment of Lower Extremity         | 8,038      | 16.6     | 18.7               | 6.0                    | 48,544           |
| 2    | 503 Knee Procedures W/O Pdx Of Infection                               | 1,637      | 3.4      | 0.7                | 1.1                    | 1,783            |
| 3    | 127 Heart Failure & Shock  | 1,522      | 3.1      | 23.1               | 6.2                    | 15,958           |
| 4    | 223 Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc      | 1,512      | 3.1      | 26.2               | 0.7                    | 1,926            |
| 5    | 225 Foot Procedures  | 1,407      | 2.9      | 29.1               | 0.9                    | 2,315            |
| 6    | 224 Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc   | 1,274      | 2.6      | 31.7               | 2.6                    | 3,332            |
| 7    | 498 Spinal Fusion Except Cervical W/O Cc                               | 1,079      | 2.2      | 33.9               | 1.8                    | 4,669            |
| 8    | 337 Transurethral Prostatectomy W/O Cc                                 | 1,066      | 2.2      | 36.1               | 1.3                    | 3,488            |
| 9    | 311 Transurethral Procedures W/O Cc                                    | 913        | 1.9      | 38.0               | 1.0                    | 2,560            |
| 10   | 494 Laparoscopic Cholecystectomy W/O C.D.E., W/O Cc                    | 866        | 1.8      | 39.8               | 0.9                    | 2,256            |
| 11   | 234 Other Musculosket Sys & Conn Tiss O.R. Proc W/O Cc                 | 843        | 1.7      | 41.5               | 0.7                    | 1,860            |
| 12   | 248 Tendonitis, Myositis & Bursitis                                    | 746        | 1.5      | 43.1               | 0.6                    | 1,542            |
| 13   | 359 Uterine & Adnexa Proc For Non-Malignancy W/O Cc                    | 714        | 1.5      | 44.5               | 0.8                    | 2,063            |
| 14   | 089 Simple Pneumonia & Pleurisy Age >17 W Cc                           | 703        | 1.4      | 46.0               | 2.9                    | 7,526            |
| 15   | 288 O.R. Procedures For Obesity  | 657        | 1.4      | 47.3               | 0.9                    | 2,445            |
| 16   | 219 Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc | 626        | 1.3      | 48.6               | 1.3                    | 3,438            |
| 17   | 162 Inguinal & Femoral Hernia Procedures Age >17 W/O Cc                | 608        | 1.3      | 49.9               | 0.3                    | 716              |
| 18   | 087 Pulmonary Edema & Respiratory Failure                              | 579        | 1.2      | 51.1               | 2.2                    | 5,657            |
| 19   | 245 Bone Diseases & Specific Arthropathies W/O Cc                      | 556        | 1.1      | 52.2               | 1.1                    | 2,910            |
| 20   | 491 Major Joint & Limb Reattachment Procedures Of Upper Extremity      | 533        | 1.1      | 53.3               | 0.9                    | 2,376            |
| 21   | 055 Miscellaneous Ear, Nose, Mouth & Throat Procedures                 | 485        | 1.0      | 54.3               | 0.2                    | 582              |
| 22   | 545 Revision Of Hip Or Knee Replacement                                | 482        | 1.0      | 55.3               | 1.4                    | 3,700            |
| 23   | 090 Simple Pneumonia & Pleurisy Age >17 W/O Cc                         | 477        | 1.0      | 56.3               | 1.7                    | 4,389            |
| 24   | 316 Renal failure  | 420        | 0.9      | 57.1               | 1.6                    | 4,105            |
| 25   | 158 Anal & Stomal Procedures W/O Cc                                    | 413        | 0.9      | 58.0               | 0.5                    | 1,181            |
| 26   | 470 Ungroupable (cases which could not be assigned to valid DRGs)      | 396        | 0.8      | 58.8               | 0.6                    | 1,521            |
| 27   | 290 Thyroid Procedures   | 386        | 0.8      | 59.6               | 0.5                    | 1,198            |
| 28   | 373 Vaginal Delivery W/O Complicating Diagnoses                        | 362        | 0.7      | 60.4               | 0.5                    | 1,349            |
| 29   | 227 Soft Tissue Procedures W/O Cc                                      | 351        | 0.7      | 61.1               | 0.3                    | 711              |
| 30   | 538 Local Excis & Remove of Int Fix Dev Except Hip & Femur W/O Cc      | 348        | 0.7      | 61.8               | 0.3                    | 717              |
| 31   | 211 Hip & Femur Procedures Except Major Joint Age >17 W/O Cc           | 345        | 0.7      | 62.5               | 1.1                    | 2,796            |
| 32   | 014 Intracranial Hemorrhage Or Cerebral Infarction                     | 341        | 0.7      | 63.2               | 1.5                    | 3,985            |

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(Continued) Table S/26 – AIOp accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the Center of Italy, 2020

| Rank | DRG | Discharges |          | % in-hospital days | Average length of stay | In-hospital days |
|------|-----|------------|----------|--------------------|------------------------|------------------|
|      |     | Number     | % cumul. |                    |                        |                  |
| 33   | 297 | 331        | 0.7      | 63.9               | 0.7                    | 1,845            |
| 34   | 395 | 325        | 0.7      | 64.6               | 1.0                    | 2,656            |
| 35   | 467 | 325        | 0.7      | 65.2               | 0.1                    | 345              |
| 36   | 254 | 311        | 0.6      | 65.9               | 0.3                    | 792              |
| 37   | 160 | 294        | 0.6      | 66.5               | 0.3                    | 659              |
| 38   | 085 | 289        | 0.6      | 67.1               | 1.1                    | 2,751            |
| 39   | 183 | 269        | 0.6      | 67.6               | 0.7                    | 1,836            |
| 40   | 149 | 264        | 0.5      | 68.2               | 0.8                    | 2,070            |
| 41   | 335 | 260        | 0.5      | 68.7               | 0.6                    | 1,541            |
| 42   | 019 | 255        | 0.5      | 69.2               | 0.2                    | 575              |
| 43   | 305 | 252        | 0.5      | 69.7               | 0.3                    | 848              |
| 44   | 053 | 243        | 0.5      | 70.2               | 0.2                    | 2.1              |
| 45   | 147 | 238        | 0.5      | 70.7               | 0.4                    | 1,162            |
| 46   | 371 | 237        | 0.5      | 71.2               | 0.4                    | 930              |
| 47   | 500 | 230        | 0.5      | 71.7               | 0.4                    | 924              |
| 48   | 576 | 222        | 0.5      | 72.2               | 1.1                    | 2,871            |
| 49   | 309 | 217        | 0.4      | 72.6               | 0.3                    | 666              |
| 50   | 320 | 216        | 0.4      | 73.0               | 0.7                    | 8.6              |
| 51   | 229 | 214        | 0.4      | 73.5               | 0.1                    | 333              |
| 52   | 385 | 212        | 0.4      | 73.9               | 0.3                    | 713              |
| 53   | 189 | 200        | 0.4      | 74.3               | 0.2                    | 2.3              |
| 54   | 524 | 193        | 0.4      | 74.7               | 0.8                    | 458              |
| 55   | 313 | 187        | 0.4      | 75.1               | 0.1                    | 2,011            |
| 56   | 310 | 179        | 0.4      | 75.5               | 1.8                    | 332              |
| 57   | 208 | 167        | 0.3      | 75.8               | 0.3                    | 4.8              |
| 58   | 182 | 166        | 0.3      | 75.8               | 0.5                    | 851              |
| 59   | 210 | 166        | 0.3      | 76.2               | 0.6                    | 7.5              |
| 60   | 430 | 166        | 0.3      | 76.5               | 0.9                    | 1,256            |
|      |     | 166        | 0.3      | 76.5               | 0.9                    | 1,512            |
|      |     | 166        | 0.3      | 76.9               | 1.6                    | 2,455            |
|      |     | 37,313     | 76.9     | 76.9               |                        | 4,063            |
|      |     | 48,549     |          |                    |                        | 4.9              |
|      |     |            |          |                    |                        | 259,269          |

Source: processing by Ermeneta, based on data from AIOp

Table. S/27 – AIOF accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the South of Italy, 2020

| Rank | DRG   | Discharges |          | % in-hospital days | Average length of stay | In-hospital days |
|------|---|------------|----------|--------------------|------------------------|------------------|
|      |   | Number     | % cumul. |                    |                        |                  |
| 1    | 544 Major Joint Replacement or Reattachment of Lower Extremity          | 12,908     | 7.0      | 7.0                | 5.6                    | 72,753           |
| 2    | 371 Cesarean Section W/O Cc   | 10,884     | 5.9      | 12.8               | 3.8                    | 40,910           |
| 3    | 373 Vaginal Delivery W/O Complicating Diagnoses                         | 8,992      | 4.9      | 17.7               | 3.4                    | 30,199           |
| 4    | 125 Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag      | 4,926      | 2.7      | 20.4               | 2.3                    | 11,211           |
| 5    | 127 Heart Failure & Shock   | 4,848      | 2.6      | 23.0               | 2.8                    | 35,522           |
| 6    | 359 Uterine & Adnexa Proc For Non-Malignancy W/O Cc                     | 4,629      | 2.5      | 25.5               | 3.5                    | 16,173           |
| 7    | 494 Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc                      | 4,463      | 2.4      | 27.9               | 2.8                    | 12,349           |
| 8    | 558 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx | 3,665      | 2.0      | 29.9               | 2.9                    | 10,736           |
| 9    | 311 Transurethral Procedures W/O Cc                                     | 3,210      | 1.7      | 31.6               | 3.3                    | 10,568           |
| 10   | 288 O.R. Procedures For Obesity   | 3,043      | 1.6      | 33.2               | 4.0                    | 12,164           |
| 11   | 410 Chemotherapy W/O Acute Leukemia As Secondary Diagnosis              | 2,704      | 1.5      | 34.7               | 2.7                    | 7,390            |
| 12   | 087 Pulmonary Edema & Respiratory Failure                               | 2,413      | 1.3      | 36.0               | 8.0                    | 19,383           |
| 13   | 498 Spinal Fusion Except Cervical W/O Cc                                | 2,029      | 1.1      | 37.1               | 4.3                    | 8,794            |
| 14   | 337 Transurethral Prostatectomy W/O Cc                                  | 1,945      | 1.0      | 38.1               | 4.2                    | 8,153            |
| 15   | 305 Kidney And Ureter Procedures For Non-Neoplasm Without Cc            | 1,944      | 1.0      | 39.2               | 3.1                    | 6,107            |
| 16   | 104 Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath           | 1,933      | 1.0      | 40.2               | 10.3                   | 19,942           |
| 17   | 518 Perc Cardio Proc W/O Coronary Artery Stent Or Ami                   | 1,930      | 1.0      | 41.3               | 2.7                    | 5,131            |
| 18   | 467 Other Factors Influencing Health Status                             | 1,884      | 1.0      | 42.3               | 1.7                    | 3,170            |
| 19   | 120 Other Circulatory System O.R. Procedures                            | 1,861      | 1.0      | 43.3               | 3.1                    | 5,789            |
| 20   | 503 Knee Procedures W/O Pdx Of Infection                                | 1,785      | 1.0      | 44.3               | 1.7                    | 3,025            |
| 21   | 500 Back & Neck Procedures Except Spinal Fusion W/O Cc                  | 1,747      | 0.9      | 45.2               | 3.1                    | 5,488            |
| 22   | 224 Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc    | 1,706      | 0.9      | 46.1               | 2.4                    | 4,031            |
| 23   | 552 Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx           | 1,645      | 0.9      | 47.0               | 3.2                    | 5,248            |
| 24   | 479 Other Vascular Procedures W/O Cc                                    | 1,600      | 0.9      | 47.9               | 2.9                    | 4,712            |
| 25   | 316 Renal failure   | 1,595      | 0.9      | 48.7               | 0.8                    | 10,774           |
| 26   | 290 Thyroid Procedures  | 1,515      | 0.8      | 49.5               | 2.8                    | 4,181            |
| 27   | 012 Degenerative Nervous System Disorders                               | 1,490      | 0.8      | 50.3               | 6.6                    | 9,796            |
| 28   | 430 Psychoses   | 1,404      | 0.8      | 51.1               | 7.8                    | 10,984           |
| 29   | 082 Respiratory Neoplasms   | 1,219      | 0.7      | 51.8               | 5.3                    | 6,516            |
| 30   | 225 Foot Procedures   | 1,188      | 0.6      | 52.4               | 1.8                    | 2,195            |
| 31   | 260 Subtotal Mastectomy For Malignancy W/O Cc                           | 1,120      | 0.6      | 53.0               | 2.4                    | 2,679            |

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(Continued) Table S27 – AIOIP accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the South of Italy, 2020

| Rank | DRG   | Discharges |          | % in-hospital days | Average length of stay | In-hospital days |
|------|---|------------|----------|--------------------|------------------------|------------------|
|      |   | Number     | % cumul. |                    |                        |                  |
| 32   | 297 Nutritional & Misc Metabolic Disorders Age >17 W/O Cc               | 1,114      | 0.6      | 53.6               | 3.5                    | 3,866            |
| 33   | 381 Abortion W D&C, Aspiration Curettage Or Hysterotomy                 | 1,090      | 0.6      | 54.2               | 1.0                    | 1,044            |
| 34   | 145 Other Circulatory System Diagnoses W/O Cc                           | 1,039      | 0.6      | 54.8               | 4.2                    | 4,319            |
| 35   | 223 Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc       | 1,030      | 0.6      | 55.3               | 2.1                    | 2,191            |
| 36   | 149 Major Small & Large Bowel Procedures W/O Cc                         | 1,023      | 0.6      | 55.9               | 7.5                    | 7,649            |
| 37   | 016 Nonspecific Cerebrovascular Disorders W Cc                          | 1,012      | 0.5      | 56.4               | 6.2                    | 6,248            |
| 38   | 017 Nonspecific Cerebrovascular Disorders W/O Cc                        | 1,011      | 0.5      | 57.0               | 5.2                    | 5,230            |
| 39   | 491 Major Joint & Limb Reattachment Procedures Of Upper Extremity       | 1,005      | 0.5      | 57.5               | 4.7                    | 4,762            |
| 40   | 203 Malignancy Of Hepatobiliary System Or Pancreas                      | 996        | 0.5      | 58.0               | 6.6                    | 6,596            |
| 41   | 477 Non-extensive O.R. Proc Unrelated To Principal Diagnosis            | 993        | 0.5      | 58.6               | 3.3                    | 3,305            |
| 42   | 234 Other Musculoskel Sys & Conn Tiss O.R. Proc W/O Cc                  | 988        | 0.5      | 59.1               | 2.6                    | 2,520            |
| 43   | 315 Other kidney & urinary tract O.R. procedures                        | 972        | 0.5      | 59.6               | 3.2                    | 3,125            |
| 44   | 091 Simple Pneumonia & Pleurisy Age < 18                                | 943        | 0.5      | 60.1               | 8.9                    | 8,392            |
| 45   | 172 Digestive Malignancy W Cc   | 909        | 0.5      | 60.6               | 7.0                    | 6,399            |
| 46   | 545 Revision Of Hip Or Knee Replacement                                 | 858        | 0.5      | 61.1               | 7.8                    | 6,705            |
| 47   | 390 Neonate W Other Significant Problems                                | 856        | 0.5      | 61.6               | 3.9                    | 3,361            |
| 48   | 162 Inguinal & Femoral Hernia Procedures Age >17 W/O Cc                 | 855        | 0.5      | 62.0               | 1.9                    | 1,623            |
| 49   | 557 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx | 831        | 0.4      | 62.5               | 6.9                    | 5,722            |
| 50   | 212 Hip & Femur Procedures Except Major Joint Age >17 W/O Cc            | 779        | 0.4      | 62.9               | 7.5                    | 5,808            |
| 51   | 158 Anal & Stomal Procedures W/O Cc                                     | 758        | 0.4      | 63.3               | 2.3                    | 1,712            |
| 52   | 408 Myeloprolif Disord Or Poor Diff Neopl W/Other O.R. Proc             | 745        | 0.4      | 63.7               | 3.1                    | 2,302            |
| 53   | 183 Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc       | 741        | 0.4      | 64.1               | 4.4                    | 3,290            |
| 54   | 179 Inflammatory Bowel Disease  | 721        | 0.4      | 64.5               | 4.9                    | 3,545            |
| 55   | 139 Cardiac Arrhythmia & Conduction Disorders W/O Cc                    | 695        | 0.4      | 64.9               | 2.5                    | 1,760            |
| 56   | 189 Other Digestive System Diagnoses Age >17 W/O Cc                     | 689        | 0.4      | 65.2               | 2.9                    | 1,996            |
| 57   | 227 Soft Tissue Procedures W/O Cc                                       | 644        | 0.3      | 65.6               | 2.0                    | 1,303            |
| 58   | 151 Peritoneal Adhesiolysis W/O Cc                                      | 643        | 0.3      | 65.9               | 3.7                    | 2,400            |
| 59   | 524 Transient Ischemia  | 633        | 0.3      | 66.3               | 6.1                    | 3,884            |
| 60   | 577 Carotid artery stent procedure                                      | 628        | 0.3      | 66.6               | 2.7                    | 1,695            |
|      | Total (top 60 DRGs)   | 123,426    | 66.6     |                    | 4.2                    | 518,825          |
|      | Grand Total (South)   | 185,301    |          |                    | 4.7                    | 867,837          |

Source: processing by Ermeneta, based on data from AIOIP

Table S/28 – Total number of public and private healthcare facilities: top 30 DRGs according to the number of discharges (DRG Version 24.0) – Day hospital admissions for acute cases. 2019

| Rank | DRG   | Discharges |       | % cumulat. | % Accesses | Average number of accesses |
|------|---|------------|-------|------------|------------|----------------------------|
|      |   | Number     | %     |            |            |                            |
| 1    | 410 Chemotherapy W/O Acute Leukemia As Secondary Diagnosis            | 94,073     | 5.4   | 5.4        | 21.6       | 10.1                       |
| 2    | 359 Uterine & Adnexa Proc For Non-Malignancy W/O Cc                   | 88,911     | 5.1   | 10.4       | 2.5        | 1.3                        |
| 3    | 381 Abortion W D&C, Aspiration Curettage Or Hysterotomy               | 67,622     | 3.9   | 14.3       | 2.0        | 1.3                        |
| 4    | 162 Inguinal & Femoral Hernia Procedures Age >17 W/O Cc               | 63,872     | 3.6   | 18.0       | 1.9        | 1.3                        |
| 5    | 266 Skin Graft &/Or Debrid Except For Skin Ulcer Or Cellulitis W/O Cc | 52,872     | 3.0   | 21.0       | 1.8        | 1.5                        |
| 6    | 503 Knee Procedures W/O Pdx Of Infection                              | 41,681     | 2.4   | 23.4       | 1.2        | 1.3                        |
| 7    | 467 Other Factors Influencing Health Status                           | 41,314     | 2.4   | 25.7       | 1.8        | 2.0                        |
| 8    | 225 Foot Procedures   | 33,438     | 1.9   | 27.6       | 1.1        | 1.4                        |
| 9    | 229 Hand Or Wrist Proc, Except Major Joint Proc, W/O Cc               | 30,228     | 1.7   | 29.3       | 0.9        | 1.4                        |
| 10   | 538 Local Excis & Removal of Int Fix Dev Except Hip & Femur W/O Cc    | 29,500     | 1.7   | 31.0       | 0.9        | 1.3                        |
| 11   | 042 Intraocular Procedures Except Retina, Iris & Lens                 | 28,933     | 1.7   | 32.7       | 0.9        | 1.4                        |
| 12   | 055 Miscellaneous Ear, Nose, Mouth & Throat Procedures                | 28,887     | 1.6   | 34.3       | 0.9        | 1.4                        |
| 13   | 039 Lens Procedures With Or Without Vitrectomy                        | 27,969     | 1.6   | 35.9       | 1.1        | 1.8                        |
| 14   | 364 D&C, Conization Except For Malignancy                             | 27,587     | 1.6   | 37.5       | 0.8        | 1.3                        |
| 15   | 270 Other Skin, Subcut Tiss & Breast Proc W/O Cc                      | 26,765     | 1.5   | 39.0       | 0.8        | 1.4                        |
| 16   | 158 Anal & Stomal Procedures W/O Cc                                   | 25,118     | 1.4   | 40.5       | 0.8        | 1.3                        |
| 17   | 119 Vein Ligation & Stripping   | 22,956     | 1.3   | 41.8       | 0.7        | 1.3                        |
| 18   | 036 Retinal procedures  | 21,549     | 1.2   | 43.0       | 0.7        | 1.4                        |
| 19   | 380 Abortion W/O D&C  | 20,712     | 1.2   | 44.2       | 1.0        | 2.2                        |
| 20   | 169 Mouth Procedures W/O Cc   | 20,707     | 1.2   | 45.4       | 0.7        | 1.4                        |
| 21   | 395 Red Blood Cell Disorders Age >17                                  | 20,637     | 1.2   | 46.5       | 3.6        | 7.7                        |
| 22   | 466 Aftercare W/O History Of Malignancy As Secondary Diagnosis        | 19,361     | 1.1   | 47.7       | 1.2        | 2.7                        |
| 23   | 139 Cardiac Arrhythmia & Conduction Disorders W/O Cc                  | 17,452     | 1.0   | 48.6       | 0.5        | 1.3                        |
| 24   | 227 Soft Tissue Procedures W/O Cc                                     | 16,383     | 0.9   | 49.6       | 0.5        | 1.3                        |
| 25   | 365 Other Female Reproductive System O.R. Procedures                  | 15,827     | 0.9   | 50.5       | 0.4        | 1.0                        |
| 26   | 040 Extraocular Procedures Except Orbit Age >17                       | 15,216     | 0.9   | 51.4       | 0.5        | 1.4                        |
| 27   | 301 Endocrine Disorders W/O Cc  | 15,037     | 0.9   | 52.2       | 0.7        | 2.0                        |
| 28   | 339 Testes Procedures, Non-Malignancy Age >17                         | 14,460     | 0.8   | 53.0       | 0.4        | 1.3                        |
| 29   | 467 Perianal & Pilonidal Procedures                                   | 14,390     | 0.8   | 53.9       | 0.5        | 1.5                        |
| 30   | 461 O.R. Proc W Diagnoses of Other Contact W Health Services          | 13,637     | 0.8   | 54.6       | 0.4        | 1.2                        |
|      | Total (top 30 DRGs)   | 957,094    | 54.6  |            | 52.9       |                            |
|      | Grand Total   | 1,751,585  | 100.0 |            | 100.0      | 2.5                        |

Source: data from the Ministry of Health – SDO 2019

Table S/29 – Total number of public and private healthcare facilities: top 30 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for rehabilitation treatment, 2019

| Rank | DRG  | Discharges |       | % In-hospital days | Average length of stay |
|------|--|------------|-------|--------------------|------------------------|
|      |  | Number     | %     |                    |                        |
| 1    | 256 Other Musculoskeletal System & Connective Tissue Diagnoses | 90,363     | 28.9  | 19.6               | 17.8                   |
| 2    | 012 Degenerative Nervous System Disorders                      | 36,345     | 11.6  | 18.5               | 41.6                   |
| 3    | 249 Aftercare, Musculoskeletal System & Connective Tissue      | 26,941     | 8.6   | 9.0                | 27.3                   |
| 4    | 145 Other Circulatory System Diagnoses W/O Cc                  | 18,780     | 6.0   | 3.8                | 16.7                   |
| 5    | 144 Other Circulatory System Diagnoses W Cc                    | 14,535     | 4.6   | 3.5                | 19.5                   |
| 6    | 462 Rehabilitation   | 10,639     | 3.4   | 3.1                | 24.2                   |
| 7    | 009 Spinal Disorders & Injuries                                | 10,312     | 3.3   | 6.5                | 52.0                   |
| 8    | 247 Signs & Symptoms Of Musculoskeletal System & Conn Tissue   | 9,137      | 2.9   | 2.7                | 23.8                   |
| 9    | 087 Pulmonary Edema & Respiratory Failure                      | 8,260      | 2.6   | 2.4                | 24.2                   |
| 10   | 236 Fractures Of Hip & Pelvis                                  | 7,778      | 2.5   | 2.8                | 29.8                   |
| 11   | 430 Psychoses  | 7,766      | 2.5   | 7.0                | 28.7                   |
| 12   | 035 Other Disorders Of Nervous System W/O Cc                   | 6,909      | 2.2   | 3.2                | 37.5                   |
| 13   | 127 Heart Failure & Shock                                      | 6,024      | 1.9   | 8.1                | 19.7                   |
| 14   | 034 Other Disorders Of Nervous System W Cc                     | 4,596      | 1.5   | 2.3                | 41.6                   |
| 15   | 088 Chronic Obstructive Pulmonary Disease                      | 4,578      | 1.5   | 1.3                | 23.2                   |
| 16   | 245 Bone Diseases & Specific Arthropathies W/O Cc              | 3,154      | 1.0   | 8.5                | 18.2                   |
| 17   | 248 Tendinitis, Myositis & Bursitis                            | 2,914      | 0.9   | 0.9                | 26.6                   |
| 18   | 014 Intracranial Hemorrhage Or Cerebral Infarction             | 2,637      | 0.8   | 1.4                | 43.9                   |
| 19   | 243 Medical Back Problems                                      | 2,469      | 0.8   | 8.7                | 25.6                   |
| 20   | 428 Disorders Of Personality & Impulse Control                 | 2,424      | 0.8   | 1.0                | 32.2                   |
| 21   | 467 Other Factors Influencing Health Status                    | 2,395      | 0.8   | 0.6                | 20.9                   |
| 22   | 013 Multiple Sclerosis & Cerebellar Ataxia                     | 1,805      | 0.6   | 8.8                | 33.9                   |
| 23   | 297 Nutritional & Misc Metabolic Disorders Age >17 W/O Cc      | 1,622      | 0.5   | 0.5                | 25.1                   |
| 24   | 133 Atherosclerosis W/O Cc                                     | 1,592      | 0.5   | 9.0                | 17.2                   |
| 25   | 429 Organic Disturbances & Mental Retardation                  | 1,457      | 0.5   | 0.4                | 24.6                   |
| 26   | 019 Cranial & Peripheral Nerve Disorders W/O Cc                | 1,445      | 0.5   | 0.6                | 31.2                   |
| 27   | 023 Nontraumatic Stupor & Coma                                 | 1,376      | 0.4   | 9.2                | 93.4                   |
| 28   | 522 Alc/Drug Abuse Or Depend W Rehabilitation Therapy W/O Cc   | 1,250      | 0.4   | 9.6                | 24.7                   |
| 29   | 073 Other Ear, Nose, Mouth & Throat Diagnoses Age >17          | 1,221      | 0.4   | 9.0                | 12.4                   |
| 30   | 244 Bone Diseases & Specific Arthropathies W Cc                | 1,076      | 0.3   | 9.3                | 21.8                   |
|      | Total (top 30 DRGs)  | 291,800    | 93.3  | 93.3               |                        |
|      | Grand Total  | 312,678    | 100.0 | 100.0              | 26.2                   |

Source: data from the Ministry of Health – SDO 2019



Table S/30 – AIOF accredited hospitals: top 30 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for rehabilitation treatment, 2020

| Rank | DRG  | Discharges |          | % in-hospital days | Average length of stay | In-hospital days |
|------|--|------------|----------|--------------------|------------------------|------------------|
|      |  | Number     | % cumul. |                    |                        |                  |
| 1    | 256 Other Musculoskeletal System & Connective Tissue Diagnoses | 22,013     | 32.2     | 20.3               | 15.4                   | 339,763          |
| 2    | 012 Degenerative Nervous System Disorders                      | 6,293      | 9.2      | 15.4               | 41.0                   | 257,740          |
| 3    | 249 Aftercare, Musculoskeletal System & Connective Tissue      | 6,243      | 9.1      | 9.8                | 26.3                   | 164,271          |
| 4    | 145 Other Circulatory System Diagnoses W/O Cc                  | 5,208      | 7.6      | 5.5                | 17.5                   | 91,347           |
| 5    | 430 Psychoses  | 3,687      | 5.4      | 6.4                | 29.0                   | 106,884          |
| 6    | 144 Other Circulatory System Diagnoses W Cc                    | 2,006      | 2.9      | 2.3                | 19.3                   | 38,718           |
| 7    | 247 Signs & Symptoms Of Musculoskeletal System & Conn Tissue   | 1,967      | 2.9      | 3.3                | 27.7                   | 54,404           |
| 8    | 462 Rehabilitation   | 1,725      | 2.5      | 2.8                | 26.9                   | 46,400           |
| 9    | 245 Bone Diseases & Specific Arthropathies W/O Cc              | 1,673      | 2.4      | 2.1                | 20.9                   | 34,894           |
| 10   | 236 Fractures Of Hip & Pelvis                                  | 1,600      | 2.3      | 3.2                | 33.9                   | 54,285           |
| 11   | 087 Pulmonary Edema & Respiratory Failure                      | 1,171      | 1.7      | 1.7                | 24.5                   | 28,672           |
| 12   | 428 Disorders Of Personality & Impulse Control                 | 1,073      | 1.6      | 2.0                | 31.5                   | 33,784           |
| 13   | 009 Spinal Disorders & Injuries                                | 1,029      | 1.5      | 2.8                | 46.1                   | 47,400           |
| 14   | 035 Other Disorders Of Nervous System W/O Cc                   | 940        | 1.4      | 2.0                | 36.0                   | 33,866           |
| 15   | 523 Alc/Drug Abuse Or Depend W/O Rehabilitation Therapy W/O Cc | 862        | 1.3      | 1.4                | 27.3                   | 23,515           |
| 16   | 248 Tendonitis, Myositis & Bursitis                            | 754        | 1.1      | 1.1                | 24.9                   | 18,798           |
| 17   | 127 Heart Failure & Shock                                      | 753        | 1.1      | 0.9                | 20.2                   | 15,191           |
| 18   | 088 Chronic Obstructive Pulmonary Disease                      | 581        | 0.8      | 0.9                | 24.9                   | 14,468           |
| 19   | 034 Other Disorders Of Nervous System W Cc                     | 580        | 0.8      | 1.3                | 37.3                   | 21,637           |
| 20   | 467 Other Factors Influencing Health Status                    | 542        | 0.8      | 0.8                | 23.8                   | 12,880           |
| 21   | 297 Nutritional & Misc Metabolic Disorders Age >17 W/O Cc      | 463        | 0.7      | 0.6                | 22.1                   | 10,227           |
| 22   | 014 Intracranial Hemorrhage Or Cerebral Infarction             | 435        | 0.6      | 1.3                | 48.3                   | 21,014           |
| 23   | 243 Medical Back Problems                                      | 412        | 0.6      | 0.6                | 24.1                   | 9,946            |
| 24   | 019 Cranial & Peripheral Nerve Disorders W/O Cc                | 375        | 0.5      | 0.7                | 32.0                   | 12,009           |
| 25   | 522 Alc/Drug Abuse Or Depend W Rehabilitation Therapy W/O Cc   | 346        | 0.5      | 0.5                | 25.7                   | 8,897            |
| 26   | 133 Atherosclerosis W/O Cc                                     | 262        | 0.4      | 0.3                | 16.9                   | 4,428            |
| 27   | 426 Depressive Neuroses  | 242        | 0.4      | 0.4                | 29.6                   | 7,175            |
| 28   | 235 Fractures Of Femur   | 241        | 0.4      | 0.5                | 33.6                   | 8,107            |
| 29   | 429 Organic Disturbances & Mental Retardation                  | 228        | 0.3      | 0.4                | 26.3                   | 5,992            |
| 30   | 013 Multiple Sclerosis & Cerebellar Ataxia                     | 208        | 0.3      | 0.4                | 33.9                   | 7,057            |
|      | Total (top 30 DRGs)  | 63,912     | 93.5     |                    | 24.0                   | 1,533,769        |
|      | Grand Total  | 68,375     |          |                    | 24.5                   | 1,673,757        |

Source: processing by Ermeneta, based on data from AIOF

Table S/31 – Total number of public and private facilities: description of activities according to the Major Diagnostic Categories (MDC) – Inpatient admissions for acute cases, 2019

| MDC   | Number of cases  | %            | In-hospital days  | Average length of stay |
|---|------------------|--------------|-------------------|------------------------|
| 01 – Diseases and Disorders of the Nervous System                                       | 403,193          | 6.7          | 3,392,534         | 8.4                    |
| 02 – Diseases and Disorders of the Eye  | 59,183           | 1.0          | 177,680           | 3.0                    |
| 03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat                          | 190,462          | 3.2          | 592,742           | 3.1                    |
| 04 – Diseases and Disorders of the Respiratory System                                   | 603,096          | 10.0         | 5,877,718         | 9.7                    |
| 05 – Diseases and Disorders of the Circulatory System                                   | 863,505          | 14.3         | 6,222,673         | 7.2                    |
| 06 – Diseases and Disorders of the Digestive System                                     | 534,614          | 8.9          | 3,835,386         | 7.2                    |
| 07 – Diseases and Disorders of the Hepatobiliary System and Pancreas                    | 282,158          | 4.7          | 2,180,621         | 7.7                    |
| 08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue         | 792,307          | 13.2         | 4,994,802         | 6.3                    |
| 09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast                 | 169,570          | 2.8          | 723,436           | 4.3                    |
| 10 – Endocrine, Nutritional and Metabolic Diseases and Disorders                        | 158,244          | 2.6          | 835,570           | 5.3                    |
| 11 – Diseases and Disorders of the Kidney and Urinary Tract                             | 376,030          | 6.2          | 2,479,856         | 6.6                    |
| 12 – Diseases and Disorders of the Male Reproductive System                             | 107,447          | 1.8          | 486,654           | 4.5                    |
| 13 – Diseases and Disorders of the Female Reproductive System                           | 170,373          | 2.8          | 665,757           | 3.9                    |
| 14 – Pregnancy, Childbirth and the Puerperium   | 512,230          | 8.5          | 1,979,135         | 3.9                    |
| 15 – Newborns and other Neonates with Conditions Originating in Perinatal Period        | 101,617          | 1.7          | 811,252           | 8.0                    |
| 16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders | 66,469           | 1.1          | 536,553           | 8.1                    |
| 17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms           | 129,462          | 2.2          | 1,058,469         | 8.2                    |
| 18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites                   | 153,898          | 2.6          | 1,779,199         | 11.6                   |
| 19 – Mental Diseases and Disorders  | 133,392          | 2.2          | 1,580,912         | 11.9                   |
| 20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders                 | 13,017           | 0.2          | 104,330           | 8.0                    |
| 21 – Injuries, Poisonings and Toxic Effects of Drugs                                    | 47,553           | 0.8          | 305,638           | 6.4                    |
| 22 – Burns  | 3,581            | 0.1          | 51,096            | 14.3                   |
| 23 – Factors Influencing Health Status and Other Contacts with Health Services          | 86,987           | 1.4          | 380,078           | 4.4                    |
| 24 – Multiple Significant Trauma  | 9,351            | 0.2          | 135,062           | 14.5                   |
| 25 – H.I.V. infections  | 4,611            | 0.1          | 80,012            | 17.4                   |
| Other DRGs  | 21,051           | 0.3          | 170,283           | 8.1                    |
| Pre MDC   | 27,085           | 0.4          | 958,451           | 35.4                   |
| <b>Grand Total</b>  | <b>6,020,466</b> | <b>100.0</b> | <b>42,395,699</b> | <b>7.0</b>             |

Source: data from the Ministry of Health – SDO 2019

Table S/32 – Total number of public and private facilities: description of activities classified according to the Major Diagnostic Categories (MDC) – Day hospital admissions for acute cases, 2019

| MDC   | Number of cases  | %            | Accesses         | Average number of accesses |
|---|------------------|--------------|------------------|----------------------------|
| 01 – Diseases and Disorders of the Nervous System                                       | 70,144           | 4.0          | 178,095          | 2.5                        |
| 02 – Diseases and Disorders of the Eye  | 112,245          | 6.4          | 176,937          | 1.6                        |
| 03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat                          | 112,608          | 6.4          | 179,304          | 1.6                        |
| 04 – Diseases and Disorders of the Respiratory System                                   | 32,195           | 1.8          | 91,851           | 2.9                        |
| 05 – Diseases and Disorders of the Circulatory System                                   | 99,950           | 5.7          | 186,461          | 1.9                        |
| 06 – Diseases and Disorders of the Digestive System                                     | 152,122          | 8.7          | 243,668          | 1.6                        |
| 07 – Diseases and Disorders of the Hepatobiliary System and Pancreas                    | 22,451           | 1.3          | 76,342           | 3.4                        |
| 08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue         | 239,551          | 13.7         | 432,455          | 1.8                        |
| 09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast                 | 148,469          | 8.5          | 258,664          | 1.7                        |
| 10 – Endocrine, Nutritional and Metabolic Diseases and Disorders                        | 48,134           | 2.7          | 110,356          | 2.3                        |
| 11 – Diseases and Disorders of the Kidney and Urinary Tract                             | 62,622           | 3.6          | 157,254          | 2.5                        |
| 12 – Diseases and Disorders of the Male Reproductive System                             | 63,991           | 3.7          | 90,362           | 1.4                        |
| 13 – Diseases and Disorders of the Female Reproductive System                           | 158,998          | 9.1          | 203,055          | 1.3                        |
| 14 – Pregnancy, Childbirth and the Puerperium   | 93,294           | 5.3          | 145,877          | 1.6                        |
| 15 – Newborns and other Neonates with Conditions Originating in Perinatal Period        | 1,612            | 0.1          | 3,661            | 2.3                        |
| 16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders | 40,536           | 2.3          | 247,098          | 6.1                        |
| 17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms           | 142,454          | 8.1          | 1,192,298        | 8.4                        |
| 18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites                   | 5,498            | 0.3          | 23,951           | 4.4                        |
| 19 – Mental Diseases and Disorders  | 35,793           | 2.0          | 170,348          | 4.8                        |
| 20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders                 | 608              | 0.0          | 6,204            | 10.2                       |
| 21 – Injuries, Poisonings and Toxic Effects of Drugs                                    | 9,877            | 0.6          | 28,076           | 2.8                        |
| 22 – Burns  | 338              | 0.0          | 1,577            | 4.7                        |
| 23 – Factors Influencing Health Status and Other Contacts with Health Services          | 89,113           | 5.1          | 181,960          | 2.0                        |
| 24 – Multiple Significant Trauma  | 2                | 0.0          | 16               | 8.0                        |
| 25 – H.I.V. infections  | 6,839            | 0.4          | 28,014           | 4.1                        |
| Other DRGs  | 2,075            | 0.1          | 4,520            | 2.2                        |
| Pre MDC   | 66               | 0.0          | 198              | 3.0                        |
| <b>Grand Total</b>  | <b>1,751,585</b> | <b>100.0</b> | <b>4,418,602</b> | <b>2.5</b>                 |

Source: data from the Ministry of Health – SDO 2019

Table S/33 – Total number of public and private facilities: description of activities classified according to the Major Diagnostic Categories (MDC) – Inpatient admissions for rehabilitation treatment, 2019

| MDC   | Number of cases | %            | In-hospital days | Average length of stay |
|---|-----------------|--------------|------------------|------------------------|
| 01 – Diseases and Disorders of the Nervous System                                       | 69,642          | 22.3         | 3,019,937        | 43.4                   |
| 02 – Diseases and Disorders of the Eye  | 53              | 0.0          | 423              | 8.0                    |
| 03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat                          | 1,252           | 0.4          | 15,644           | 12.5                   |
| 04 – Diseases and Disorders of the Respiratory System                                   | 16,088          | 5.1          | 372,431          | 23.1                   |
| 05 – Diseases and Disorders of the Circulatory System                                   | 45,491          | 14.5         | 830,770          | 18.3                   |
| 06 – Diseases and Disorders of the Digestive System                                     | 130             | 0.0          | 2,745            | 21.1                   |
| 07 – Diseases and Disorders of the Hepatobiliary System and Pancreas                    | 36              | 0.0          | 619              | 17.2                   |
| 08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue         | 146,360         | 46.8         | 3,081,292        | 21.1                   |
| 09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast                 | 271             | 0.1          | 6,693            | 24.7                   |
| 10 – Endocrine, Nutritional and Metabolic Diseases and Disorders                        | 2,343           | 0.7          | 58,730           | 25.1                   |
| 11 – Diseases and Disorders of the Kidney and Urinary Tract                             | 517             | 0.2          | 4,651            | 9.0                    |
| 12 – Diseases and Disorders of the Male Reproductive System                             | 10              | 0.0          | 214              | 21.4                   |
| 13 – Diseases and Disorders of the Female Reproductive System                           | 0               | 0.0          | 0                | 0.0                    |
| 14 – Pregnancy, Childbirth and the Puerperium   | 1               | 0.0          | 21               | 21.0                   |
| 15 – Newborns and other Neonates with Conditions Originating in Perinatal Period        | 6               | 0.0          | 105              | 17.5                   |
| 16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders | 33              | 0.0          | 535              | 16.2                   |
| 17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms           | 47              | 0.0          | 1,161            | 24.7                   |
| 18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites                   | 90              | 0.0          | 2,576            | 28.6                   |
| 19 – Mental Diseases and Disorders  | 13,587          | 4.3          | 393,973          | 29.0                   |
| 20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders                 | 2,466           | 0.8          | 56,647           | 23.0                   |
| 21 – Injuries, Poisonings and Toxic Effects of Drugs                                    | 200             | 0.1          | 5,390            | 27.0                   |
| 22 – Burns  | 4               | 0.0          | 93               | 23.3                   |
| 23 – Factors Influencing Health Status and Other Contacts with Health Services          | 13,447          | 4.3          | 316,714          | 23.6                   |
| 24 – Multiple Significant Trauma  | 116             | 0.0          | 4,587            | 39.5                   |
| 25 – H.I.V. infections  | 4               | 0.0          | 291              | 72.8                   |
| Other DRGs  | 470             | 0.2          | 12,985           | 27.6                   |
| Pre MDC   | 14              | 0.0          | 555              | 39.6                   |
| <b>Grand Total</b>  | <b>312,678</b>  | <b>100.0</b> | <b>8,189,782</b> | <b>26.2</b>            |

Source: data from the Ministry of Health – SDO 2019

Table S/34 – Total number of public and private facilities: description of activities classified according to the Major Diagnostic Categories (MDC) – Day hospital admissions for rehabilitation treatment. 2019

| MDC   | Number of cases | %            | Accesses       | Average number of accesses |
|---|-----------------|--------------|----------------|----------------------------|
| 01 – Diseases and Disorders of the Nervous System                                       | 11,411          | 40.0         | 182,701        | 16.0                       |
| 02 – Diseases and Disorders of the Eye  | 14              | 0.0          | 72             | 5.1                        |
| 03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat                          | 20              | 0.1          | 218            | 10.9                       |
| 04 – Diseases and Disorders of the Respiratory System                                   | 1,133           | 4.0          | 14,399         | 12.7                       |
| 05 – Diseases and Disorders of the Circulatory System                                   | 3,608           | 12.6         | 49,642         | 13.8                       |
| 06 – Diseases and Disorders of the Digestive System                                     | 270             | 0.9          | 1,571          | 5.8                        |
| 07 – Diseases and Disorders of the Hepatobiliary System and Pancreas                    | 0               | 0.0          | 0              | 0.0                        |
| 08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue         | 5,386           | 18.9         | 113,897        | 21.1                       |
| 09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast                 | 54              | 0.2          | 636            | 11.8                       |
| 10 – Endocrine, Nutritional and Metabolic Diseases and Disorders                        | 177             | 0.6          | 2,166          | 12.2                       |
| 11 – Diseases and Disorders of the Kidney and Urinary Tract                             | 226             | 0.8          | 2,378          | 10.5                       |
| 12 – Diseases and Disorders of the Male Reproductive System                             | 0               | 0.0          | 0              | 0.0                        |
| 13 – Diseases and Disorders of the Female Reproductive System                           | 23              | 0.1          | 656            | 28.5                       |
| 14 – Pregnancy, Childbirth and the Puerperium   | 0               | 0.0          | 0              | 0.0                        |
| 15 – Newborns and other Neonates with Conditions Originating in Perinatal Period        | 6               | 0.0          | 147            | 24.5                       |
| 16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders | 3               | 0.0          | 13             | 4.3                        |
| 17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms           | 5               | 0.0          | 60             | 12.0                       |
| 18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites                   | 5               | 0.0          | 43             | 8.6                        |
| 19 – Mental Diseases and Disorders  | 2,316           | 8.1          | 24,228         | 10.5                       |
| 20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders                 | 0               | 0.0          | 0              | 0.0                        |
| 21 – Injuries, Poisonings and Toxic Effects of Drugs                                    | 11              | 0.0          | 157            | 14.3                       |
| 22 – Burns  | 0               | 0.0          | 0              | 0.0                        |
| 23 – Factors Influencing Health Status and Other Contacts with Health Services          | 3,854           | 13.5         | 58,236         | 15.1                       |
| 24 – Multiple Significant Trauma  | 2               | 0.0          | 63             | 31.5                       |
| 25 – H.I.V. infections  | 0               | 0.0          | 0              | 0.0                        |
| Other DRGs  | 3               | 0.0          | 29             | 9.7                        |
| Pre MDC   | 0               | 0.0          | 0              | 0.0                        |
| <b>Grand Total</b>  | <b>28,527</b>   | <b>100.0</b> | <b>451,312</b> | <b>15.8</b>                |

Source: data from the Ministry of Health – SDO 2019

Table S/35 — Total number of public and private facilities: description of activities classified according to the Major Diagnostic Categories (MDC) – Long-stay care admissions, 2019

| MDC   | Number of cases | %            | In-hospital days | Average length of stay |
|---|-----------------|--------------|------------------|------------------------|
| 01 – Diseases and Disorders of the Nervous System                                       | 14,232          | 14.4         | 406,389          | 28.6                   |
| 02 – Diseases and Disorders of the Eye  | 52              | 0.1          | 1,353            | 26.0                   |
| 03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat                          | 276             | 0.3          | 6,586            | 23.9                   |
| 04 – Diseases and Disorders of the Respiratory System                                   | 13,038          | 13.2         | 264,293          | 20.3                   |
| 05 – Diseases and Disorders of the Circulatory System                                   | 10,559          | 10.7         | 240,522          | 22.8                   |
| 06 – Diseases and Disorders of the Digestive System                                     | 3,360           | 3.4          | 72,313           | 21.5                   |
| 07 – Diseases and Disorders of the Hepatobiliary System and Pancreas                    | 2,306           | 2.3          | 46,408           | 20.1                   |
| 08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue         | 26,021          | 26.3         | 698,806          | 26.9                   |
| 09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast                 | 1,521           | 1.5          | 37,143           | 24.4                   |
| 10 – Endocrine, Nutritional and Metabolic Diseases and Disorders                        | 2,197           | 2.2          | 46,468           | 21.2                   |
| 11 – Diseases and Disorders of the Kidney and Urinary Tract                             | 3,367           | 3.4          | 71,269           | 21.2                   |
| 12 – Diseases and Disorders of the Male Reproductive System                             | 228             | 0.2          | 5,054            | 22.2                   |
| 13 – Diseases and Disorders of the Female Reproductive System                           | 186             | 0.2          | 3,913            | 21.0                   |
| 14 – Pregnancy, Childbirth and the Puerperium   | 14              | 0.0          | 424              | 30.3                   |
| 15 – Newborns and other Neonates with Conditions Originating in Perinatal Period        | 27              | 0.0          | 1,134            | 42.0                   |
| 16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders | 1,100           | 1.1          | 22,023           | 20.0                   |
| 17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms           | 1,067           | 1.1          | 24,278           | 22.8                   |
| 18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites                   | 3,462           | 3.5          | 89,989           | 26.0                   |
| 19 – Mental Diseases and Disorders  | 3,702           | 3.7          | 118,053          | 31.9                   |
| 20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders                 | 328             | 0.3          | 8,172            | 24.9                   |
| 21 – Injuries, Poisonings and Toxic Effects of Drugs                                    | 848             | 0.9          | 21,246           | 25.1                   |
| 22 – Burns  | 22              | 0.0          | 559              | 25.4                   |
| 23 – Factors Influencing Health Status and Other Contacts with Health Services          | 10,670          | 10.8         | 225,665          | 21.1                   |
| 24 – Multiple Significant Trauma  | 81              | 0.1          | 2,553            | 31.5                   |
| 25 – H.I.V. infections  | 13              | 0.0          | 402              | 30.9                   |
| Other DRGs  | 80              | 0.1          | 2,086            | 26.1                   |
| Pre MDC   | 18              | 0.0          | 1,219            | 67.7                   |
| <b>Grand Total</b>  | <b>98,775</b>   | <b>100.0</b> | <b>2,418,320</b> | <b>24.5</b>            |

Source: data from the Ministry of Health – SDO 2019

Table S/36 – Activities of private hospitals<sup>1</sup> (accredited healthcare facilities) classified according to specialty, Year 2019 (National Data)

| Specialty                                     | Total        |                  |                        |                  | AIOF-associated Private hospitals (accredited healthcare facilities) |                  |                        |                  |
|---|--------------|------------------|------------------------|------------------|--|------------------|------------------------|------------------|
|   | Patient beds | In-hospital days | Average length of stay | Occupancy rate % | Patient beds   | In-hospital days | Average length of stay | Occupancy rate % |
| Angiology                                     | 25           | 332              | 3.7                    | 13.4             | 25   | 1,223            | 3.7                    | 13.4             |
| Casualty department                           | 37           | 1,369            | 7.8                    | 78.7             | 347  | 18,653           | 5.5                    | 80.7             |
| Heart Surgery                                 | 492          | 24,669           | 5.8                    | 79.5             | 956  | 57,624           | 4.0                    | 66.2             |
| Cardiology                                    | 1,325        | 81,392           | 3.9                    | 66.2             | 3,323  | 108,078          | 4.2                    | 37.8             |
| General Surgery                               | 4,216        | 131,819          | 4.2                    | 36.0             | 47   | 857              | 2.7                    | 13.6             |
| Maxillofacial surgery                         | 55           | 2,185            | 1.8                    | 18.8             | 21   | 1,043            | 5.8                    | 78.4             |
| Pediatric surgery                             | 18           | 67               | 3.4                    | 3.5              | 29   | 1,226            | 4.7                    | 54.0             |
| Plastic surgery                               | 42           | 1,757            | 7.668                  | 50.0             | 199  | 8,199            | 5.1                    | 58.0             |
| Thoracic surgery                              | 45           | 1,973            | 9.592                  | 58.4             | 341  | 2,528            | 7.4                    | 31.5             |
| Vascular surgery                              | 289          | 11,730           | 5.1                    | 56.4             | 344  | 9,566            | 9.0                    | 68.5             |
| Gastroenterology                              | 36           | 829              | 7.8                    | 49.1             | 2,994  | 35,740           | 24.4                   | 79.9             |
| Geriatrics                                    | 459          | 14,511           | 8.3                    | 72.1             | 40   | 889              | 7.7                    | 46.8             |
| Long-stay care pts                            | 4,193        | 1,210,941        | 26.1                   | 79.1             | 40   | 889              | 7.7                    | 46.8             |
| Endocrine, nutritional and metabolic diseases | 42           | 920              | 6.938                  | 45.3             | 3,458  | 99,505           | 8.0                    | 63.2             |
| General medicine                              | 4,352        | 122,963          | 998,935                | 62.9             | 60   | 1,636            | 5.3                    | 39.7             |
| Nephrology                                    | 109          | 2,885            | 15,482                 | 38.9             | 39   | 1,075            | 4.9                    | 37.0             |
| Neonatology                                   | 122          | 4,456            | 22,830                 | 51.3             | 140  | 6,909            | 4.5                    | 60.9             |
| Neurosurgery                                  | 190          | 9,018            | 40,540                 | 58.5             | 261  | 6,416            | 6.1                    | 41.3             |
| Neurology                                     | 380          | 10,283           | 63,829                 | 46.0             | 139  | 900              | 45.9                   | 81.4             |
| Neurological rehabilitation                   | 360          | 1,807            | 101,034                | 55.9             | 145  | 5,642            | 3.7                    | 39.9             |
| Day nursery                                   | 185          | 6,357            | 23,265                 | 34.5             | 179  | 1,609            | 3.1                    | 7.7              |
| Ophthalmology                                 | 247          | 3,160            | 8,009                  | 8.9              | 21   | 778              | 9.9                    | 100.3            |
| Oncohematology                                | 23           | 805              | 7,850                  | 93.5             | 201  | 7,954            | 6.2                    | 67.2             |
| Oncology                                      | 255          | 8,819            | 55,455                 | 59.6             | 3,787  | 168,768          | 4.3                    | 52.6             |
| Orthopedics and Traumatology                  | 4,546        | 198,854          | 856,839                | 51.6             | 969  | 41,282           | 4.5                    | 52.1             |
| Obstetrics and gynaecology                    | 1,534        | 69,861           | 289,920                | 51.8             | 315  | 8,989            | 3.5                    | 27.2             |
| Otorhinolaryngology                           | 437          | 11,726           | 36,929                 | 23.2             | 14   | 767              | 4.7                    | 71.3             |
| Pediatrics                                    | 72           | 3,275            | 20,498                 | 78.0             | 142  | 3,177            | 8.8                    | 54.2             |
| Pneumology                                    | 195          | 4,592            | 39,782                 | 55.9             | 742  | 11,718           | 17.7                   | 76.5             |
| Psychiatry                                    | 792          | 12,969           | 218,619                | 75.6             |  |                  |                        |                  |

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(Continued) Table S/36 – Activities of private hospitals<sup>1</sup> (accredited healthcare facilities) classified according to specialty, Year 2019 (National Data)

| Specialty                              | Total         |                  |                  |                        | AOP-associated Private hospitals (accredited healthcare facilities) |               |                |                  |                        |                  |
|--|---------------|------------------|------------------|------------------------|---|---------------|----------------|------------------|------------------------|------------------|
|  | Patient beds  | Inpatients       | In-hospital days | Average length of stay | Occupancy rate %  | Patient beds  | Inpatients     | In-hospital days | Average length of stay | Occupancy rate % |
| Radiation Therapy                      | 10            | 32               | 282              | 8.8                    | 7.7   | 10            | 32             | 282              | 8.8                    | 7.7              |
| Oncological radiotherapy               | 4             | 190              | 1,300            | 6.8                    | 89.0  | 1             | 139            | 544              | 3.9                    | 149.0            |
| Functional recovery and rehabilitation | 12,326        | 169,564          | 3,900,129        | 23.0                   | 86.7  | 7,724         | 113,443        | 2,499,080        | 22.0                   | 88.6             |
| Rheumatology                           | 52            | 1,369            | 11,813           | 8.6                    | 62.2  | 52            | 1,369          | 11,813           | 8.6                    | 62.2             |
| Pain therapy                           | 6             | 178              | 1,039            | 5.8                    | 47.4  | 6             | 178            | 1,039            | 5.8                    | 47.4             |
| Intensive care                         | 398           | 20,348           | 83,513           | 4.1                    | 57.5  | 215           | 14,042         | 50,686           | 3.6                    | 64.6             |
| Neonatal intensive care                | 51            | 706              | 6,344            | 9.0                    | 34.1  | 8             | 133            | 2,076            | 15.6                   | 71.1             |
| Coronary care unit                     | 166           | 11,356           | 45,227           | 4.0                    | 74.6  | 92            | 6,231          | 26,695           | 4.3                    | 79.5             |
| Spinal care unit                       | 39            | 144              | 10,127           | 70.3                   | 71.1  | 4             | 9              | 671              | 74.6                   | 46.0             |
| Urology                                | 1,027         | 40,123           | 176,356          | 4.4                    | 47.0  | 846           | 31,175         | 144,671          | 4.6                    | 46.9             |
| <b>Totals</b>                          | <b>39,152</b> | <b>1,014,989</b> | <b>9,491,414</b> | <b>9.4</b>             | <b>66.4</b>   | <b>27,917</b> | <b>760,896</b> | <b>6,742,635</b> | <b>8.9</b>             | <b>66.2</b>      |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: processing by Ermeneia, based on data from the Ministry of Health



Table S/58 – Activities of private hospitals<sup>1</sup> (accredited healthcare facilities) classified according to specialty, Year 2019 (North)

| Specialty                              | Total         |                  |                        |                  | A/OP-associated Private hospitals (accredited healthcare facilities) |                  |                        |                  |
|--|---------------|------------------|------------------------|------------------|--|------------------|------------------------|------------------|
|  | Patient beds  | In-hospital days | Average length of stay | Occupancy rate % | Patient beds   | In-hospital days | Average length of stay | Occupancy rate % |
| Heart Surgery                          | 242           | 12,208           | 73,049                 | 6.0              | 194  | 10,449           | 58,860                 | 83.1             |
| Cardiology                             | 495           | 29,469           | 122,456                | 4.2              | 413  | 24,502           | 103,560                | 68.7             |
| General Surgery                        | 1,266         | 47,843           | 172,633                | 3.6              | 986  | 39,851           | 141,825                | 39.4             |
| Maxillofacial surgery                  | 30            | 466              | 1,090                  | 10.0             | 30   | 466              | 1,090                  | 10.0             |
| Plastic surgery                        | 26            | 756              | 2,519                  | 3.3              | 14   | 552              | 2,205                  | 43.2             |
| Thoracic surgery                       | 20            | 564              | 2,842                  | 5.0              | 20   | 564              | 2,842                  | 38.9             |
| Vascular surgery                       | 142           | 7,124            | 37,076                 | 5.2              | 102  | 5,445            | 29,920                 | 5.5              |
| Gastroenterology                       | 2             | 15               | 108                    | 7.2              | 2  | 15               | 108                    | 14.8             |
| Geriatrics                             | 169           | 7,184            | 56,624                 | 7.9              | 114  | 3,909            | 39,244                 | 94.3             |
| Long-stay care pts                     | 2,188         | 27,976           | 639,432                | 22.9             | 1,594  | 23,496           | 498,126                | 21.2             |
| General medicine                       | 1,851         | 48,196           | 438,666                | 9.1              | 1,475  | 37,851           | 352,054                | 65.4             |
| Nephrology                             | 10            | 340              | 2,417                  | 7.1              |  |                  |                        |                  |
| Neonatology                            | 36            | 2,617            | 13,235                 | 5.1              |  |                  |                        |                  |
| Neurosurgery                           | 79            | 4,798            | 22,393                 | 4.7              | 59   | 3,402            | 15,427                 | 71.6             |
| Neurology                              | 157           | 4,945            | 30,610                 | 6.2              | 117  | 2,996            | 20,825                 | 48.8             |
| Neurological rehabilitation            | 222           | 963              | 47,966                 | 49.8             | 109  | 694              | 33,190                 | 83.4             |
| Ophthalmology                          | 56            | 991              | 2,900                  | 2.9              | 31   | 789              | 2,199                  | 19.4             |
| Oncology                               | 83            | 1,425            | 12,189                 | 8.6              | 35   | 656              | 7,197                  | 56.3             |
| Orthopedics and Traumatology           | 1,901         | 106,374          | 447,192                | 4.2              | 1,529  | 91,131           | 386,690                | 69.3             |
| Obstetrics and gynaecology             | 337           | 14,654           | 52,779                 | 3.6              | 192  | 6,041            | 19,229                 | 27.4             |
| Otorhinolaryngology                    | 165           | 7,467            | 15,505                 | 2.1              | 126  | 5,945            | 12,469                 | 27.1             |
| Pediatrics                             | 72            | 3,275            | 20,498                 | 6.3              | 14   | 767              | 3,641                  | 71.3             |
| Pneumology                             | 49            | 605              | 8,137                  | 13.4             | 33   | 536              | 7,458                  | 61.9             |
| Psychiatry                             | 585           | 8,542            | 167,875                | 19.7             | 585  | 8,542            | 167,875                | 78.6             |
| Functional recovery and rehabilitation | 6,326         | 92,288           | 2,012,891              | 21.8             | 3,928  | 60,663           | 1,270,146              | 88.6             |
| Intensive care                         | 194           | 10,738           | 39,997                 | 3.7              | 132  | 8,568            | 31,702                 | 65.8             |
| Neonatal intensive care                | 18            | 475              | 3,498                  | 7.4              |  |                  |                        |                  |
| Coronary care unit                     | 33            | 2,338            | 6,716                  | 2.9              | 22   | 1,118            | 3,606                  | 44.9             |
| Spinal care unit                       | 14            | 22               | 1,637                  | 74.4             | 4  | 9                | 671                    | 46.0             |
| Urology                                | 376           | 16,382           | 63,957                 | 3.9              | 307  | 13,056           | 50,945                 | 45.5             |
| <b>Total</b>                           | <b>17,144</b> | <b>452,015</b>   | <b>4,518,887</b>       | <b>10.0</b>      | <b>12,167</b>  | <b>344,972</b>   | <b>3,263,104</b>       | <b>73.5</b>      |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification. Source: processing by Ermeneta, based on data from the Ministry of Health

Table S/59 – Activities of private hospitals<sup>1</sup> (accredited healthcare facilities) classified according to specialty: Year 2019 (Center)

| Specialty                                     | Total        |                |                  |                        | AOP-associated Private hospitals (accredited healthcare facilities) |              |                |                  |                        |                  |
|---|--------------|----------------|------------------|------------------------|---|--------------|----------------|------------------|------------------------|------------------|
|   | Patient beds | Inpatients     | In-hospital days | Average length of stay | Occupancy rate %  | Patient beds | Inpatients     | In-hospital days | Average length of stay | Occupancy rate % |
| Angiology                                     | 25           | 332            | 1,223            | 3.7                    | 13.4  | 25           | 332            | 1,223            | 3.7                    | 13.4             |
| Casualty department                           | 37           | 1,369          | 10,635           | 7.8                    | 78.7  |              |                |                  |                        |                  |
| Heart Surgery                                 | 22           | 1,226          | 6,938            | 5.7                    | 86.4  |              |                |                  |                        |                  |
| Cardiology                                    | 87           | 6,843          | 25,126           | 3.7                    | 79.1  | 24           | 956            | 5,700            | 6.0                    | 65.1             |
| General Surgery                               | 747          | 21,361         | 83,334           | 3.9                    | 30.6  | 604          | 18,094         | 67,140           | 3.7                    | 30.5             |
| Plastic surgery                               | 4            | 231            | 459              | 2.0                    | 31.4  |              |                |                  |                        |                  |
| Geriatrics                                    | 26           | 638            | 5,204            | 8.2                    | 54.8  | 26           | 638            | 5,204            | 8.2                    | 54.8             |
| Long-stay care pts                            | 1,052        | 11,088         | 350,555          | 31.6                   | 91.3  | 569          | 6,094          | 178,845          | 29.3                   | 86.1             |
| Endocrine, nutritional and metabolic diseases | 10           | 43             | 517              | 12.0                   | 14.2  | 10           | 43             | 517              | 12.0                   | 14.2             |
| General medicine                              | 1,103        | 30,653         | 265,314          | 8.7                    | 65.9  | 917          | 25,928         | 219,483          | 8.5                    | 65.6             |
| Nephrology                                    | 52           | 720            | 4,261            | 5.9                    | 22.4  | 32           | 688            | 3,613            | 5.3                    | 30.9             |
| Neonatology                                   | 33           | 497            | 2,150            | 4.3                    | 17.8  | 2            | 9              | 22               | 2.4                    | 3.0              |
| Neurosurgery                                  | 24           | 846            | 3,229            | 3.8                    | 36.9  | 10           | 555            | 2,084            | 3.8                    | 57.1             |
| Neurology                                     | 8            | 226            | 1,270            | 5.6                    | 43.5  |              |                |                  |                        |                  |
| Neurological rehabilitation                   | 75           | 317            | 33,605           | 106.0                  | 122.8   |              |                |                  |                        |                  |
| Ophthalmology                                 | 44           | 341            | 881              | 2.6                    | 5.5   | 42           | 275            | 747              | 2.7                    | 4.9              |
| Oncology                                      | 35           | 1,210          | 6,652            | 5.5                    | 52.1  | 35           | 1,210          | 6,652            | 6                      | 52               |
| Orthopedics and Traumatology                  | 1,034        | 42,225         | 170,759          | 4.0                    | 45.2  | 897          | 37,190         | 145,807          | 3.9                    | 44.5             |
| Obstetrics and gynaecology                    | 233          | 11,671         | 39,457           | 3.4                    | 46.4  | 112          | 3,636          | 12,428           | 3.4                    | 30.4             |
| Otorhinolaryngology                           | 64           | 967            | 1,820            | 1.9                    | 7.8   | 52           | 808            | 1,635            | 2.0                    | 8.6              |
| Pneumology                                    | 24           | 707            | 5,306            | 7.5                    | 60.6  | 24           | 707            | 5,306            | 7.5                    | 60.6             |
| Psychiatry                                    | 82           | 1,018          | 21,528           | 21.1                   | 71.9  | 82           | 1,018          | 21,528           | 21.1                   | 71.9             |
| Functional recovery and rehabilitation        | 2,428        | 29,314         | 741,414          | 25.3                   | 83.7  | 1,282        | 17,746         | 407,506          | 23                     | 87               |
| Intensive care                                | 39           | 2,080          | 9,100            | 4.4                    | 63.9  | 4            | 696            | 1,220            | 1.8                    | 83.6             |
| Neonatal intensive care                       | 16           | 86             | 529              | 6.2                    | 9.1   |              |                |                  |                        |                  |
| Coronary care unit                            | 33           | 2,107          | 8,167            | 3.9                    | 67.8  | 7            | 454            | 2,236            | 4.9                    | 87.5             |
| Urology                                       | 143          | 6,157          | 20,538           | 3.3                    | 39.3  | 114          | 4,654          | 15,726           | 3.4                    | 37.8             |
| <b>Total</b>                                  | <b>7,480</b> | <b>170,787</b> | <b>1,819,971</b> | <b>10.7</b>            | <b>66.7</b>   | <b>4,870</b> | <b>119,297</b> | <b>1,104,622</b> | <b>9.3</b>             | <b>62.1</b>      |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification. Source: processing by Ermeneta, based on data from the Ministry of Health

Table S/60 – Activities of private hospitals' (accredited healthcare facilities) classified according to specialty. Year 2019 (South)

| Specialty                                     | Total        |                  |                        |                  |              | AIOP-associated Private hospitals (accredited healthcare facilities) |                  |                        |                  |  |
|---|--------------|------------------|------------------------|------------------|--------------|--|------------------|------------------------|------------------|--|
|   | Patient beds | In-hospital days | Average length of stay | Occupancy rate % | Patient beds | In-patients  | In-hospital days | Average length of stay | Occupancy rate % |  |
| Heart Surgery                                 | 228          | 11,235           | 5.6                    | 75.5             | 153          | 8,204  | 43,336           | 5.3                    | 77.6             |  |
| Cardiology                                    | 743          | 45,080           | 3.8                    | 63.6             | 519          | 32,166   | 121,900          | 3.8                    | 64.3             |  |
| General Surgery                               | 2,203        | 62,615           | 4.8                    | 37.1             | 1,733        | 50,133   | 249,239          | 5.0                    | 39.4             |  |
| Maxillofacial surgery                         | 25           | 1,719            | 1.7                    | 28.3             | 17           | 391  | 1,249            | 3.2                    | 20.1             |  |
| Pediatric surgery                             | 18           | 67               | 3.4                    | 3.5              |              |  |                  |                        |                  |  |
| Plastic surgery                               | 12           | 770              | 4,690                  | 6.1              | 7            | 491  | 3,804            | 7.7                    | 148.9            |  |
| Thoracic surgery                              | 25           | 1,409            | 6,750                  | 74.0             | 9            | 662  | 2,872            | 4.3                    | 87.4             |  |
| Vascular surgery                              | 147          | 4,606            | 22,464                 | 4.9              | 97           | 2,754  | 12,224           | 4.4                    | 34.5             |  |
| Gastroenterology                              | 34           | 814              | 6,342                  | 51.1             | 20           | 326  | 2,420            | 7.4                    | 33.2             |  |
| Geriatrics                                    | 264          | 6,689            | 58,997                 | 8.8              | 204          | 5,019  | 41,612           | 8.3                    | 55.9             |  |
| Long-stay care pts                            | 953          | 7,247            | 220,954                | 63.5             | 831          | 6,150  | 195,666          | 31.8                   | 64.5             |  |
| Endocrine, nutritional and metabolic diseases | 32           | 877              | 6,421                  | 7.3              | 30           | 846  | 6,316            | 7.5                    | 57.7             |  |
| General medicine                              | 1,398        | 44,114           | 294,955                | 57.8             | 1,066        | 35,726   | 226,637          | 6.3                    | 58.2             |  |
| Nephrology                                    | 47           | 1,825            | 8,804                  | 4.8              | 28           | 948  | 5,081            | 5.4                    | 49.7             |  |
| Neonatology                                   | 53           | 1,342            | 7,445                  | 5.5              | 37           | 1,066  | 5,242            | 4.9                    | 38.8             |  |
| Neurosurgery                                  | 87           | 3,374            | 14,918                 | 4.4              | 71           | 2,952  | 13,598           | 4.6                    | 52.5             |  |
| Neurology                                     | 215          | 5,112            | 31,949                 | 6.2              | 144          | 3,420  | 18,504           | 5.4                    | 35.2             |  |
| Neurological rehabilitation                   | 63           | 527              | 19,463                 | 84.6             | 30           | 206  | 8,128            | 39.5                   | 74.2             |  |
| Day nursery                                   | 185          | 6,357            | 23,265                 | 3.7              | 145          | 5,642  | 21,121           | 3.7                    | 39.9             |  |
| Ophthalmology                                 | 147          | 1,828            | 4,228                  | 2.3              | 106          | 545  | 2,107            | 3.9                    | 5.4              |  |
| Oncology                                      | 23           | 805              | 7,850                  | 9.8              | 21           | 778  | 7,686            | 9.9                    | 100.3            |  |
| Oncology and Traumatology                     | 137          | 6,184            | 36,614                 | 5.9              | 131          | 6,088  | 35,430           | 5.8                    | 74.1             |  |
| Orthopedics and Traumatology                  | 1,611        | 50,255           | 238,888                | 4.8              | 1,361        | 40,447   | 194,080          | 4.8                    | 39.1             |  |
| Obstetrics and gynaecology                    | 964          | 43,536           | 197,684                | 4.5              | 665          | 31,605   | 152,627          | 4.8                    | 62.9             |  |
| Otorhinolaryngology                           | 208          | 3,292            | 19,604                 | 6.0              | 137          | 2,236  | 17,157           | 7.7                    | 34.3             |  |
| Pneumology                                    | 122          | 3,280            | 26,339                 | 8.0              | 59.1         | 85   | 15,508           | 7.9                    | 49.3             |  |
| Psychiatry                                    | 125          | 3,409            | 29,216                 | 8.6              | 75           | 2,158  | 17,766           | 8.2                    | 64.9             |  |
| Radiation Therapy                             | 10           | 32               | 282                    | 7.7              | 10           | 32   | 282              | 7.7                    | 7.7              |  |
| Oncological radiotherapy                      | 4            | 190              | 1,300                  | 89.0             | 1            | 139  | 544              | 3.9                    | 149.0            |  |
| Functional recovery and rehabilitation        | 3,572        | 47,962           | 1,145,824              | 23.9             | 2,514        | 35,034   | 821,428          | 23.4                   | 89.5             |  |
| Rheumatology                                  | 52           | 1,369            | 11,813                 | 8.6              | 52           | 1,369  | 11,813           | 8.6                    | 62.2             |  |
| Pain therapy                                  | 6            | 178              | 1,039                  | 5.8              | 6            | 178  | 1,039            | 5.8                    | 47.4             |  |
| Intensive care                                | 165          | 7,530            | 34,416                 | 4.6              | 79           | 4,778  | 17,764           | 3.7                    | 61.6             |  |
| Neonatal intensive care                       | 17           | 145              | 2,317                  | 16.0             | 8            | 133  | 2,076            | 15.6                   | 71.1             |  |
| Coronary care unit                            | 100          | 6,911            | 30,344                 | 4.4              | 63           | 4,659  | 20,853           | 4.5                    | 90.7             |  |
| Spinal care unit                              | 25           | 122              | 8,490                  | 69.6             |              |  |                  |                        |                  |  |
| Urology                                       | 508          | 17,384           | 91,861                 | 5.3              | 425          | 13,465   | 78,000           | 5.8                    | 50.3             |  |
| Total   | 14,528       | 392,187          | 3,152,556              | 8.0              | 10,880       | 296,627  | 2,374,909        | 8.0                    | 59.8             |  |

Source: processing by *Ermeneta*, based on data from the *Ministry of Health*.  
 (1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Table S/61 – Quarterly trend of Covid 19 cases since the onset of the pandemic: 2020

| Region/AP         | 2020                             |         |                       |       | 2020                            |        |                       |         | 2020                             |         |                       |           |                                 |           |
|-------------------|----------------------------------|---------|-----------------------|-------|---------------------------------|--------|-----------------------|---------|----------------------------------|---------|-----------------------|-----------|---------------------------------|-----------|
|                   | Total cases as of March 31, 2020 |         | New cases 2nd Quarter |       | Total cases as of June 30, 2020 |        | New cases 3rd Quarter |         | Total cases as of Sept. 30, 2020 |         | New cases 4th Quarter |           | Total cases as of Dec. 31, 2020 |           |
|                   | A.V.                             | %       | A.V.                  | %     | A.V.                            | %      | A.V.                  | %       | A.V.                             | %       | A.V.                  | %         | A.V.                            | %         |
| Piedmont          | 9,301                            | 237.0   | 22,048                | 237.0 | 31,349                          | 4,053  | 12.9                  | 35,402  | 162,426                          | 458.8   | 197,828               | 162,426   | 458.8                           | 197,828   |
| Aosta Valley      | 628                              | 90.3    | 567                   | 90.3  | 1,195                           | 119    | 10.0                  | 1,314   | 5,959                            | 453.5   | 7,273                 | 5,959     | 453.5                           | 7,273     |
| Lombardy          | 43,208                           | 117.3   | 50,693                | 117.3 | 93,901                          | 12,826 | 13.7                  | 106,727 | 372,176                          | 348.7   | 478,903               | 372,176   | 348.7                           | 478,903   |
| A.P. of Bolzano   | 1,371                            | 92.5    | 1,268                 | 92.5  | 2,639                           | 900    | 34.1                  | 3,539   | 25,955                           | 733.4   | 29,494                | 25,955    | 733.4                           | 29,494    |
| A.P. of Trento    | 1,746                            | 178.5   | 3,117                 | 178.5 | 4,863                           | 1,129  | 23.2                  | 5,992   | 15,848                           | 264.5   | 21,840                | 15,848    | 264.5                           | 21,840    |
| Veneto            | 9,155                            | 10,131  | 10,131                | 110.7 | 19,286                          | 8,165  | 42.3                  | 27,451  | 22,642                           | 824.8   | 253,875               | 22,642    | 824.8                           | 253,875   |
| Friuli V.G.       | 1,593                            | 1,715   | 1,715                 | 107.7 | 3,308                           | 1,358  | 41.1                  | 4,666   | 45,361                           | 972.2   | 50,027                | 45,361    | 972.2                           | 50,027    |
| Liguria           | 3,416                            | 6,561   | 6,561                 | 192.1 | 9,977                           | 3,358  | 33.7                  | 13,335  | 47,134                           | 353.5   | 60,469                | 47,134    | 353.5                           | 60,469    |
| Emilia-Romagna    | 14,074                           | 14,418  | 14,418                | 102.4 | 28,492                          | 6,819  | 23.9                  | 35,311  | 13,620                           | 385.7   | 171,512               | 13,620    | 385.7                           | 171,512   |
| Tuscany           | 4,608                            | 5,642   | 5,642                 | 122.4 | 10,250                          | 4,577  | 44.7                  | 14,827  | 105,501                          | 711.5   | 120,328               | 105,501   | 711.5                           | 120,328   |
| Umbria            | 1,078                            | 363     | 363                   | 33.7  | 1,441                           | 1,013  | 70.3                  | 2,454   | 26,506                           | 1,080.1 | 28,960                | 26,506    | 1,080.1                         | 28,960    |
| Marche            | 3,825                            | 2,960   | 2,960                 | 77.4  | 6,785                           | 1,170  | 17.2                  | 7,955   | 33,669                           | 423.2   | 41,624                | 33,669    | 423.2                           | 41,624    |
| Lazio             | 3,095                            | 5,015   | 5,015                 | 162.0 | 8,110                           | 8,365  | 103.1                 | 16,475  | 146,576                          | 889.7   | 163,051               | 146,576   | 889.7                           | 163,051   |
| Abruzzo           | 1,401                            | 1,886   | 1,886                 | 134.6 | 3,287                           | 1,132  | 34.4                  | 4,419   | 30,895                           | 699.1   | 35,314                | 30,895    | 699.1                           | 35,314    |
| Molise            | 144                              | 301     | 301                   | 209.0 | 445                             | 210    | 47.2                  | 655     | 5,873                            | 896.6   | 6,528                 | 5,873     | 896.6                           | 6,528     |
| Campania          | 2,092                            | 2,598   | 2,598                 | 124.2 | 4,690                           | 8,052  | 171.7                 | 12,742  | 176,931                          | 1,388.6 | 189,673               | 176,931   | 1,388.6                         | 189,673   |
| Apulia            | 1,803                            | 2,728   | 2,728                 | 151.3 | 4,531                           | 3,255  | 71.8                  | 7,786   | 83,178                           | 1,068.3 | 90,964                | 83,178    | 1,068.3                         | 90,964    |
| Basilicata        | 226                              | 176     | 176                   | 77.9  | 402                             | 406    | 101.0                 | 808     | 10,018                           | 1,239.9 | 10,826                | 10,018    | 1,239.9                         | 10,826    |
| Calabria          | 659                              | 522     | 522                   | 79.2  | 1,181                           | 804    | 68.1                  | 1,985   | 21,935                           | 1,105.0 | 23,920                | 21,935    | 1,105.0                         | 23,920    |
| Stiely            | 1,647                            | 1,433   | 1,433                 | 87.0  | 3,080                           | 4,038  | 131.1                 | 7,118   | 86,526                           | 1,215.6 | 93,644                | 86,526    | 1,215.6                         | 93,644    |
| Sardinia          | 722                              | 644     | 644                   | 89.2  | 1,366                           | 2,534  | 185.5                 | 3,900   | 27,213                           | 697.8   | 31,113                | 27,213    | 697.8                           | 31,113    |
| North             | 84,492                           | 110,518 | 110,518               | 130.8 | 195,010                         | 38,727 | 19.9                  | 233,737 | 1,037,484                        | 443.9   | 1,271,221             | 1,037,484 | 443.9                           | 1,271,221 |
| Center            | 12,606                           | 13,980  | 13,980                | 110.9 | 26,586                          | 15,125 | 56.9                  | 41,711  | 312,252                          | 748.6   | 353,963               | 312,252   | 748.6                           | 353,963   |
| South and Islands | 8,694                            | 10,288  | 10,288                | 118.3 | 18,982                          | 20,431 | 107.6                 | 39,413  | 442,569                          | 1,122.9 | 481,982               | 442,569   | 1,122.9                         | 481,982   |
| Italy             | 105,792                          | 134,786 | 134,786               | 127.4 | 240,578                         | 74,283 | 30.9                  | 314,861 | 1,792,305                        | 569.2   | 2,107,166             | 1,792,305 | 569.2                           | 2,107,166 |

Source: processing of aggregated daily data Regions/APs- Ministry of Health – National Institute of Health

Table S/62 – Quarterly trend of Covid 19 cases since the onset of the pandemic: 2021

| Region/API        | New cases 1st Quarter |       | Total cases as of March 31, 2021 |         | New cases 2nd Quarter |      | Total cases as of June 30, 2021 |         | New cases 3rd Quarter |      | Total cases as of Sept. 30, 2021 |      | New cases 4th Quarter |      | Total cases as of Dec. 31, 2021 |      |
|-------------------|-----------------------|-------|----------------------------------|---------|-----------------------|------|---------------------------------|---------|-----------------------|------|----------------------------------|------|-----------------------|------|---------------------------------|------|
|                   | A.V.                  | A %   | A.V.                             | A %     | A.V.                  | A %  | A.V.                            | A %     | A.V.                  | A %  | A.V.                             | A %  | A.V.                  | A %  | A.V.                            | A %  |
|                   |                       |       |                                  |         |                       |      |                                 |         |                       |      |                                  |      |                       |      |                                 |      |
| Piedmont          | 111,452               | 56.3  | 309,280                          | 17.3    | 53,644                | 17.3 | 362,924                         | 4.4     | 16,128                | 4.4  | 379,052                          | 4.4  | 115,717               | 30.5 | 494,769                         | 30.5 |
| Aosta Valley      | 2,025                 | 27.8  | 9,298                            | 2.393   | 2,393                 | 25.7 | 11,691                          | 3.7     | 437                   | 3.7  | 12,128                           | 3.7  | 4,063                 | 33.5 | 16,191                          | 33.5 |
| Lombardy          | 255,581               | 53.6  | 735,484                          | 106,341 | 106,341               | 14.5 | 841,825                         | 41,919  | 41,919                | 5.0  | 883,744                          | 5.0  | 333,620               | 37.8 | 1,217,364                       | 37.8 |
| A.P. of Bolzano   | 39,460                | 133.8 | 68,954                           | 4,347   | 4,347                 | 6.3  | 73,301                          | 3,606   | 3,606                 | 4.9  | 76,907                           | 4.9  | 23,990                | 31.2 | 100,897                         | 31.2 |
| A.P. of Trento    | 19,391                | 88.8  | 41,231                           | 4,539   | 4,539                 | 11.0 | 45,770                          | 2,592   | 2,592                 | 5.7  | 48,362                           | 5.7  | 14,573                | 30.1 | 62,935                          | 30.1 |
| Veneto            | 128,963               | 50.8  | 382,838                          | 42,585  | 42,585                | 11.1 | 425,423                         | 43,802  | 43,802                | 10.3 | 469,225                          | 10.3 | 176,498               | 37.6 | 645,723                         | 37.6 |
| Friuli V.G.       | 47,463                | 94.9  | 97,490                           | 9,452   | 9,452                 | 9.7  | 106,942                         | 6,822   | 6,822                 | 6.4  | 113,764                          | 6.4  | 42,328                | 37.2 | 156,092                         | 37.2 |
| Liguria           | 28,855                | 47.7  | 89,324                           | 14,109  | 14,109                | 15.8 | 103,433                         | 9,265   | 9,265                 | 9.0  | 112,698                          | 9.0  | 36,362                | 32.3 | 149,060                         | 32.3 |
| Emilia R.         | 164,308               | 95.8  | 335,820                          | 51,007  | 51,007                | 15.2 | 386,827                         | 36,911  | 36,911                | 9.5  | 423,738                          | 9.5  | 113,184               | 26.7 | 536,922                         | 26.7 |
| Tuscany           | 75,046                | 62.4  | 195,374                          | 48,900  | 48,900                | 25.0 | 244,274                         | 37,938  | 37,938                | 15.5 | 282,212                          | 15.5 | 99,387                | 35.2 | 381,599                         | 35.2 |
| Umbria            | 21,948                | 75.8  | 50,908                           | 5,945   | 5,945                 | 11.7 | 56,853                          | 6,958   | 6,958                 | 12.2 | 63,811                           | 12.2 | 25,031                | 39.2 | 88,842                          | 39.2 |
| Marche            | 46,746                | 112.3 | 88,370                           | 15,270  | 15,270                | 17.3 | 103,640                         | 10,217  | 10,217                | 9.9  | 113,857                          | 9.9  | 31,607                | 27.8 | 145,464                         | 27.8 |
| Lazio             | 122,396               | 75.1  | 285,447                          | 60,518  | 60,518                | 21.2 | 345,965                         | 38,582  | 38,582                | 11.2 | 384,547                          | 11.2 | 120,727               | 31.4 | 505,274                         | 31.4 |
| Abruzzo           | 29,923                | 84.7  | 65,237                           | 9,590   | 9,590                 | 14.7 | 74,827                          | 6,398   | 6,398                 | 8.6  | 81,225                           | 8.6  | 25,348                | 31.2 | 106,573                         | 31.2 |
| Molise            | 5,742                 | 88.0  | 12,270                           | 1,449   | 1,449                 | 11.8 | 13,719                          | 780     | 780                   | 5.7  | 14,499                           | 5.7  | 2,181                 | 15.0 | 16,680                          | 15.0 |
| Campania          | 147,616               | 77.8  | 337,289                          | 87,023  | 87,023                | 25.8 | 424,312                         | 29,097  | 29,097                | 6.9  | 453,409                          | 6.9  | 129,853               | 28.6 | 583,262                         | 28.6 |
| Apulia            | 102,048               | 112.2 | 193,012                          | 60,329  | 60,329                | 31.3 | 253,341                         | 15,299  | 15,299                | 6.0  | 268,640                          | 6.0  | 40,517                | 15.1 | 309,157                         | 15.1 |
| Basilicata        | 8,632                 | 79.7  | 19,458                           | 7,490   | 7,490                 | 38.5 | 26,948                          | 3,188   | 3,188                 | 11.8 | 30,136                           | 11.8 | 6,159                 | 20.4 | 36,295                          | 20.4 |
| Calabria          | 23,038                | 96.3  | 46,958                           | 22,004  | 22,004                | 46.9 | 68,962                          | 14,806  | 14,806                | 21.5 | 83,768                           | 21.5 | 27,978                | 33.4 | 111,746                         | 33.4 |
| Sicily            | 81,710                | 87.3  | 175,354                          | 56,342  | 56,342                | 32.1 | 231,696                         | 66,680  | 66,680                | 28.8 | 298,376                          | 28.8 | 74,228                | 24.9 | 372,604                         | 24.9 |
| Sardinia          | 14,390                | 46.3  | 45,303                           | 11,733  | 11,733                | 25.8 | 57,236                          | 18,021  | 18,021                | 31.5 | 75,257                           | 31.5 | 12,977                | 17.2 | 88,234                          | 17.2 |
| North             | 798,498               | 62.8  | 2,069,719                        | 288,417 | 288,417               | 13.9 | 2,358,136                       | 161,482 | 161,482               | 6.8  | 2,519,618                        | 6.8  | 860,335               | 34.1 | 3,379,953                       | 34.1 |
| Center            | 266,136               | 75.2  | 620,099                          | 130,633 | 130,633               | 21.1 | 750,732                         | 93,695  | 93,695                | 12.5 | 844,427                          | 12.5 | 276,752               | 32.8 | 1,121,179                       | 32.8 |
| South and Islands | 413,099               | 85.7  | 895,081                          | 255,960 | 255,960               | 28.6 | 1,151,041                       | 154,269 | 154,269               | 13.4 | 1,305,310                        | 13.4 | 319,241               | 24.5 | 1,624,551                       | 24.5 |
| Italy             | 1,477,733             | 70.1  | 3,584,899                        | 675,010 | 675,010               | 18.8 | 4,259,909                       | 409,446 | 409,446               | 9.6  | 4,669,355                        | 9.6  | 1,456,328             | 31.2 | 6,125,683                       | 31.2 |

Source: processing of aggregated daily data Regions/APs- Ministry of Health – National Institute of Health

Table S/63 – Quarterly trend of Covid 19 cases since the onset of the pandemic: 2020

| Region/IP             | 2020                                |        |  |     | 2020                               |       |   |    |      |
|-----------------------|-------------------------------------|--------|--|-----|------------------------------------|-------|---|----|------|
|                       | Positive cases as of March 31, 2020 |        | Hosp. ward admissions as of March 31, 2020 |     | Positive cases as of June 30, 2020 |       | Hosp. ward admissions as of June 30, 2020 |    |      |
|                       | A.V.                                | %      | A.V.                                       | %   | A.V.                               | %     | A.V.                                      | %  |      |
| Piedmont              | 8,082                               | 39.3   | 452  | 5.6 | 1,423                              | 267   | 18.8                                      | 12 | 0.8  |
| Aosta Valley          | 552                                 | 16.5   | 26   | 4.7 | 4                                  | 4     | 100.0                                     | -  | -    |
| Lombardy              | 25,124                              | 11,883 | 47.3                                       | 5.3 | 10,060                             | 297   | 3.0                                       | 42 | 0.4  |
| A.P. of Bolzano       | 1,142                               | 249    | 21.8                                       | 5.4 | 84                                 | 3     | 3.6                                       | 1  | 1.2  |
| A.P. of Trento        | 1,389                               | 354    | 25.5                                       | 5.8 | 50                                 | 1     | 2.0                                       | -  | -    |
| Veneto                | 7,850                               | 1,680  | 21.4                                       | 4.5 | 462                                | 21    | 4.5                                       | -  | -    |
| Friuli Venezia Giulia | 1,160                               | 215    | 18.5                                       | 5.2 | 45                                 | 9     | 20.0                                      | -  | -    |
| Liguria               | 2,508                               | 1,153  | 46.0                                       | 7.1 | 280                                | 46    | 16.4                                      | 3  | 1.1  |
| Emilia-Romagna        | 10,953                              | 3,765  | 34.4                                       | 3.2 | 1,010                              | 108   | 10.7                                      | 12 | 1.2  |
| Tuscany               | 4,226                               | 1,120  | 26.5                                       | 6.9 | 329                                | 17    | 5.2                                       | 6  | 1.8  |
| Umbria                | 851                                 | 176    | 20.7                                       | 5.1 | 10                                 | 3     | 30.0                                      | 1  | 10.0 |
| Marche                | 3,352                               | 946    | 28.2                                       | 5.0 | 266                                | 8     | 3.0                                       | -  | -    |
| Lazio                 | 2,642                               | 1,127  | 42.7                                       | 6.5 | 836                                | 189   | 22.6                                      | 13 | 1.6  |
| Abruzzo               | 1,191                               | 335    | 28.1                                       | 6.1 | 197                                | 33    | 16.8                                      | -  | -    |
| Molise                | 117                                 | 29     | 24.8                                       | 8   | 25                                 | -     | -   | -  | -    |
| Campania              | 1,871                               | 501    | 26.8                                       | 7.1 | 181                                | 29    | 16.0                                      | -  | -    |
| Apulia                | 1,654                               | 609    | 36.8                                       | 6.3 | 129                                | 25    | 19.4                                      | -  | -    |
| Basilicata            | 216                                 | 37     | 17.1                                       | 7.9 | 3                                  | 1     | 33.3                                      | -  | -    |
| Calabria              | 606                                 | 132    | 21.8                                       | 17  | 27                                 | 4     | 14.8                                      | -  | -    |
| Sicily                | 1,492                               | 503    | 33.7                                       | 4.8 | 128                                | 19    | 14.8                                      | 3  | 2.3  |
| Sardinia              | 657                                 | 113    | 17.2                                       | 28  | 14                                 | 6     | 42.9                                      | -  | -    |
| North                 | 58,760                              | 22,564 | 38.4                                       | 4.9 | 13,418                             | 756   | 5.6                                       | 70 | 0.5  |
| Center                | 11,071                              | 3,369  | 30.4                                       | 6.1 | 1,441                              | 217   | 15.1                                      | 20 | 1.4  |
| South and Islands     | 7,804                               | 2,259  | 28.9                                       | 5.8 | 704                                | 117   | 16.6                                      | 3  | 0.4  |
| Italy                 | 77,635                              | 28,192 | 36.3                                       | 5.2 | 15,563                             | 1,090 | 7.0                                       | 93 | 0.6  |

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(Continued) Table S/63 – Quarterly trend of Covid 19 cases since the onset of the pandemic: 2020

| Region/IP             | 2020                                |       |  |     | 2020   |         |                                    |      |   |     |   |   |
|-----------------------|-------------------------------------|-------|--|-----|--|---------|------------------------------------|------|---|-----|---|---|
|                       | Positive cases as of Sept. 30, 2020 |       | Hosp. ward admissions as of Sept. 30, 2020 |     | Intensive care admissions as of Sept. 30, 2020 |         | Positive cases as of Dec. 31, 2020 |      | Hosp. ward admissions as of Dec. 31, 2020 |     | Intensive care admissions as of Dec. 31, 2020 |   |
|                       | A.V.                                | %     | A.V.                                       | %   | A.V.   | %       | A.V.                               | %    | A.V.                                      | %   | A.V.  | % |
| Piedmont              | 2,844                               | 196   | 6.9  | 12  | 0.4  | 28,257  | 2,895                              | 10.2 | 190                                       | 0.7 |   |   |
| Aosta Valley          | 75                                  | 6     | 8.0  | -   | -  | 411     | 75                                 | 18.2 | 2   | 0.5 |   |   |
| Lombardy              | 9,060                               | 306   | 3.4  | 34  | 0.4  | 54,623  | 3,437                              | 6.3  | 489                                       | 0.9 |   |   |
| A.P. of Bolzano       | 561                                 | 28    | 5.0  | -   | -  | 10,669  | 159                                | 1.5  | 26  | 0.2 |   |   |
| A.P. of Trento        | 567                                 | 14    | 2.5  | -   | -  | 1,862   | 380                                | 20.4 | 42  | 2.3 |   |   |
| Veneto                | 3,732                               | 173   | 4.6  | 21  | 0.6  | 91,073  | 2,698                              | 3.0  | 361                                       | 0.4 |   |   |
| Friuli Venezia Giulia | 718                                 | 19    | 2.6  | 6   | 0.8  | 11,798  | 645                                | 5.5  | 62  | 0.5 |   |   |
| Liguria               | 1,739                               | 143   | 8.2  | 22  | 1.3  | 5,620   | 694                                | 12.3 | 65  | 1.2 |   |   |
| Emilia-Romagna        | 4,653                               | 205   | 4.4  | 14  | 0.3  | 57,346  | 2,629                              | 4.6  | 233                                       | 0.4 |   |   |
| Tuscany               | 3,402                               | 97    | 2.9  | 22  | 0.6  | 9,678   | 838                                | 8.7  | 150                                       | 1.5 |   |   |
| Umbria                | 537                                 | 39    | 7.3  | 3   | 0.6  | 3,777   | 259                                | 6.9  | 44  | 1.2 |   |   |
| Marche                | 795                                 | 28    | 3.5  | 2   | 0.3  | 11,178  | 470                                | 4.2  | 62  | 0.6 |   |   |
| Lazio                 | 7,148                               | 659   | 9.2  | 47  | 0.7  | 75,173  | 2,789                              | 3.7  | 303                                       | 0.4 |   |   |
| Abruzzo               | 881                                 | 52    | 5.9  | 5   | 0.6  | 11,073  | 430                                | 3.9  | 35  | 0.3 |   |   |
| Molise                | 133                                 | 4     | 3.0  | -   | -  | 1,912   | 51                                 | 2.7  | 10  | 0.5 |   |   |
| Campania              | 6,113                               | 414   | 6.8  | 39  | 0.6  | 77,255  | 1,325                              | 1.7  | 113                                       | 0.1 |   |   |
| Apulia                | 2,516                               | 218   | 8.7  | 11  | 0.4  | 53,002  | 1,490                              | 2.8  | 129                                       | 0.2 |   |   |
| Basilicata            | 307                                 | 11    | 3.6  | 2   | 0.7  | 6,051   | 89                                 | 1.5  | 4   | 0.1 |   |   |
| Calabria              | 555                                 | 33    | 5.9  | 2   | 0.4  | 8,817   | 243                                | 2.8  | 18  | 0.2 |   |   |
| Sicily                | 2,866                               | 301   | 10.5                                       | 19  | 0.7  | 33,868  | 1,069                              | 3.2  | 171                                       | 0.5 |   |   |
| Sardinia              | 2,061                               | 101   | 4.9  | 19  | 0.9  | 16,453  | 486                                | 3.0  | 46  | 0.3 |   |   |
| North                 | 23,949                              | 1,090 | 4.6  | 109 | 0.5  | 261,659 | 13,612                             | 5.2  | 1,470                                     | 0.6 |   |   |
| Center                | 11,882                              | 823   | 6.9  | 74  | 0.6  | 99,806  | 4,356                              | 4.4  | 559                                       | 0.6 |   |   |
| South and Islands     | 15,432                              | 1,134 | 7.3  | 97  | 0.6  | 208,431 | 5,183                              | 2.5  | 526                                       | 0.3 |   |   |
| Italy                 | 51,263                              | 3,047 | 5.9  | 280 | 0.5  | 569,896 | 23,151                             | 4.1  | 2,555                                     | 0.4 |   |   |

Source: processing of aggregated daily data Regions/APs- Ministry of Health – National Institute of Health

Table S/64 – Quarterly trend of Covid 19 cases since the onset of the pandemic: 2021

| Region/AP         | 2021                                |        |  |       | 2021                               |        |   |      |   |     |
|-------------------|-------------------------------------|--------|--|-------|------------------------------------|--------|---|------|---|-----|
|                   | Positive cases as of March 31, 2021 |        | Hosp. ward admissions as of March 31, 2021 |       | Positive cases as of June 30, 2021 |        | Hosp. ward admissions as of June 30, 2021 |      | Intensive care admissions as of June 30, 2021 |     |
|                   | A.V.                                | %      | A.V.                                       | %     | A.V.                               | %      | A.V.                                      | %    | A.V.  | %   |
| Piedmont          | 35,059                              | 3,873  | 11.0                                       | 376   | 1.1                                | 834    | 152                                       | 18.2 | 14  | 1.7 |
| Aosta Valley      | 902                                 | 49     | 5.4  | 8     | 0.9                                | 35     | 1   | 2.9  | -   | -   |
| Lombardy          | 95,855                              | 7,033  | 7.3  | 863   | 0.9                                | 10,474 | 218                                       | 2.1  | 51  | 0.5 |
| A.P. of Bolzano   | 686                                 | 90     | 13.1                                       | 20    | 2.9                                | 163    | 6   | 3.7  | 3   | 1.8 |
| A.P. of Trento    | 2,863                               | 201    | 7.0  | 51    | 1.8                                | 62     | 5   | 8.1  | -   | -   |
| Veneto            | 38,697                              | 1,676  | 4.3  | 282   | 0.7                                | 4,575  | 45  | 1.0  | 7   | 0.2 |
| Friuli V.G.       | 15,197                              | 664    | 4.4  | 82    | 0.5                                | 192    | 8   | 4.2  | -   | -   |
| Liguria           | 7,095                               | 642    | 9.0  | 68    | 1.0                                | 146    | 19  | 13.0 | 7   | 4.8 |
| Emilia R.         | 72,435                              | 3,427  | 4.7  | 390   | 0.5                                | 2,950  | 184                                       | 6.2  | 27  | 0.9 |
| Tuscany           | 28,107                              | 1,560  | 5.6  | 265   | 0.9                                | 1,810  | 90  | 5.0  | 24  | 1.3 |
| Umbria            | 4,806                               | 349    | 7.3  | 60    | 1.2                                | 727    | 15  | 2.1  | 1   | 0.1 |
| Marche            | 9,367                               | 803    | 8.6  | 146   | 1.6                                | 1,287  | 16  | 1.2  | 4   | 0.3 |
| Lazio             | 51,051                              | 3,044  | 6.0  | 371   | 0.7                                | 3,068  | 190                                       | 6.2  | 49  | 1.6 |
| Abruzzo           | 10,132                              | 607    | 6.0  | 68    | 0.7                                | 875    | 25  | 2.9  | 1   | 0.1 |
| Molise            | 866                                 | 63     | 7.3  | 16    | 1.8                                | 77     | 4   | 5.2  | -   | -   |
| Campania          | 93,117                              | 1,587  | 1.7  | 160   | 0.2                                | 8,123  | 218                                       | 2.7  | 20  | 0.2 |
| Apulia            | 46,857                              | 1,840  | 3.9  | 260   | 0.6                                | 2,938  | 120                                       | 4.1  | 11  | 0.4 |
| Basilicata        | 4,774                               | 170    | 3.6  | 14    | 0.3                                | 657    | 17  | 2.6  | -   | -   |
| Calabria          | 10,325                              | 389    | 3.8  | 36    | 0.3                                | 5,101  | 69  | 1.4  | 5   | 0.1 |
| Sicily            | 19,920                              | 891    | 4.5  | 140   | 0.7                                | 4,031  | 155                                       | 3.8  | 20  | 0.5 |
| Sardinia          | 14,397                              | 222    | 1.5  | 34    | 0.2                                | 2,316  | 36  | 1.6  | 3   | 0.1 |
| North             | 268,789                             | 17,655 | 6.6  | 2,140 | 0.8                                | 19,431 | 638                                       | 3.3  | 109   | 0.6 |
| Center            | 93,331                              | 5,756  | 6.2  | 842   | 0.9                                | 6,892  | 311                                       | 4.5  | 78  | 1.1 |
| South and Islands | 200,388                             | 5,769  | 2.9  | 728   | 0.4                                | 24,118 | 644                                       | 2.7  | 60  | 0.2 |
| Italy             | 562,508                             | 29,180 | 5.2  | 3,710 | 0.7                                | 50,441 | 1,593                                     | 3.2  | 247   | 0.5 |

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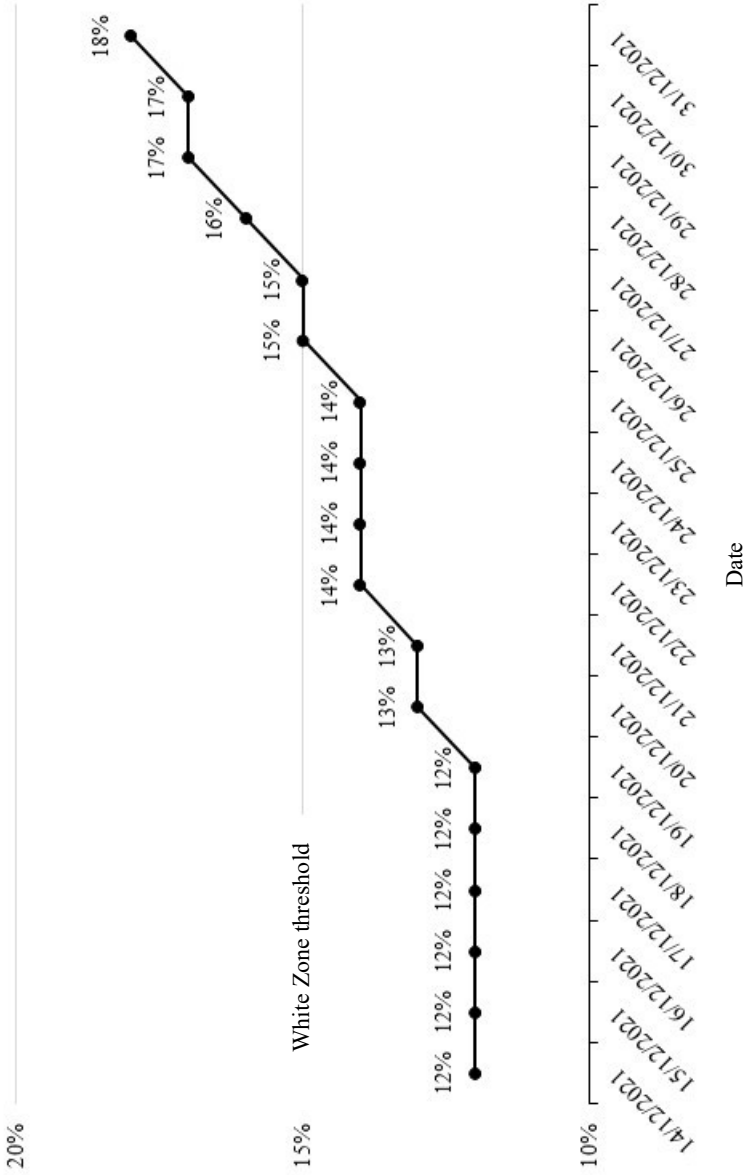


(Continued) Table S/64 – Quarterly trend of Covid 19 cases since the onset of the pandemic: 2021

| Region/AP         | 2021                                |       |  |     |  |         |        |     |       |     |
|-------------------|-------------------------------------|-------|--|-----|--|---------|--------|-----|-------|-----|
|                   | Positive cases as of Sept. 30, 2021 |       | Hosp. ward admissions as of Sept. 30, 2021 |     | Intensive care admissions as of Sept. 30, 2021 |         |        |     |       |     |
|                   | A.V.                                | %     | A.V.                                       | %   | A.V.   | %       |        |     |       |     |
| Piedmont          | 3,647                               | 184   | 5.0  | 21  | 0.6  | 72,818  | 1,223  | 1.7 | 107   | 0.1 |
| Aosta Valley      | 72                                  | 2     | 2.8  | -   | -  | 2,129   | 34     | 1.6 | 3     | 0.1 |
| Lombardy          | 10,082                              | 380   | 3.8  | 57  | 0.6  | 252,380 | 1,859  | 0.7 | 221   | 0.1 |
| A.P. of Bolzano   | 857                                 | 24    | 2.8  | 8   | 0.9  | 5,270   | 81     | 1.5 | 17    | 0.3 |
| A.P. of Trento    | 291                                 | 19    | 6.5  | 4   | 1.4  | 7,200   | 105    | 1.5 | 19    | 0.3 |
| Veneto            | 10,618                              | 189   | 1.8  | 44  | 0.4  | 93,298  | 1,173  | 1.3 | 178   | 0.2 |
| Friuli V.G.       | 997                                 | 42    | 4.2  | 7   | 0.7  | 12,520  | 287    | 2.3 | 28    | 0.2 |
| Liguria           | 1,043                               | 51    | 4.9  | 6   | 0.6  | 12,614  | 482    | 3.8 | 47    | 0.4 |
| Emilia R.         | 14,036                              | 374   | 2.7  | 46  | 0.3  | 77,458  | 1,346  | 1.7 | 116   | 0.1 |
| Tuscany           | 6,790                               | 238   | 3.5  | 33  | 0.5  | 74,300  | 636    | 0.9 | 76    | 0.1 |
| Umbria            | 874                                 | 42    | 4.8  | 3   | 0.3  | 19,403  | 122    | 0.6 | 9     | 0.0 |
| Marche            | 2,661                               | 57    | 2.1  | 18  | 0.7  | 7,640   | 220    | 2.9 | 42    | 0.5 |
| Lazio             | 9,564                               | 382   | 4.0  | 59  | 0.6  | 72,121  | 1,162  | 1.6 | 154   | 0.2 |
| Abruzzo           | 1,774                               | 55    | 3.1  | 5   | 0.3  | 17,051  | 178    | 1.0 | 20    | 0.1 |
| Molise            | 95                                  | 1     | 1.1  | 1   | 1.1  | 1,332   | 20     | 1.5 | 1     | 0.1 |
| Campania          | 6,848                               | 224   | 3.3  | 21  | 0.3  | 77,529  | 675    | 0.9 | 48    | 0.1 |
| Apulia            | 2,593                               | 144   | 5.6  | 16  | 0.6  | 24,510  | 276    | 1.1 | 31    | 0.1 |
| Basilicata        | 1,247                               | 35    | 2.8  | 2   | 0.2  | 4,636   | 64     | 1.4 | 1     | 0.0 |
| Calabria          | 3,657                               | 146   | 4.0  | 16  | 0.4  | 16,201  | 312    | 1.9 | 28    | 0.2 |
| Sicily            | 14,409                              | 482   | 3.3  | 63  | 0.4  | 42,582  | 749    | 1.8 | 98    | 0.2 |
| Sardinia          | 2,153                               | 127   | 5.9  | 10  | 0.5  | 7,992   | 146    | 1.8 | 16    | 0.2 |
| North             | 41,643                              | 1,265 | 3.0  | 193 | 0.5  | 535,687 | 6,590  | 1.2 | 736   | 0.1 |
| Center            | 19,889                              | 719   | 3.6  | 113 | 0.6  | 173,464 | 2,140  | 1.2 | 281   | 0.2 |
| South and Islands | 32,776                              | 1,214 | 3.7  | 134 | 0.4  | 191,833 | 2,420  | 1.3 | 243   | 0.1 |
| Italy             | 94,308                              | 3,198 | 3.4  | 440 | 0.5  | 900,984 | 11,150 | 1.2 | 1,260 | 0.1 |

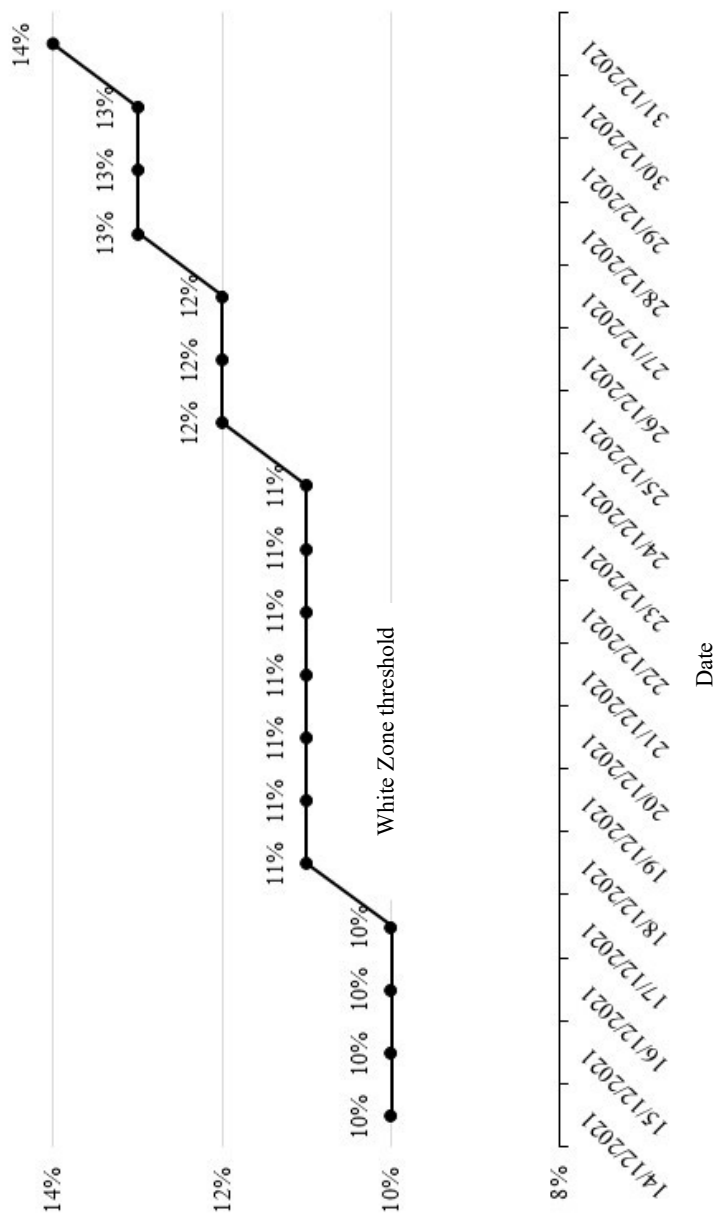
Source: processing of aggregated daily data Regions/APs- Ministry of Health – National Institute of Health

Chart 1 – Percentage trend for occupancy of non-critical area patient beds for COVID-19



Source: Agenas monitoring of data from the Ministry of Health

Chart 2 – Percentage trend for occupancy of Intensive care patient beds for COVID-19



Source: Agenas monitoring of data from the Ministry of Health

Table S/65 – The decrease in the number of hospital admissions between 2019 and 2020, by Region

| Regions                          | Hospital admissions |                  | Difference        |                  |
|----------------------------------|---------------------|------------------|-------------------|------------------|
|                                  | 2019                | 2020             | $\Delta A.V.$     | $\Delta \% Val.$ |
| – Piedmont                       | 614,638             | 490,053          | -124,585          | -20.3            |
| – Aosta Valley                   | 20,666              | 15,900           | -4,766            | -23.1            |
| – Lombardy                       | 1,453,039           | 1,107,511        | -345,528          | -23.8            |
| – Autonomous Province of Bolzano | 86,338              | 70,512           | -15,826           | -18.3            |
| – Autonomous Province of Trento  | 82,110              | 66,482           | -15,628           | -19.0            |
| – Veneto                         | 677,242             | 574,078          | -103,164          | -15.2            |
| – Friuli Venezia Giulia          | 181,848             | 151,734          | -30,114           | -16.6            |
| – Liguria                        | 259,765             | 199,920          | -59,845           | -23.0            |
| – Emilia Romagna                 | 754,028             | 616,133          | -137,895          | -18.3            |
| <b>NORTH</b>                     | <b>4,129,674</b>    | <b>3,292,323</b> | <b>-837,351</b>   | <b>-20.3</b>     |
| – Tuscany                        | 546,754             | 443,673          | -103,081          | -18.9            |
| – Umbria                         | 135,526             | 106,965          | -28,561           | -21.1            |
| – Marche                         | 225,405             | 177,473          | -47,932           | -21.3            |
| – Lazio                          | 821,261             | 686,327          | -134,934          | -16.4            |
| <b>CENTER</b>                    | <b>1,728,946</b>    | <b>1,414,438</b> | <b>-314,508</b>   | <b>-18.2</b>     |
| – Abruzzo                        | 181,207             | 148,039          | -33,168           | -18.3            |
| – Molise                         | 46,996              | 36,108           | -10,888           | -23.2            |
| – Campania                       | 799,841             | 599,542          | -200,299          | -25.0            |
| – Apulia                         | 477,648             | 343,362          | -134,286          | -28.1            |
| – Basilicata                     | 70,600              | 51,435           | -19,165           | -27.1            |
| – Calabria                       | 212,725             | 147,562          | -65,163           | -30.6            |
| – Sicily                         | 584,531             | 472,263          | -112,268          | -19.2            |
| – Sardinia                       | 236,105             | 188,384          | -47,721           | -20.2            |
| <b>SOUTH AND ISLANDS</b>         | <b>2,609,653</b>    | <b>1,986,695</b> | <b>-622,958</b>   | <b>-23.9</b>     |
| <b>ITALY</b>                     | <b>8,468,273</b>    | <b>6,693,456</b> | <b>-1,774,817</b> | <b>-21.0</b>     |

Source: Screening Observatory. Report on the delays accumulated by Italian screening programs following the Covid-19 pandemic. Second Report on September 30, 2020

Table S/66 – The decline in specialist services between January-September 2019 and January-September 2020, by Regions

| Regions                          | Number of services |                    | Difference        |                  |
|----------------------------------|--------------------|--------------------|-------------------|------------------|
|                                  | 2019               | 2020               | $\Delta A.V.$     | $\Delta \% Val.$ |
| – Piedmont                       | 14,336,635         | 10,333,696         | 4,002,939         | -27.9            |
| – Aosta Valley                   | 402,461            | 193,532            | 208,929           | -51.9            |
| – Lombardy                       | 28,242,115         | 18,858,260         | 9,383,855         | -33.2            |
| – Autonomous Province of Bolzano | 1,929,509          | 988,782            | 940,727           | -48.8            |
| – Autonomous Province of Trento  | 1,920,470          | 1,396,424          | 524,046           | -27.3            |
| – Veneto                         | 12,157,249         | 8,405,723          | 3,751,526         | -30.9            |
| – Friuli Venezia Giulia          | 3,328,048          | 2,432,861          | 895,187           | -26.9            |
| – Liguria                        | 4,500,672          | 2,970,791          | 1,529,881         | -34.0            |
| – Emilia Romagna                 | 12,406,524         | 8,290,116          | 4,116,408         | -33.2            |
| <b>NORTH</b>                     | <b>79,223,683</b>  | <b>53,870,185</b>  | <b>25,353,498</b> | <b>-32.0</b>     |
| – Tuscany                        | 10,439,805         | 7,916,367          | 2,523,438         | -24.2            |
| – Umbria                         | 2,333,101          | 1,607,340          | 725,761           | -31.1            |
| – Marche                         | 3,980,997          | 2,457,059          | 1,523,938         | -38.3            |
| – Lazio                          | 20,151,103         | 13,800,256         | 6,350,847         | -31.5            |
| <b>CENTER</b>                    | <b>36,905,006</b>  | <b>25,781,022</b>  | <b>11,123,984</b> | <b>-30.1</b>     |
| – Abruzzo                        | 3,548,206          | 2,543,510          | 1,004,696         | -28.3            |
| – Molise                         | 1,082,774          | 785,518            | 297,256           | -27.5            |
| – Campania                       | 13,676,178         | 11,726,247         | 1,949,931         | -14.3            |
| – Apulia                         | 11,959,288         | 8,894,997          | 3,064,291         | -25.6            |
| – Basilicata                     | 2,691,965          | 870,809            | 1,821,156         | -67.7            |
| – Calabria                       | 4,019,465          | 2,445,279          | 1,574,186         | -39.2            |
| – Sicily                         | 11,461,766         | 7,864,662          | 3,597,104         | -31.4            |
| – Sardinia                       | 5,506,024          | 3,716,399          | 1,789,625         | -32.5            |
| <b>SOUTH AND ISLANDS</b>         | <b>53,945,666</b>  | <b>38,847,421</b>  | <b>15,098,245</b> | <b>-28.0</b>     |
| <b>ITALY</b>                     | <b>170,074,355</b> | <b>118,498,628</b> | <b>51,575,727</b> | <b>-30.3</b>     |

Source: AIOP processing of AGENAS data (Source: Ministry of Health Outpatient specialist flow, excluding laboratory activity pursuant to Art. 50)

Table S/67 – The decrease in hospital admissions between 2019 and 2020, by type and by Region (% val.)

| Regions                 | Volumes: Δ% 2019-2020 |                                |                               |                                       | Admissions with psychiatric diagnoses | Outpatient specialist |
|-------------------------|-----------------------|--------------------------------|-------------------------------|---------------------------------------|---------------------------------------|-----------------------|
|                         | Urgent admissions     | Inpatient scheduled admissions | Scheduled surgical admissions | Admissions with psychiatric diagnoses |                                       |                       |
| – Piedmont              | -10.0                 | -27.9                          | -32.3                         | -20.6                                 | -27.9                                 |                       |
| – Aosta Valley          | -12.1                 | -27.8                          | -41.4                         | -14.2                                 | -51.9                                 |                       |
| – Lombardy              | -9.1                  | -33.8                          | -36.8                         | -25.0                                 | -33.2                                 |                       |
| – A.P. of Bolzano       | -16.8                 | -18.5                          | -25.2                         | -13.8                                 | -48.8                                 |                       |
| – A.P. of Trento        | -11.5                 | -27.1                          | -25.5                         | -28.2                                 | -27.3                                 |                       |
| – Veneto                | -11.6                 | -19.1                          | -18.8                         | -15.3                                 | -30.9                                 |                       |
| – Friuli Venezia Giulia | -12.4                 | -19.4                          | -23.7                         | -18.1                                 | -26.9                                 |                       |
| – Liguria               | -16.7                 | -32.2                          | -37.7                         | -22.6                                 | -34.0                                 |                       |
| – Emilia Romagna        | -10.7                 | -24.1                          | -27.4                         | -22.9                                 | -33.2                                 |                       |
| – Tuscany               | -12.9                 | -24.2                          | -25.1                         | -20.1                                 | -24.2                                 |                       |
| – Umbria                | -14.7                 | -25.1                          | -30.9                         | -13.3                                 | -31.1                                 |                       |
| – Marche                | -17.7                 | -21.1                          | -23.3                         | -22.6                                 | -38.3                                 |                       |
| – Lazio                 | -10.6                 | -20.5                          | -20.8                         | -20.8                                 | -31.5                                 |                       |
| – Abruzzo               | -13.1                 | -19.8                          | -23.9                         | -24.1                                 | -28.3                                 |                       |
| – Molise                | -18.7                 | -21.3                          | -19.5                         | -18.9                                 | -27.5                                 |                       |
| – Campania              | -19.6                 | -25.1                          | -32.1                         | -28.2                                 | -14.3                                 |                       |
| – Apulia                | -26.6                 | -30.5                          | -27.7                         | -30.5                                 | -25.6                                 |                       |
| – Basilicata            | -22.5                 | -36.5                          | -39.3                         | -21.7                                 | -67.7                                 |                       |
| – Calabria              | -24.6                 | -33.5                          | -31.1                         | -31.0                                 | -39.2                                 |                       |
| – Sicily                | -15.6                 | -21.5                          | -27.7                         | -26.8                                 | -31.4                                 |                       |
| – Sardinia              | -19.4                 | -18.6                          | -26.2                         | -26.8                                 | -32.5                                 |                       |
| <b>Italy</b>            | <b>-14.3</b>          | <b>-26.1</b>                   | <b>-28.4</b>                  | <b>-22.8</b>                          | <b>-30.3</b>                          |                       |

Source: AIOP processing of AGENAS data (Source: Ministry of Health SDO and Outpatient specialist flow, excluding laboratory activity pursuant to Art. 50)

Table S/68 – The decrease in surgical interventions between 2019 and 2020, by type and by Region<sup>1</sup> (% val.)

| Regions                 | Volumes: Δ% 2019-2020    |                         |                        |                      |                               |
|-------------------------|--------------------------|-------------------------|------------------------|----------------------|-------------------------------|
|                         | Surgery for breast tumor | Surgery for colon tumor | Surgery for lung tumor | Surgery for melanoma | Aortocoronary by-pass surgery |
| – Piedmont              | -16.4                    | -20.8                   | 5.0                    | -26.9                | -28.6                         |
| – Aosta Valley          | n.a.                     | 2.7                     | n.a.                   | n.a.                 | n.a.                          |
| – Lombardy              | -19.6                    | -27.0                   | -21.7                  | -6.3                 | -27.8                         |
| – A.P. of Bolzano       | 7.4                      | n.a.                    | n.a.                   | -18.0                | n.a.                          |
| – A.P. of Trento        | -24.5                    | -39.1                   | n.a.                   | n.a.                 | -26.5                         |
| – Veneto                | -7.7                     | -10.6                   | -10.9                  | -7.2                 | -18.9                         |
| – Friuli Venezia Giulia | -1.9                     | -15.9                   | -12.7                  | -22.9                | -15.2                         |
| – Liguria               | -21.9                    | -23.4                   | -21.2                  | 6.4                  | -24.2                         |
| – Emilia Romagna        | -4.4                     | -15.1                   | -15.6                  | -8.3                 | -23.6                         |
| – Tuscany               | -10.4                    | -18.5                   | 1.3                    | -6.0                 | -24.5                         |
| – Umbria                | -17.0                    | -27.6                   | -22.9                  | n.a.                 | -30.2                         |
| – Marche                | -1.3                     | -10.5                   | -8.1                   | 9.4                  | -27.1                         |
| – Lazio                 | -3.3                     | -16.6                   | 3.2                    | 0.7                  | -15.3                         |
| – Abruzzo               | -1.5                     | -25.7                   | -11.1                  | n.a.                 | -22.6                         |
| – Molise                | -4.6                     | -22.9                   | n.a.                   | n.a.                 | -11.6                         |
| – Campania              | 0.7                      | -14.5                   | 23.4                   | -7.7                 | -24.6                         |
| – Apulia                | -11.1                    | -11.6                   | -29.3                  | -9.0                 | -28.6                         |
| – Basilicata            | -25.5                    | -4.3                    | n.a.                   | n.a.                 | 5.0                           |
| – Calabria              | -30.2                    | -23.2                   | -2.1                   | n.a.                 | -63.2                         |
| – Sicily                | 3.2                      | -7.8                    | 0.8                    | -25.4                | -26.4                         |
| – Sardinia              | 2.9                      | -16.0                   | 1.9                    | -26.1                | -18.3                         |
| <b>Italy</b>            | <b>-10.1</b>             | <b>-17.7</b>            | <b>-10.3</b>           | <b>-6.4</b>          | <b>-25.3</b>                  |

(1) For oncological surgeries, only those with priority class “A” are considered.

Source: AIOP processing of AGENAS data (Source: Ministry of Health SDO flow)

Table S/69 – The decrease of some screening services between January-September 2019 and January-September 2020 by Region (% val.)

| Regions                 | Volumes: Δ% 2019-2020 |                  |
|-------------------------|-----------------------|------------------|
|                         | Cervical screening    | Breast screening |
| – Piedmont              | -55.6                 | -45.0            |
| – Aosta Valley          | -23.7                 | -51.8            |
| – Lombardy              | -72.8                 | -47.2            |
| – A.P. of Bolzano       | -6.50                 | -34.5            |
| – A.P. of Trento        | -34.3                 | -59.9            |
| – Veneto                | -39.5                 | -25.1            |
| – Friuli Venezia Giulia | -38.3                 | -17.1            |
| – Liguria               | -57.3                 | -56.2            |
| – Emilia Romagna        | -38.0                 | -16.7            |
| – Tuscany               | -21.4                 | -20.0            |
| – Umbria                | 1.8                   | -9.1             |
| – Marche                | -39.1                 | -36.5            |
| – Lazio                 | -50.7                 | -45.9            |
| – Abruzzo               | -38.9                 | -52.8            |
| – Molise                | -27.8                 | -41.1            |
| – Campania              | -60.2                 | -56.1            |
| – Apulia                | -49.1                 | -48.7            |
| – Basilicata            | -74.0                 | -43.2            |
| – Calabria              | -47.3                 | -63.3            |
| – Sicily                | -44.8                 | -44.9            |
| – Sardinia              | -49.1                 | -55.6            |
| <b>Italy</b>            | <b>-43.4</b>          | <b>-37.7</b>     |

Source: AIOP processing of AGENAS' data (Source: Ministry of Health Outpatient specialist flow, excluding laboratory activity pursuant to Art. 50)



Table S/70 – Differences of healthcare options across the country, assessed according to patient mobility, using data on hospital admissions<sup>(a)</sup>, Years 2015-2019

| Regions          | 2015   |         | 2016   |         | 2017   |         | 2018   |         | 2019   |         | Mobility balance(b) |         |
|------------------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|---------------------|---------|
|                  | Inflow | Outflow | Inflow | Outflow | Inflow | Outflow | Inflow | Outflow | Inflow | Outflow |                     | Ratio   |
| - Piedmont       | 0.84   | 1.19    | 0.88   | 1.14    | 0.86   | 1.17    | 0.88   | 1.13    | 0.97   | 1.03    | 1.1                 | -850    |
| - Aosta Valley   | 0.69   | 1.45    | 0.78   | 1.28    | 0.83   | 1.20    | 0.75   | 1.33    | 0.70   | 1.42    | 2.0                 | -753    |
| - Lombardy       | 2.53   | 0.39    | 2.64   | 0.38    | 2.63   | 0.38    | 2.60   | 0.38    | 2.46   | 0.41    | 0.2                 | 70,574  |
| - A.P. of Trento | 0.65   | 1.54    | 0.65   | 1.55    | 0.68   | 1.46    | 0.67   | 1.49    | 0.71   | 1.40    | 2.0                 | -2,379  |
| - Veneto         | 1.27   | 0.79    | 1.30   | 0.77    | 1.34   | 0.75    | 1.32   | 0.76    | 1.41   | 0.71    | 0.5                 | 13,224  |
| - Friuli V.G.    | 1.30   | 0.77    | 1.35   | 0.74    | 1.25   | 0.80    | 1.23   | 0.81    | 1.13   | 0.88    | 0.8                 | 1,343   |
| - Liguria        | 0.68   | 1.47    | 0.66   | 1.51    | 0.71   | 1.41    | 0.71   | 1.42    | 0.70   | 1.43    | 2.0                 | -7,859  |
| - Emilia Romagna | 2.41   | 0.41    | 2.39   | 0.42    | 2.40   | 0.42    | 2.43   | 0.41    | 2.58   | 0.39    | 0.2                 | 52,270  |
| - Tuscany        | 1.98   | 0.51    | 1.95   | 0.51    | 1.77   | 0.57    | 1.73   | 0.58    | 1.49   | 0.67    | 0.5                 | 12,820  |
| - Umbria         | 1.40   | 0.71    | 1.30   | 0.77    | 1.17   | 0.85    | 1.16   | 0.87    | 1.15   | 0.87    | 0.8                 | 1,918   |
| - Marche         | 0.84   | 1.19    | 0.80   | 1.24    | 0.77   | 1.30    | 0.84   | 1.19    | 0.82   | 1.22    | 1.5                 | -4,252  |
| - Lazio          | 0.87   | 1.15    | 0.86   | 1.16    | 0.90   | 1.11    | 0.92   | 1.09    | 0.95   | 1.05    | 1.1                 | -2,510  |
| - Abruzzo        | 0.67   | 1.49    | 0.68   | 1.48    | 0.69   | 1.44    | 0.65   | 1.55    | 0.65   | 1.54    | 2.4                 | -8,977  |
| - Molise         | 1.16   | 0.86    | 1.04   | 0.96    | 1.03   | 0.97    | 1.05   | 0.96    | 1.04   | 0.96    | 0.9                 | 496     |
| - Campania       | 0.33   | 3.00    | 0.32   | 3.12    | 0.31   | 3.25    | 0.30   | 3.34    | 0.30   | 3.31    | 11.0                | -37,508 |
| - Apulia         | 0.55   | 1.81    | 0.57   | 1.74    | 0.54   | 1.86    | 0.53   | 1.90    | 0.53   | 1.87    | 3.5                 | -18,668 |
| - Basilicata     | 0.82   | 1.22    | 0.79   | 1.27    | 0.74   | 1.36    | 0.72   | 1.38    | 0.67   | 1.49    | 2.2                 | -5,426  |
| - Calabria       | 0.12   | 8.18    | 0.12   | 8.47    | 0.12   | 8.39    | 0.12   | 8.37    | 0.13   | 7.62    | 58.1                | -31,692 |
| - Sicily         | 0.28   | 3.61    | 0.25   | 3.98    | 0.25   | 4.03    | 0.24   | 4.10    | 0.23   | 4.29    | 18.4                | -26,201 |
| - Sardinia       | 0.33   | 3.05    | 0.33   | 2.99    | 0.34   | 2.97    | 0.36   | 2.77    | 0.33   | 3.00    | 9.0                 | -6,194  |

Data related to the Autonomous Province of Bolzano have not been provided here as they are strongly biased by migration abroad (notably to Austria).

(a) Mobility has been provided in percentage of incoming and outgoing acute patients, calculated on the inter-regional mobility matrices.

(b) Active and passive mobility balance of acute patients of each region.

Source: processing by *Ermeneta* – data from the *Ministry of Health*

### *3. Staff information*

#### **3.1. Staff fluctuation over the years**

The data on staffing prepared by the Ministry of Health for the year 2019, confirm a slight increase for the second consecutive year (+0.3 annually starting from 2018), after a stabilization of the trend of gradual downsizing of the workforce registered by the whole of public hospital facilities since 2010, a trend that led to an overall reduction of 10.3% up until 2015. The 2018 and 2019 values indicate a rapprochement with respect to those of 2014, which, although still decreasing, show a slight improvement also in terms of the amount of medical and nursing staff for inpatient beds. Thus, the decisive inversion of trend is further reduced with respect to the growth observed in 2009, which we had in any case mainly attributed to the creation of new hospital centers and to a radical reclassification undertaken with the inclusion, among the directly managed hospitals and among the hospital centers, of some institutions previously included among the so-called ‘assimilated’ public hospitals. As always, it should be stressed that the values indicated do not include freelance or similarly working personnel, which have nevertheless become part of the workforce over the last few years. Similarly to what has been shown with regard to the trends in healthcare expenditure starting from 2020, it can be envisaged that the pandemic will bring about a decisive change in the trend also in terms of public service personnel, with new hires being made to deal with the emergency but also to reconsider the overall structure of the system.

On the other hand, observing in particular the trends described in Tab. S/71, which reports the data for the period 2015-2019, there is an increase of 6,705 units for this period, with a provision that increases by 1.5%, going from 450,600 to 457,305 employees. However, it should be emphasized that 2015 was the year that witnessed the lowest point of the downward trend of the historical series.

Looking at the public facilities under consideration, that is the hospital centers (including those integrated with universities) and hospitals directly managed by local health authorities, and again taking into account what has already been explicitly stated, we can see the differences in the dynamics among the different professional figures during the period considered: an increase in the number of doctors by 2,171 units, of nurses by 3,498 units, whereas for the remaining personnel the increase is more limited and stands at 1,036 units, as shown by the data in the following table:

|                                | <i>2015</i> | <i>2019</i> |
|--------------------------------|-------------|-------------|
| – Medical doctors and Dentists | 83,735      | 85,906      |
| – Nurses                       | 210,250     | 213,748     |
| – Other staff                  | 156,615     | 157,651     |

An analysis of the indicator that shows the relationship between the personnel of the public hospitalization facilities and the number of patient beds, shows that there is also a slight improvement for 2015 for both Hospital Centers and the hospitals of the local health authorities, noting however that the trend of these relationships continues to be strongly influenced by the change in the classifications and the changes of recent years in the public sphere (see Table S/73).

Analyzing parallel to this the staff of the facilities belonging to AIOP, on the other hand we see an increase between 2015 and 2020 of 6,110 units, equal to a +9.2% increase (Table S/74). This is an increase that affects both the medical staff and, to a greater extent, the nurses and the other employee categories in the health and service sectors, yet once again taking into account the fact that the overall number of staff and their compositional breakdown into the various professional roles is strongly influenced by the variability in the consistency and in the type of the entire grouping of facilities (Table S/75).

### **3.2. Staff distribution throughout Italy**

Healthcare personnel working in the public and private hospitals of the National Health Service as a whole amounted to nearly 633,000 units. Tab. S/76 shows on a regional scale the situation of medical personnel units, other healthcare professionals and the remaining personnel, in a framework typical of ISTAT reports, unfortunately updated only to 2013. The Ministerial reports, on the other hand, give particular care only to the component of public

hospitals and those similar to public hospitals. The Table shows a significant variability by region and by professional figure compared to the previous period, most likely due to a change in the method of data collection and classification.

The North continues to distinguish itself from the other territorial areas, as the part of the country in which all the professional components are most represented in the hospital, with an incidence on the total amounting to 52%.

The numbers and distributions of the employees of AIOP facilities, for which we have data updated at the end of 2020, are instead shown in Table S/77, which makes it possible to observe that the total number of operators employed was 65,002 units. In support of this contract employment component, we find 7,533 units of medical personnel in any case characterized by a coordinated and continuous employment relationship with the facilities and 4,937 units of non-medical personnel who perform their activities as freelance employees.

Table S/71 – Staff trends in Hospital Centers and in the local health service (ASL)<sup>(a)</sup> hospitalization facilities (A.Y.)

| Type of institution Role     | 2015                 |                                     |                      | 2016                                |                      |                                     | 2017                 |                                     |                      | 2018                                |                      |                                     | 2019                 |                                     |  |
|------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|--|
|                              | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) |  |
| Medical doctors and Dentists | 33,640               | 50,095                              | 33,785               | 50,956                              | 34,264               | 50,664                              | 35,145               | 50,633                              | 35,934               | 50,633                              | 35,934               | 50,633                              | 35,934               | 49,972                              |  |
| Nurses                       | 90,937               | 119,313                             | 90,096               | 120,456                             | 90,343               | 121,295                             | 91,741               | 122,413                             | 92,298               | 121,295                             | 92,298               | 122,413                             | 92,298               | 121,450                             |  |
| Other                        | 76,894               | 79,721                              | 77,163               | 82,646                              | 77,098               | 80,868                              | 76,722               | 79,439                              | 77,249               | 79,439                              | 77,249               | 79,439                              | 77,249               | 80,402                              |  |
| Total                        | 201,471              | 249,129                             | 201,044              | 254,058                             | 201,705              | 252,827                             | 203,608              | 252,485                             | 205,481              | 252,485                             | 205,481              | 252,485                             | 205,481              | 251,824                             |  |

(a) Staff working as self-employed professionals or similar contract types were not included.

(\*) NHS staff and University staff.

(\*\*) Residual mental health facilities are included.

Source: data processed by *Ermeneia* from the "Economic and Management Activities of Local Health Authorities and Hospital Centers" Report of the Ministry of Health, Years 2015, 2016, 2017, 2018 and 2019

Table S/72 – Hospital Center and local health service (ASL) hospitalization facility staff (% var.)

|                              | 2016/2015            |                                     |                      | 2017/2016                           |                      |                                     | 2018/2017            |                                     |                      | 2019/2018                           |                      |                                     | 2019/2015            |                                     |  |
|------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|--|
|                              | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) |  |
| Medical doctors and Dentists | 0.4                  | 1.7                                 | 1.4                  | -0.6                                | 2.6                  | -0.1                                | 2.2                  | -1.3                                | 6.8                  | -0.2                                | 6.8                  | -1.3                                | 6.8                  | -0.2                                |  |
| Nurses                       | -0.9                 | 1.0                                 | 0.3                  | 0.7                                 | 1.5                  | 0.9                                 | 0.6                  | -0.8                                | 1.5                  | 1.8                                 | 1.5                  | -0.8                                | 1.5                  | 1.8                                 |  |
| Other                        | 0.3                  | 3.7                                 | -0.1                 | -2.2                                | -0.5                 | -1.8                                | 0.7                  | 1.2                                 | 0.5                  | 0.9                                 | 0.5                  | 1.2                                 | 0.5                  | 0.9                                 |  |
| Total                        | -0.2                 | 2.0                                 | 0.3                  | -0.5                                | 0.9                  | -0.1                                | 0.9                  | -0.3                                | 2.0                  | 1.1                                 | 2.0                  | -0.3                                | 2.0                  | 1.1                                 |  |

(a) Staff working as self-employed professionals or similar contract types were not included.

(\*) NHS staff and University staff.

(\*\*) Residual mental health facilities are included.

Source: data processed by *Ermeneia* from the "Economic and Management Activities of Local Health Authorities and Hospital Centers" Report of the Ministry of Health, Years 2015, 2016, 2017, 2018, and 2019

Table S/73 – Hospital Center and local health service (ASL) hospitalization, facility staff

|                                     | 2015                 |                                     | 2016                 |                                     | 2017                 |                                     | 2018                 |                                     | 2019                 |                                     |
|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|----------------------|-------------------------------------|
|                                     | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) | Hospital Centers (*) | ASL hospitalization facilities (**) |
| Medical doctors per 10 patient beds | 8.4                  | 6.1                                 | 8.5                  | 6.4                                 | 8.5                  | 6.5                                 | 9.2                  | 6.4                                 | 9.4                  | 6.4                                 |
| Nurses per 10 patient beds          | 22.8                 | 14.6                                | 22.6                 | 15.0                                | 22.5                 | 15.4                                | 24.0                 | 15.5                                | 24.1                 | 15.5                                |

(\*) NHS staff and University staff.

(\*\*) Residual mental health facilities are included.

Note: the numbers of medical doctors and nurses per patient bed has been calculated considering patient beds actually used.

Source: data processed by *Ermenzia from the Report "Attività gestionali ed economiche delle Asl e Aziende Ospedaliere"*, Ministry of Health, Years 2015, 2016, 2017, 2018 and 2019

Table S/74 – Staff working in medical institutions associated with AIOP Years 2015-2020

| Role  | 2015          | 2016          | 2017          | 2018          | 2019          | 2020          |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| Contract employee and self-employed doctors | 11,948        | 12,191        | 12,340        | 12,136        | 12,364        | 12,303        |
| Nurses                                      | 20,032        | 21,147        | 21,241        | 21,087        | 21,148        | 21,113        |
| Other                                       | 34,445        | 36,307        | 36,572        | 38,015        | 38,705        | 39,119        |
| <b>Total</b>                                | <b>66,425</b> | <b>69,645</b> | <b>70,153</b> | <b>71,238</b> | <b>72,217</b> | <b>72,535</b> |

Note: surveying data related to staff can be significantly affected by institutions entering or leaving AIOP over the years.

Source: processing by *Ermenzia – data from AIOP*

Table S/75 – Staff working in medical institutions associated with AIOP. Years 2015-2020 (% var.)

|   | 2016/2015  |            | 2017/2016  |            | 2018/2017  |            | 2019/2018  |            | 2020/2019  |  |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
|   | 2016/2015  | 2017/2016  | 2018/2017  | 2019/2018  | 2020/2019  | 2020/2019  | 2020/2019  | 2020/2019  | 2020/2019  |  |
| Contract employee and self-employed doctors | 2.0        | 1.2        | -1.7       | 1.9        | -0.5       | -0.5       | 3.0        | -0.2       | 5.4        |  |
| Nurses                                      | 5.6        | 0.4        | -0.7       | 0.3        | 1.1        | 1.1        | 13.6       | 0.4        | 9.2        |  |
| Other                                       | 5.4        | 0.7        | 3.9        | 1.8        | 1.1        | 1.1        | 13.6       | 0.4        | 9.2        |  |
| <b>Total</b>                                | <b>4.8</b> | <b>0.7</b> | <b>1.5</b> | <b>1.4</b> | <b>0.4</b> | <b>0.4</b> | <b>9.2</b> | <b>0.4</b> | <b>9.2</b> |  |

Note: surveying data related to staff can be significantly affected by institutions entering or leaving AIOP over the years.

Source: processing by *Ermenzia – data from AIOP*

Table S/76 – Total number of healthcare personnel employed in various healthcare institutions, by region, Year 2013

| Regions                          | Medical personnel | Nursing staff | Other staff | Total staff |
|----------------------------------|-------------------|---------------|-------------|-------------|
| – Piedmont                       | 9,477             | 20,078        | 21,750      | 51,305      |
| – Aosta Valley                   | 354               | 591           | 657         | 1,602       |
| – Lombardy                       | 22,026            | 48,097        | 54,356      | 124,479     |
| – Trentino-Alto Adige            | 1,906             | 5,871         | 8,035       | 15,812      |
| – Autonomous Province of Bolzano | 948               | 3,203         | 4,785       | 8,936       |
| – Autonomous Province of Trento  | 958               | 2,668         | 3,250       | 6,876       |
| – Veneto                         | 8,494             | 22,445        | 19,530      | 50,469      |
| – Friuli Venezia Giulia          | 2,715             | 6,527         | 6,555       | 15,797      |
| – Liguria                        | 3,702             | 8,879         | 7,053       | 19,634      |
| – Emilia Romagna                 | 9,854             | 21,905        | 18,513      | 50,272      |
| – Tuscany                        | 8,362             | 17,898        | 13,588      | 39,848      |
| – Umbria                         | 1,933             | 3,827         | 2,827       | 8,587       |
| – Marche                         | 3,586             | 8,760         | 6,472       | 18,818      |
| – Lazio                          | 13,243            | 26,276        | 22,904      | 62,423      |
| – Abruzzo                        | 2,530             | 6,023         | 3,940       | 12,493      |
| – Molise                         | 651               | 1,482         | 1,345       | 3,478       |
| – Campania                       | 9,817             | 19,299        | 13,735      | 42,851      |
| – Apulia                         | 7,093             | 16,084        | 12,203      | 35,380      |
| – Basilicata                     | 1,085             | 2,650         | 2,137       | 5,872       |
| – Calabria                       | 3,221             | 6,273         | 4,949       | 14,443      |
| – Sicily                         | 10,223            | 17,923        | 14,206      | 42,352      |
| – Sardinia                       | 4,156             | 7,282         | 5,377       | 16,815      |
| – North                          | 58,528            | 134,393       | 136,449     | 329,370     |
| – Center                         | 27,124            | 56,761        | 45,791      | 129,676     |
| – South                          | 38,776            | 77,016        | 57,892      | 173,684     |
| – Italy                          | 124,428           | 268,170       | 240,132     | 632,730     |

Source: ISTAT, healthcare institution facilities and activities

Table S/77 – Staff working in medical institutions associated with AIOP. Updated to December, 31st 2020

| Regions            | Contract employee operators in Health and Social Care Settings |               |              |  |                       | Total         | Self-employed professionals |                   |
|--------------------|--|---------------|--------------|--|-----------------------|---------------|-----------------------------|-------------------|
|                    | Medical personnel  | Nurses        | Technicians  | Auxiliary staff in Health and Social Care Settings | Other caregiver staff |               | Other staff                 | Medical personnel |
| – Piedmont         | 208  | 1,117         | 326          | 529  | 595                   | 1,085         | 573                         | 345               |
| – Aosta Valley     | 1  | 12            | 4            | 3  | 14                    | 9             | 2                           | 23                |
| – Lombardy         | 1,362  | 5,826         | 1,776        | 1,847  | 2,658                 | 4,946         | 2,274                       | 1,139             |
| – A.P. of Bolzano  | 3  | 67            | 33           | 21   | 33                    | 39            | 10                          | 19                |
| – A.P. of Trento   | 17   | 81            | 25           | 37   | 88                    | 72            | 5                           | 15                |
| – Veneto           | 300  | 1,444         | 416          | 216  | 819                   | 958           | 233                         | 175               |
| – Friuli V. Giulia | 41   | 119           | 40           | 15   | 92                    | 112           | 29                          | 23                |
| – Liguria          | 3  | 128           | 17           | 9  | 12                    | 150           | 16                          | 41                |
| – Emilia Romagna   | 154  | 1,997         | 475          | 384  | 978                   | 1,095         | 664                         | 544               |
| – Tuscany          | 132  | 657           | 180          | 130  | 414                   | 382           | 398                         | 168               |
| – Umbria           | 13   | 86            | 61           | 11   | 96                    | 44            | 71                          | 10                |
| – Marche           | 123  | 416           | 97           | 80   | 275                   | 312           | 124                         | 100               |
| – Lazio            | 672  | 3,297         | 1,189        | 1,638  | 1,127                 | 2,458         | 1,303                       | 845               |
| – Abruzzo          | 65   | 355           | 100          | 142  | 39                    | 153           | 33                          | 40                |
| – Molise           | 106  | 305           | 98           | 71   | 19                    | 226           | 5                           | 417               |
| – Campania         | 781  | 2,025         | 731          | 718  | 628                   | 1,468         | 539                         | 489               |
| – Apulia           | 209  | 943           | 431          | 293  | 881                   | 681           | 98                          | 143               |
| – Basilicata       | 10   | 68            | 27           | 7  | 133                   | 70            | -                           | 3                 |
| – Calabria         | 117  | 312           | 139          | 127  | 193                   | 268           | 190                         | 105               |
| – Sicily           | 350  | 1,457         | 345          | 809  | 203                   | 1,136         | 801                         | 194               |
| – Sardinia         | 103  | 401           | 63           | 84   | 179                   | 235           | 165                         | 99                |
| <i>Italy</i>       | <i>4,770</i>   | <i>21,113</i> | <i>6,573</i> | <i>7,171</i>                                       | <i>9,476</i>          | <i>15,899</i> | <i>7,533</i>                | <i>4,937</i>      |

Source: AIOP



## 4. Spending data

### 4.1. Economic flow trends over the years

The expenditure for the components analyzed at consolidated values attributed to the National Health Service was also processed for 2019 starting from information extrapolated from various institutional sources, since there have been no updates to the “Health Report” previously contained in the various editions of the General Report on the country’s economic situation since 2013. From this work, published by the Ministry of Economy and Finance until the year 2012, it was possible to extract the historical series of coordinated data flows on healthcare expenditure, with a specific detail dedicated to the various functions that make it up. The historical series presented this year for the 2015-2019 period is thus no longer affected by the methodological break that occurred in 2012, as the criteria for defining the various components of healthcare expenditure adopted by the sources used from 2013 – Court of Auditors, Agenas and MEF – are characterized by their temporal coherence.

Total public spending for the area of hospitalizations is estimated at just over EUR 65.9 billion for 2019, compared to EUR 64.9 million a year earlier (with a 1.5% increase) (Table S/78).

Within this funding aggregate, the amount assigned to the activity of accredited hospitals alone (thus excluding the other types that fall under the “Accredited hospital” expenditure item such as, for example, Institutes for Treatment and Research and religiously-affiliated classified hospitals) is EUR 4.4 billion, or 6.7% of total public hospital expenditure; this amount then sees a slight decrease after the more marked one reported in 2013 as a direct consequence of the effects of the spending review measure (Law 135/12), described in previous editions of the Report, and of the subsequent penalizing measures to contain healthcare spending in the following years.

The analysis at constant prices, which presents the levels of expenditure in real terms (Table S/79), is always based on the calculation on the GDP deflator which, however, is aligned, starting from the comparison two years ago, with the new ISTAT series linked to 2015; the change in total public hospital expenditure between the new base year and 2019 is slightly up (1.7%), compared to the substantial invariance recorded by overall health-care spending. In the same period, on the other hand, spending for accredited hospitals experienced, in real terms, a more marked reduction (-2.7%), above all due to the cuts in the fees paid in this area (both in terms of fee levels and budgeting). The real GDP evaluation continues to affect the generally negative trend of spending data at constant prices; according to the estimates confirmed also in the 2021 Economic and Financial Document (DEF), in fact, the national wealth indicator significantly reversed its negative trend only starting from 2015, starting to record a slight increase from 2018 compared to 2010 (0.5%). The value of GDP at constant prices then underwent heavy downsizing in 2020 as a consequence of the closure of many economic activities during the most acute phase of the pandemic (-8.9% compared to 2019).

## **4.2. Health expenditure comparisons**

The November 2021 edition of OECD “Health Data” allows us to construct the usual framework for comparing health care spending within the group of 24 of the largest member countries of the organization. Table S/80 shows those most commonly indicators used by industry analysts: the incidence of total health expenditure and of public health expenditure compared to GDP.

In 2019, the propensity for the gradual decline in resources in terms of GDP assigned to the NHS is confirmed for Italy, thereby accentuating the gap accumulated over time compared to the average for both OECD Europe countries and those of the G7 group (6.5% compared to 7.2% and 9.2%, respectively). This propensity definitely reversed starting in 2020, but only as a consequence of the maneuvers planned to deal with the dramatic effects that the spread of Covid 19 is causing on the stability of almost all regional health systems: in fact, in contrast to the forecasts contained in the Economic and Financial Document released by the MEF in April 2019, which indicated a trend in the spending curve – GDP projected towards a value of 6.4% for 2022, the DEF version released in April 2021, supplemented by the September update note, indicates values for 2020 and 2021 of 7.5% (+6.7%) and

7.3% (+3%), respectively, with a nominal value of the healthcare spending which should be slightly in excess of EUR 129 billion in 2021.

And there are forecasts for an increase in the funding of the National Health Fund that the 2022 Budget Bill quantifies at 2 billion per year between 2022 and 2024.

These values that are still far from the average of the G7 countries and will probably be even lower than those of the OECD European countries, which are also being forced to adapt their health systems to the new critical issues caused by the pandemic. Returning to the comparisons with 2019, even in terms of total health expenditure, Italy shows a ratio to GDP below the average of the G7 countries (8.7% compared to 11.5%), still remaining below the average of OECD Europe (which is 9.3%).

The trend towards stabilization of the overall Italian health expenditure indicated by the OECD for the three-year period 2017-2019 shows how, in the face of the progressive reduction of public commitment, a significant part of healthcare needs continue to be financed directly by citizens or through old and new forms of intermediation. Again in terms of total healthcare spending, Italy still ranks below the values of the most industrialized countries in 2019: in fact, the United States, France, Germany and Canada show values that are 16.8%, 11.1%, 11.7% and 10.8%, respectively). And this is markedly true for the first three countries mentioned also with regard to public healthcare spending.

Finally, taking into consideration the amount of healthcare spending reserved for hospital activities provided by the publicly-operated and privately-operated components of the NHS (Table S/81), and again with reference to the year 2019, it can be seen that Italy has:

- a higher proportion (56.4%) of total public healthcare spending compared to the average for the G7 countries (41.7%), and compared to that of European OECD countries (45.6%);
- a GDP spending ratio slightly below the average of the G7 countries but still higher than that of European OECD countries (3.7% and 3.2%, respectively).

The events linked to the onset of the pandemic are causing a reversal of the trend with respect to the previous political lines of downsizing the commitment in terms of the use of resources for health in relation to the wealth produced; projects of undeclared and progressive defunding that would have pushed the Italian health system towards that selective universalism, in the context of which new tools still in the planning phase and attributable to the so-called “Second Pillar”, would have revolutionized the overall sustainability framework of Italian healthcare.

The hope is that, once the emergency has been overcome, politics will not go back to sketching out rearguard scenarios, with healthcare once again situated among the sectors from which to draw upon heavily in order to restore public finances.

Table S/78 – Current health spending, Years 2015-2019 (in billions of euro)

|   | 2015           | 2016           | 2017           | 2018           | 2019           |
|---|----------------|----------------|----------------|----------------|----------------|
| Public hospital facilities                  | 53.847         | 54.566         | 55.226         | 56.378         | 57.299         |
| Accredited hospitals (as a whole)           | 8.466          | 8.484          | 8.419          | 8.493          | 8.559          |
| of which: accredited hospitals <sup>1</sup> | 4.335          | 4.351          | 4.321          | 4.359          | 4.387          |
| Total public hospital system expenditure    | 62.313         | 63.050         | 63.645         | 64.871         | 65.858         |
| Other expenditure features                  | 50.354         | 50.681         | 50.694         | 50.842         | 51.070         |
| <b>Total public healthcare expenditure</b>  | <b>112.667</b> | <b>113.731</b> | <b>114.339</b> | <b>115.713</b> | <b>116.928</b> |

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: data processed by Ermeneia, from the 2016, 2017, 2018, 2019, 2020 and 2021 “Report on the coordination of public finance” by the Court of Auditors, the 2018-2019 Agenas Report on the monitoring of the health spending of the Regions and the 2021 MEF Report on the monitoring of the healthcare spending

Table S/79 – Healthcare expenditure at constant prices (\*). Years 2015-2019 (in billions of euro)

|   | 2015           | 2016           | 2017           | 2018           | 2019           |
|---|----------------|----------------|----------------|----------------|----------------|
| Public hospital facilities                  | 53.847         | 53.954         | 54.213         | 54.759         | 55.149         |
| Accredited hospitals (as a whole)           | 8.466          | 8.389          | 8.265          | 8.249          | 8.238          |
| of which: accredited hospitals <sup>1</sup> | 4.335          | 4.302          | 4.242          | 4.234          | 4.222          |
| Total public hospital system expenditure    | 62.313         | 62.343         | 62.477         | 63.008         | 63.386         |
| Other expenditure features                  | 50.354         | 50.113         | 49.764         | 49.382         | 49.153         |
| <b>Total public healthcare expenditure</b>  | <b>112.667</b> | <b>112.455</b> | <b>112.241</b> | <b>112.390</b> | <b>112.540</b> |

(\*) GDP deflator calculated on the basis of the new ISTAT series in a chained series with reference to 2015, November 2021.

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.

Source: data processed by Ermeneia, from the 2016, 2017, 2018, 2018, 2019, 2020 and 2021 “Report on the coordination of public finance” by the Court of Auditors, the 2018-2019 Agenas Report on the monitoring of the health spending of the Regions and the 2021 MEF Report on the monitoring of the healthcare spending

Table S/80 – Amount of total healthcare expenditure and public healthcare spending in relation to the GDP

| % Values                               | Total healthcare expenditure |            |            | Public healthcare expenditure |            |            |
|--|------------------------------|------------|------------|-------------------------------|------------|------------|
|  | 2017                         | 2018       | 2019       | 2017                          | 2018       | 2019       |
| United States                          | 16.8                         | 16.7       | 16.8       | 13.9                          | 13.8       | 13.9       |
| Japan                                  | 10.8                         | 10.9       | 11.0       | 9.1                           | 9.2        | 9.3        |
| Germany                                | 11.3                         | 11.5       | 11.7       | 9.6                           | 9.7        | 9.9        |
| France                                 | 11.3                         | 11.2       | 11.1       | 9.4                           | 9.4        | 9.3        |
| <b>Italy</b>                           | <b>8.7</b>                   | <b>8.7</b> | <b>8.7</b> | <b>6.5</b>                    | <b>6.5</b> | <b>6.5</b> |
| United Kingdom                         | 9.8                          | 9.9        | 10.2       | 7.7                           | 7.8        | 8.0        |
| Canada                                 | 10.8                         | 10.8       | 10.8       | 7.6                           | 7.6        | 7.6        |
| Average of G7 countries (*)            | 11.4                         | 11.4       | 11.5       | 9.1                           | 9.1        | 9.2        |
| Australia                              | 9.3                          | 9.2        | 9.4        | 6.1                           | 6.1        | 6.5        |
| Austria                                | 10.4                         | 10.3       | 10.4       | 7.7                           | 7.7        | 7.9        |
| Belgium                                | 10.8                         | 10.8       | 10.7       | 8.3                           | 8.3        | 8.2        |
| Denmark                                | 10.0                         | 10.1       | 10.0       | 8.4                           | 8.4        | 8.3        |
| Finland                                | 9.1                          | 9.0        | 9.2        | 7.0                           | 7.0        | 7.1        |
| Greece                                 | 8.1                          | 8.0        | 7.8        | 4.9                           | 4.7        | 4.7        |
| Iceland                                | 8.3                          | 8.4        | 8.6        | 6.8                           | 7.0        | 7.1        |
| Ireland                                | 7.1                          | 6.9        | 6.7        | 5.2                           | 5.1        | 5.0        |
| Luxembourg                             | 5.3                          | 5.3        | 5.4        | 4.4                           | 4.4        | 4.6        |
| Holland                                | 10.1                         | 10.0       | 10.2       | 8.3                           | 8.2        | 8.4        |
| New Zealand                            | 9.0                          | 9.0        | 9.1        | 7.0                           | 7.1        | 7.2        |
| Norway                                 | 10.3                         | 10.0       | 10.5       | 8.8                           | 8.6        | 9.0        |
| Portugal                               | 9.3                          | 9.4        | 9.5        | 5.7                           | 5.8        | 5.8        |
| Spain                                  | 9.0                          | 9.0        | 9.1        | 6.3                           | 6.3        | 6.4        |
| Sweden                                 | 10.8                         | 10.9       | 10.9       | 9.1                           | 9.3        | 9.3        |
| Switzerland                            | 11.5                         | 11.2       | 11.3       | 7.6                           | 7.3        | 7.5        |
| Turkey                                 | 4.2                          | 4.1        | 4.3        | 3.2                           | 3.2        | 3.4        |
| Average of European OECD countries (*) | 9.2                          | 9.2        | 9.3        | 7.1                           | 7.1        | 7.2        |
| Average of all OECD countries (*)      | 9.7                          | 9.6        | 9.7        | 7.4                           | 7.4        | 7.5        |

(\*) Averages are calculated as unweighted arithmetic means.

Source: *Ermeneia processing of "OECD Health Data 2021", OECD, Paris, November 2021*

Table S/81 –Public and accredited hospital expenditure in relation to the public healthcare spending and the GDP

| % Values                               | Public and accredited hospital expenditure / Total public healthcare spending |             |             | Public and accredited hospital expenditure/GDP |            |            |
|--|---|-------------|-------------|--|------------|------------|
|  | 2017  | 2018        | 2019        | 2017   | 2018       | 2019       |
|  | United States   | 36.0        | 35.8        | 36.2   | 5.0        | 4.9        |
| Japan                                  | 44.0  | 43.5        | -           | 4.0  | 4.0        | -          |
| Germany                                | 32.0  | 31.7        | 31.5        | 3.1  | 3.1        | 3.1        |
| France                                 | 43.9  | 43.3        | 43.1        | 4.1  | 4.0        | 4.0        |
| <b>Italy</b>                           | <b>57.1</b>   | <b>56.4</b> | <b>56.4</b> | <b>3.7</b>                                     | <b>3.6</b> | <b>3.6</b> |
| United Kingdom                         | 49.5  | 48.7        | 47.5        | 3.8  | 3.8        | 3.8        |
| Canada                                 | 35.9  | 35.9        | 35.3        | 2.7  | 2.7        | 2.7        |
| Average of G7 countries (*)            | 42.6  | 42.2        | 41.7        | 3.8  | 3.7        | 3.7        |
| Australia                              | 50.1  | 51.3        | -           | 3.1  | 3.1        | -          |
| Austria                                | 47.1  | 46.8        | 46.8        | 3.6  | 3.6        | 3.7        |
| Belgium                                | 36.7  | 36.5        | 39.0        | 3.1  | 3.0        | 3.2        |
| Denmark                                | 49.5  | 49.2        | 48.9        | 4.2  | 4.2        | 4.1        |
| Finland                                | 45.4  | 46.4        | 45.1        | 3.2  | 3.2        | 3.2        |
| Greece                                 | 47.1  | 48.5        | 49.8        | 2.3  | 2.3        | 2.3        |
| Iceland                                | 47.3  | 47.6        | 46.9        | 3.2  | 3.3        | 3.3        |
| Ireland                                | 36.2  | 36.7        | 37.5        | 1.9  | 1.9        | 1.9        |
| Luxembourg                             | 35.6  | 37.3        | 37.6        | 1.6  | 1.7        | 1.7        |
| Holland                                | 38.0  | 37.9        | 37.3        | 3.1  | 3.1        | 3.1        |
| New Zealand                            | -   | -           | -           | -  | -          | -          |
| Norway                                 | 44.6  | 44.3        | 44.5        | 3.9  | 3.8        | 4.0        |
| Portugal                               | 54.6  | 54.8        | 55.3        | 3.1  | 3.2        | 3.2        |
| Spain                                  | 55.7  | 55.5        | 55.9        | 3.5  | 3.5        | 3.6        |
| Sweden                                 | 44.7  | 44.8        | 45.1        | 4.1  | 4.2        | 4.2        |
| Switzerland                            | 44.6  | 44.1        | 44.5        | 3.4  | 3.2        | 3.4        |
| Turkey                                 | 55.8  | 54.5        | 53.7        | 1.8  | 1.7        | 1.8        |
| Average of European OECD countries (*) | 45.5  | 45.5        | 45.6        | 3.2  | 3.2        | 3.2        |
| Average of all OECD countries (*)      | 44.8  | 44.8        | 44.7        | 3.3  | 3.3        | 3.3        |

(\*) Averages are calculated as unweighted arithmetic means.

Source: *Ermeneia processing of "OECD Health Data 2021", OECD, Paris, November 2021*

# *Appendices*





## 1. *Methods applied*

The 2021 Report still reflects a particular situation that has its roots in 2020, the (official) initial year of the Covid-19 coronavirus pandemic, with two waves of infections, in the first half of the year and then in the fall, respectively.

But even the beginning of 2021, although accompanied by the vaccination campaign, saw a third wave which gradually diminished with the arrival of the summer season, obviously supported by the effects of the extension of the aforementioned campaign.

The fall saw a further strengthening of the vaccination campaign, due also to the mandatory extension of the *Green Pass* to workers and other categories, but also witnessed a fourth wave and a new vaccination campaign for the second or third dose, depending on the vaccines initially used.

Given this context, this Report has decided to further utilize the double-oversight approach inaugurated in 2020: that of accounting for the dynamics of the provision of hospital services, looking at the positive aspects as well as the problematic ones independent of the pandemic, as well as verifying the impact of the latter on the experiences had by users.

In this second case, two field surveys were carried out, of which:

- the first was carried out on a representative national sample of Covid-19 infected people, which was constructed based on the percentage of the latter within the population sample, to which the questionnaire for the survey referred to in the next point was administered: but a further number of Internet “backup” interviews were also performed to obtain a more representative sample (see the following pages for more information on the methods used). The aim was to be able to make an initial assessment of the experience had in terms of the Covid services received but also of the regular inpatient services that were needed and that may or may not

have been provided in view of the extraordinary condition that we all experienced (see Part Two of the Report);

- the second was directed precisely at a specific national representative sample, made up of the Panel permanently used by this Report, comprised of people aged 18 and over, in order to detect access or non-access to inpatient healthcare services for non-Covid patients and to compare all of this with the relative data for this from the year 2020 (see Part Three of this Report);
- and finally – as per tradition – the battery of suitably updated statistical indicators has been included (see Part Four of this Report).

Alongside of these three Parts of the 2021 Report, Part One, as always, is dedicated to providing an overall cross-sectional interpretation of the Italian hospital system which took into consideration:

- a) a set of phenomena that have accentuated the “dual-nature” characteristic of the Italian hospital system: that of the significant assets (appreciated by citizens and users) of the mixed public and accredited facility system, capable of expressing a national statistical average with the continuous increase of highly complex hospital services, however, one that also sees an often unsatisfactory “average”<sup>1</sup> level of overall performance, in terms of quantity and quality and distribution in the various territories throughout the country. To accentuate this second problematic “nature” of the system, a further weakness was observed during the pandemic that is linked to the indirect impact of the virus on regular patients, represented by the interruptions/postponements of services, which also affected patients with serious and urgent illnesses, putting people’s current and future health at risk (see Chapter 1 of Part One);
- b) the summary of the experiences of former Covid patients and, in parallel, of non-Covid patients through two specific surveys which showed not only the indirect impact of the former on the latter following the interruptions/postponements of regular services, but also of the “explosion” of demand for the latter by Covid patients themselves, especially downstream of treatment and/or hospitalization, under the pressure of the widespread phenomena of *long Covid* (see Chapter 2 of Part One);
- c) the phenomena concerning the financial resources of the health system (and of the hospital system in particular) towards which, under the negative thrust of the pandemic and the positive thrust deriving from the provision of European resources included in the national recovery plan

<sup>1</sup> The term “average” implies the ability of the services to offer an acceptable level of performance, in terms of quantity and quality, but also with adequate coverage to and within the various territories of Italy.

(PNRR), attention is returning to the issue of the progressive de-funding of the system in recent years: with a greater awareness of the need to reconsider and relocate resources with respect to the changing needs and expectations of citizens; which requires promoting an intelligent strategy of convergence between public and accredited facilities under the banner of a qualification of services and facilities as well as a consequent “third” evaluation process of the levels of performance effectiveness and management efficiency for both types of facilities (see Chapter 3 of Part One).

Precisely with reference to the question of management efficiency the monitoring of the Income Statements of 33 public Hospital Centers continued this year (with reference to revenues, costs and operating results), which compared 8 fiscal years (from 2013 to 2020). Table App. 1 below shows the absolute values of the items (in thousands of euros) for the individual Hospital Centers, grouping the results by the Regions they belong to and by the territorial areas of reference. The percentage deviations of each single item reported in the Income Statement were also calculated next to the absolute values, taking into account the increases/decreases relating to the period 2013-2019 (up to the eve of the pandemic) and for the two-year period 2019-2020, to compare the impact of the first year of Corona Virus on the Income Statements.

It should be mentioned that the 33 Hospital Centers represent more than 3/4 of the national total, with 12 units located in the North, 7 in Central Italy, and 14 in the South. Not all of the Hospital Centers that were examined in the last Report were used this time, as Lombardy (with 29 Hospital Centers) has changed its organizational system, incorporating territorial-type activities within the Centers. This has also been the case for some specific Centers in the Region of Friuli Venezia Giulia, Sardinia and Emilia Romagna.

Some summary comparison tables were subsequently prepared, starting from the table App. 1, which was also commented on in Chapter 3 of Part One.

Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) |                | Inpatient admissions and day-hospital admissions (2) |                |                |                |                |                |              |                |              |              |
|--|----------------|--|----------------|----------------|----------------|----------------|----------------|--------------|----------------|--------------|--------------|
|  |                | 2013   | 2014           | 2015           | 2016           | 2017           | 2018           | 2019         | % var. 13-19   | 2020         | % var. 19-20 |
| H.C. 1   | 19,239         | 18,300   | 17,050         | 16,800         | 16,715         | 17,032         | 17,063         | -11.3        | 16,359         | -4.1         |              |
| H.C. 2   | 29,200         | 28,200   | 32,590         | 28,500         | 32,807         | 33,675         | 34,247         | 17.3         | 30,480         | -11.0        |              |
| H.C. 3   | 28,700         | 27,500   | 27,500         | 27,350         | 27,210         | 28,050         | 28,363         | -1.2         | 24,137         | -14.9        |              |
| H.C. 4   | 26,000         | 25,100   | 25,600         | 25,550         | 25,430         | 29,476         | 30,311         | 16.6         | 24,446         | -19.3        |              |
| H.C. 5   | 23,300         | 22,200   | 22,900         | 21,000         | 22,880         | 22,880         | 23,555         | 1.1          | 19,640         | -16.6        |              |
| H.C. 6   | 100,070        | 84,150   | 95,050         | 94,800         | 94,325         | 90,687         | 92,554         | -7.5         | 76,469         | -17.4        |              |
| <b>Piedmont Total</b>                                | <b>226,509</b> | <b>205,450</b>                                       | <b>220,690</b> | <b>214,000</b> | <b>219,367</b> | <b>221,315</b> | <b>226,093</b> | <b>-0.2</b>  | <b>191,531</b> | <b>-15.3</b> |              |
| H.C. 7   | 53,080         | 52,360   | 57,100         | 55,950         | 58,765         | 58,618         | 60,310         | 13.6         | 61,038         | 1.2          |              |
| H.C. 8   | 51,500         | 51,960   | 59,260         | 64,535         | 64,312         | 64,855         | 63,933         | 24.1         | 56,260         | -12.0        |              |
| <b>Veneto Total</b>                                  | <b>104,580</b> | <b>104,320</b>                                       | <b>116,360</b> | <b>120,485</b> | <b>123,077</b> | <b>123,473</b> | <b>124,243</b> | <b>18.8</b>  | <b>117,298</b> | <b>-5.6</b>  |              |
| H.C. 9   | 47,960         | 47,438   | 47,483         | 47,204         | 44,143         | 44,651         | 43,612         | -9.1         | 37,596         | -13.8        |              |
| H.C. 10  | 33,698         | 32,574   | 32,198         | 31,680         | 41,500         | 46,430         | 47,198         | 40.1         | 42,350         | -10.3        |              |
| H.C. 11  | 69,833         | 68,374   | 67,884         | 68,736         | 68,392         | 68,800         | 66,700         | -4.5         | 48,568         | -27.2        |              |
| H.C. 12  | 32,497         | 32,104   | 31,809         | 31,289         | 31,133         | 32,494         | 32,780         | 0.9          | 29,450         | -10.2        |              |
| <b>Emilia R. Total</b>                               | <b>183,988</b> | <b>180,490</b>                                       | <b>179,374</b> | <b>178,909</b> | <b>185,168</b> | <b>192,375</b> | <b>190,290</b> | <b>3.4</b>   | <b>157,964</b> | <b>-17.0</b> |              |
| <b>NORTH ITALY TOTAL</b>                             | <b>515,077</b> | <b>490,260</b>                                       | <b>516,424</b> | <b>513,394</b> | <b>527,612</b> | <b>537,163</b> | <b>540,626</b> | <b>5.0</b>   | <b>466,793</b> | <b>-13.7</b> |              |
| H.C. 13  | 26792          | 31,183   | 30,183         | 30,181         | 32,108         | 31,867         | 30,971         | 15.6         | 22,741         | -26.6        |              |
| H.C. 14  | 49178          | 47,919   | 46,053         | 46,122         | 47,939         | 48,026         | 47,537         | -3.3         | 37,851         | -20.4        |              |
| <b>Marche Total</b>                                  | <b>75,970</b>  | <b>79,102</b>  | <b>76,236</b>  | <b>76,303</b>  | <b>80,047</b>  | <b>79,893</b>  | <b>78,508</b>  | <b>3.3</b>   | <b>60,592</b>  | <b>-22.8</b> |              |
| H.C. 15  | 49,610         | 47,922   | 38,706         | 34,599         | 38,592         | 38,340         | 38,855         | -21.7        | 35,475         | -8.7         |              |
| H.C. 16  | 25,459         | 23,227   | 21,884         | 19,783         | 28,111         | 28,179         | 29,061         | 14.1         | 24,514         | -15.6        |              |
| H.C. 17  | 65,373         | 61,261   | 52,344         | 48,843         | 59,175         | 54,083         | 51,460         | -21.3        | 32,694         | -36.5        |              |
| H.C. 18  | 27,172         | 26,600   | 22,793         | 21,177         | 21,071         | 22,137         | 22,781         | -16.2        | 17,832         | -21.7        |              |
| H.C. 19  | 34,586         | 35,489   | 31,272         | 29,767         | 24,001         | 24,000         | 23,728         | -31.4        | 16,552         | -30.2        |              |
| <b>Lazio Total</b>                                   | <b>202,200</b> | <b>194,499</b>                                       | <b>166,999</b> | <b>154,169</b> | <b>170,950</b> | <b>166,739</b> | <b>165,885</b> | <b>-18.0</b> | <b>127,067</b> | <b>-23.4</b> |              |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>278,170</b> | <b>273,601</b>                                       | <b>243,235</b> | <b>230,472</b> | <b>250,997</b> | <b>246,632</b> | <b>244,393</b> | <b>-12.1</b> | <b>187,659</b> | <b>-23.2</b> |              |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Inpatient admissions and day-hospital admissions (2) |                  |                  |                  |                  |                  |                  |              |                |              |
|--|--|------------------|------------------|------------------|------------------|------------------|------------------|--------------|----------------|--------------|
|  | 2013   | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020           | % var. 19-20 |
| H.C. 20  | 74,633   | 70,926           | 66,659           | 66,300           | 50,432           | 48,041           | 47,798           | -36.0        | 36,181         | -24.3        |
| H.C. 21  | 40,937   | 38,194           | 36,511           | 36,200           | 36,020           | 35,739           | 32,327           | -21.0        | 24,773         | -23.4        |
| <b>Apulia Total</b>                                  | <b>115,570</b>                                       | <b>109,120</b>   | <b>103,170</b>   | <b>102,500</b>   | <b>86,452</b>    | <b>83,780</b>    | <b>80,125</b>    | <b>-30.7</b> | <b>60,954</b>  | <b>-23.9</b> |
| H.C. 22  | 28,168   | 26,527           | 26,083           | 28,213           | 26,115           | 24,796           | 24,830           | -11.9        | 21,352         | -14.0        |
| H.C. 23  | 27,294   | 25,989           | 25,746           | 24,277           | 24,160           | 23,850           | 28,043           | 2.7          | 23,600         | -15.8        |
| H.C. 24  | 10,305   | 9,830            | 9,869            | 9,855            | 9,810            | 9,910            | 10,150           | -1.5         | 8,850          | -12.8        |
| H.C. 25  | 27,173   | 25,554           | 25,022           | 23,556           | 23,450           | 23,750           | 24,455           | -10.0        | 20,722         | -15.3        |
| <b>Calabria Total</b>                                | <b>92,940</b>  | <b>87,900</b>    | <b>86,720</b>    | <b>85,901</b>    | <b>83,535</b>    | <b>82,306</b>    | <b>87,478</b>    | <b>-5.9</b>  | <b>74,524</b>  | <b>-14.8</b> |
| H.C. 26  | 25,812   | 21,525           | 20,377           | 22,009           | 21,243           | 20,536           | 21,656           | -16.1        | 17,982         | -17.0        |
| H.C. 27  | 34,129   | 28,738           | 27,531           | 32,213           | 32,055           | 29,319           | 29,353           | -14.0        | 23,349         | -20.5        |
| H.C. 28  | 46,968   | 40,938           | 39,860           | 44,207           | 43,986           | 42,359           | 40,660           | -13.4        | 32,110         | -21.0        |
| H.C. 29  | 19,918   | 16,538           | 15,211           | 16,918           | 16,850           | 15,791           | 16,173           | -18.8        | 10,626         | -34.3        |
| H.C. 30  | 25,948   | 23,380           | 23,242           | 26,679           | 26,552           | 32,847           | 33,221           | 28.0         | 17,683         | -46.8        |
| H.C. 31  | 34,593   | 29,411           | 27,965           | 27,188           | 27,150           | 26,729           | 26,278           | -24.0        | 20,330         | -22.6        |
| H.C. 32  | 35,437   | 30,527           | 27,117           | 31,202           | 31,055           | 28,550           | 27,680           | -21.9        | 23,418         | -15.4        |
| H.C. 33  | 26,636   | 23,048           | 23,775           | 30,272           | 30,150           | 27,598           | 25,530           | -4.2         | 21,175         | -17.1        |
| <b>Sicily Total</b>                                  | <b>249,441</b>                                       | <b>214,105</b>   | <b>205,078</b>   | <b>230,688</b>   | <b>229,041</b>   | <b>223,729</b>   | <b>220,551</b>   | <b>-11.6</b> | <b>166,673</b> | <b>-24.4</b> |
| <b>SOUTH ITALY TOTAL</b>                             | <b>457,951</b>                                       | <b>411,125</b>   | <b>394,968</b>   | <b>419,089</b>   | <b>399,028</b>   | <b>389,815</b>   | <b>388,154</b>   | <b>-15.2</b> | <b>302,151</b> | <b>-22.2</b> |
| <b>ITALY</b>   | <b>1,251,198</b>                                     | <b>1,174,986</b> | <b>1,154,627</b> | <b>1,162,955</b> | <b>1,177,637</b> | <b>1,173,610</b> | <b>1,173,173</b> | <b>-6.2</b>  | <b>956,603</b> | <b>-18.5</b> |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) |  | Revenues from healthcare services and health-related social health services as per the IS (3) |                  |                  |                  |                  |                  |                  |              |                  |              | % var. /9-20 |
|--|--|---|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|--------------|
|  |  | 2013  | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             |              |              |
| H.C. 1   |  | 106,572   | 104,135          | 107,649          | 108,473          | 106,711          | 115,705          | 124,213          | 16.6         | 109,718          | -11.7        |              |
| H.C. 2   |  | 181,948   | 183,365          | 190,873          | 193,471          | 196,411          | 216,567          | 229,405          | 26.1         | 195,206          | -14.9        |              |
| H.C. 3   |  | 174,424   | 168,874          | 174,785          | 179,357          | 181,174          | 192,057          | 195,887          | 12.3         | 168,272          | -14.1        |              |
| H.C. 4   |  | 153,780   | 149,070          | 154,878          | 162,387          | 165,300          | 174,991          | 184,651          | 20.1         | 165,103          | -10.6        |              |
| H.C. 5   |  | 125,885   | 119,436          | 119,526          | 124,437          | 129,356          | 125,654          | 133,662          | 6.2          | 133,008          | -0.5         |              |
| H.C. 6   |  | 540,499   | 529,186          | 542,128          | 540,077          | 537,733          | 550,225          | 579,477          | 7.2          | 517,805          | -10.6        |              |
| <b>Piedmont Total</b>                                |  | <b>1,283,108</b>  | <b>1,254,066</b> | <b>1,289,839</b> | <b>1,308,202</b> | <b>1,316,685</b> | <b>1,375,199</b> | <b>1,447,295</b> | <b>12.8</b>  | <b>1,289,112</b> | <b>-10.9</b> |              |
| H.C. 7   |  | 420,359   | 411,834          | 417,531          | 419,487          | 441,893          | 446,562          | 456,570          | 8.6          | 514,059          | 12.6         |              |
| H.C. 8   |  | 394,620   | 401,961          | 429,078          | 443,432          | 458,691          | 473,846          | 491,491          | 24.5         | 451,869          | -8.1         |              |
| <b>Veneto Total</b>                                  |  | <b>814,979</b>  | <b>813,795</b>   | <b>846,609</b>   | <b>862,919</b>   | <b>900,584</b>   | <b>920,408</b>   | <b>948,061</b>   | <b>16.3</b>  | <b>965,928</b>   | <b>1.9</b>   |              |
| H.C. 9   |  | 293,863   | 299,822          | 303,994          | 305,869          | 306,399          | 310,592          | 310,512          | 5.7          | 279,444          | -10.0        |              |
| H.C. 10  |  | 206,473   | 205,873          | 206,136          | 205,278          | 324,698          | 325,917          | 329,236          | 59.5         | 324,519          | -1.4         |              |
| H.C. 11  |  | 427,878   | 432,141          | 434,604          | 445,392          | 457,158          | 464,286          | 469,915          | 9.8          | 451,254          | -4.0         |              |
| H.C. 12  |  | 799,118   | 202,904          | 203,645          | 202,749          | 208,151          | 214,493          | 218,938          | 10.0         | 212,259          | -3.1         |              |
| <b>Emilia R. Total</b>                               |  | <b>1,127,332</b>  | <b>1,140,740</b> | <b>1,148,379</b> | <b>1,159,288</b> | <b>1,296,406</b> | <b>1,315,288</b> | <b>1,328,601</b> | <b>17.9</b>  | <b>1,267,476</b> | <b>-4.6</b>  |              |
| <b>NORTH ITALY TOTAL</b>                             |  | <b>3,225,419</b>  | <b>3,208,601</b> | <b>3,284,827</b> | <b>3,330,409</b> | <b>3,513,675</b> | <b>3,610,895</b> | <b>3,723,957</b> | <b>15.5</b>  | <b>3,522,516</b> | <b>-5.4</b>  |              |
| H.C. 13  |  | 151,700   | 144,679          | 141,250          | 145,348          | 160,829          | 174,678          | 180,366          | 18.9         | 156,611          | -13.2        |              |
| H.C. 14  |  | 278,445   | 260,532          | 257,758          | 271,644          | 281,848          | 298,289          | 300,348          | 7.9          | 266,267          | -11.3        |              |
| <b>Marche Total</b>                                  |  | <b>430,145</b>  | <b>405,211</b>   | <b>399,008</b>   | <b>416,992</b>   | <b>442,677</b>   | <b>472,967</b>   | <b>480,714</b>   | <b>11.8</b>  | <b>422,878</b>   | <b>-12.0</b> |              |
| H.C. 15  |  | 241,829   | 238,751          | 232,965          | 224,195          | 224,616          | 232,156          | 234,085          | -3.2         | 220,600          | -5.8         |              |
| H.C. 16  |  | 724,100   | 115,718          | 131,718          | 128,192          | 128,269          | 126,890          | 158,703          | 27.9         | 152,249          | -4.1         |              |
| H.C. 17  |  | 318,664   | 305,205          | 315,050          | 316,490          | 324,679          | 335,899          | 336,909          | 5.7          | 282,974          | -16.0        |              |
| H.C. 18  |  | 732,453   | 132,524          | 137,186          | 140,622          | 148,428          | 156,660          | 162,388          | 22.6         | 147,512          | -9.2         |              |
| H.C. 19  |  | 168,593   | 176,806          | 188,218          | 192,885          | 199,476          | 205,500          | 210,304          | 24.7         | 171,894          | -18.3        |              |
| <b>Lazio Total</b>                                   |  | <b>985,639</b>  | <b>969,004</b>   | <b>1,005,137</b> | <b>1,002,384</b> | <b>1,025,468</b> | <b>1,057,105</b> | <b>1,102,389</b> | <b>11.8</b>  | <b>975,229</b>   | <b>-11.5</b> |              |
| <b>CENTRAL ITALY TOTAL</b>                           |  | <b>1,415,784</b>  | <b>1,374,215</b> | <b>1,404,145</b> | <b>1,419,376</b> | <b>1,468,145</b> | <b>1,530,072</b> | <b>1,583,103</b> | <b>11.8</b>  | <b>1,398,107</b> | <b>-11.7</b> |              |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Revenues from healthcare services and health-related social health services as per the IS |                  |                  |                  |                  |                  |                  |              |                  |              | % var. /9-20 |  |
|--|---|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|--------------|--|
|  | 2013  | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |              |  |
|  |   |                  |                  |                  |                  |                  |                  |              |                  |              |              |  |
| H.C. 20  | 299,652   | 305,360          | 317,373          | 298,153          | 282,993          | 267,378          | 292,035          | -2.5         | 233,369          | -20.1        |              |  |
| H.C. 21  | 164,363   | 164,439          | 173,831          | 162,790          | 171,709          | 165,123          | 169,137          | 2.9          | 144,872          | -14.3        |              |  |
| <b>Apulia Total</b>                                  | <b>464,015</b>  | <b>469,799</b>   | <b>491,204</b>   | <b>460,943</b>   | <b>454,702</b>   | <b>432,501</b>   | <b>461,172</b>   | <b>-0.6</b>  | <b>378,241</b>   | <b>-18.0</b> |              |  |
| H.C. 22  | 98,057  | 97,212           | 96,652           | 117,375          | 118,268          | 125,549          | 124,945          | 27.4         | 132,954          | 6.4          |              |  |
| H.C. 23  | 95,012  | 95,238           | 95,405           | 101,520          | 110,625          | 111,850          | 133,368          | 40.4         | 133,249          | -0.1         |              |  |
| H.C. 24  | 35,871  | 36,024           | 42,958           | 46,927           | 58,102           | 58,265           | 70,485           | 96.5         | 69,815           | -1.0         |              |  |
| H.C. 25  | 94,593  | 93,643           | 92,720           | 103,693          | 111,982          | 127,776          | 138,727          | 46.7         | 128,775          | -7.2         |              |  |
| <b>Calabria Total</b>                                | <b>323,533</b>  | <b>322,117</b>   | <b>327,735</b>   | <b>369,515</b>   | <b>398,977</b>   | <b>423,440</b>   | <b>467,525</b>   | <b>44.5</b>  | <b>464,793</b>   | <b>-0.6</b>  |              |  |
| H.C. 26  | 117,627   | 113,251          | 121,004          | 121,030          | 131,098          | 130,198          | 135,576          | 15.3         | 122,276          | -9.8         |              |  |
| H.C. 27  | 155,528   | 151,207          | 163,486          | 171,138          | 176,793          | 178,167          | 182,379          | 17.3         | 150,872          | -17.3        |              |  |
| H.C. 28  | 214,039   | 215,396          | 236,698          | 243,093          | 238,783          | 249,016          | 252,030          | 17.7         | 230,867          | -8.4         |              |  |
| H.C. 29  | 90,768  | 87,012           | 90,324           | 93,034           | 90,269           | 86,352           | 91,942           | 1.3          | 84,545           | -8.0         |              |  |
| H.C. 30  | 118,246   | 123,015          | 138,017          | 146,708          | 144,996          | 152,279          | 158,853          | 34.3         | 132,986.0        | -16.3        |              |  |
| H.C. 31  | 157,644   | 154,744          | 166,061          | 174,053          | 174,303          | 183,470          | 173,505          | 10.1         | 161,343          | -7.0         |              |  |
| H.C. 32  | 161,492   | 160,615          | 161,024          | 171,581          | 167,388          | 177,908          | 172,192          | 6.6          | 153,535          | -10.8        |              |  |
| H.C. 33  | 121,383   | 121,264          | 141,180          | 166,466          | 155,068          | 160,492          | 153,176          | 26.2         | 126,223          | -17.6        |              |  |
| <b>Sicily Total</b>                                  | <b>1,136,727</b>  | <b>1,126,504</b> | <b>1,217,794</b> | <b>1,293,103</b> | <b>1,278,698</b> | <b>1,317,882</b> | <b>1,319,653</b> | <b>16.1</b>  | <b>1,162,647</b> | <b>-11.9</b> |              |  |
| <b>SOUTH ITALY TOTAL</b>                             | <b>1,924,275</b>  | <b>1,918,420</b> | <b>2,036,733</b> | <b>2,123,561</b> | <b>2,132,377</b> | <b>2,173,823</b> | <b>2,248,350</b> | <b>16.8</b>  | <b>2,005,681</b> | <b>-10.8</b> |              |  |
| <b>ITALY</b>   | <b>6,565,478</b>  | <b>6,501,236</b> | <b>6,725,705</b> | <b>6,873,346</b> | <b>7,114,197</b> | <b>7,314,790</b> | <b>7,555,410</b> | <b>15.1</b>  | <b>6,926,304</b> | <b>-8.3</b>  |              |  |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*  
**Revenues from co-payment charges for external specialist services as per the IS (Cod. A0940)**  
 (4)

|   | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | 2019          | % var.<br>13-19 | 2020          | % var.<br>19-20 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|---------------|-----------------|
| <b>Hospital Centers and University Hospital Centers (1)</b> |               |               |               |               |               |               |               |                 |               |                 |
| H.C. 1  | 2,601         | 2,511         | 2,615         | 2,569         | 2,033         | 2,100         | 2,190         | -15,8           | 1,284         | -41,4           |
| H.C. 2  | 6,534         | 6,900         | 6,504         | 5,598         | 5,567         | 5,875         | 6,088         | -6,8            | 3,451         | -43,3           |
| H.C. 3  | 5,441         | 5,227         | 5,067         | 5,007         | 5,084         | 5,349         | 5,558         | 2,2             | 3,261         | -41,3           |
| H.C. 4  | 3,336         | 3,142         | 3,297         | 3,273         | 3,250         | 3,174         | 3,400         | 1,9             | 2,125         | -37,5           |
| H.C. 5  | 4,035         | 4,039         | 3,862         | 3,738         | 3,597         | 4,035         | 3,580         | -11,3           | 2,071         | -42,2           |
| H.C. 6  | 14,648        | 15,181        | 13,454        | 12,178        | 12,072        | 12,714        | 12,455        | -15,0           | 6,925         | -44,4           |
| <b>Piedmont Total</b>                                       | <b>36,595</b> | <b>37,000</b> | <b>34,859</b> | <b>32,363</b> | <b>31,603</b> | <b>33,247</b> | <b>33,271</b> | <b>-9,1</b>     | <b>19,117</b> | <b>-42,5</b>    |
| H.C. 7  | 8,663         | 8,821         | 8,635         | 8,373         | 10,847        | 10,495        | 11,131        | 28,5            | 9,142         | -17,9           |
| H.C. 8  | 6,541         | 6,800         | 6,974         | 7,510         | 9,804         | 10,208        | 10,382        | 58,7            | 7,416         | -28,6           |
| <b>Veneto Total</b>   | <b>15,204</b> | <b>15,621</b> | <b>15,609</b> | <b>15,883</b> | <b>20,651</b> | <b>20,703</b> | <b>21,513</b> | <b>41,5</b>     | <b>16,558</b> | <b>-23,0</b>    |
| H.C. 9  | 6,669         | 6,889         | 6,739         | 6,794         | 6,431         | 6,875         | 6,273         | -5,9            | 3,525         | -43,8           |
| H.C. 10   | 3,138         | 3,152         | 3,255         | 3,849         | 5,366         | 5,769         | 5,315         | 69,4            | 3,096         | -41,7           |
| H.C. 11   | 7,777         | 7,393         | 6,805         | 7,103         | 7,846         | 7,267         | 6,851         | -11,9           | 4,913         | -28,3           |
| H.C. 12   | 6,094         | 6,129         | 6,085         | 6,043         | 5,703         | 5,397         | 3,579         | -41,3           | 2,492         | -30,4           |
| <b>Emilia R. Total</b>                                      | <b>23,678</b> | <b>23,563</b> | <b>22,884</b> | <b>23,789</b> | <b>25,346</b> | <b>25,308</b> | <b>22,018</b> | <b>-7,0</b>     | <b>14,026</b> | <b>-36,3</b>    |
| <b>NORTH ITALY TOTAL</b>                                    | <b>75,477</b> | <b>76,184</b> | <b>73,352</b> | <b>72,035</b> | <b>77,600</b> | <b>79,258</b> | <b>76,802</b> | <b>1,8</b>      | <b>49,701</b> | <b>-35,3</b>    |
| H.C. 13   | 3,286         | 3,186         | 3,364         | 3,607         | 3,729         | 3,769         | 3,791         | 15,4            | 2,166         | -42,9           |
| H.C. 14   | 4,504         | 4,422         | 4,318         | 4,437         | 4,441         | 4,543         | 4,809         | 6,8             | 2,971         | -38,2           |
| <b>Marche Total</b>   | <b>7,790</b>  | <b>7,608</b>  | <b>7,682</b>  | <b>8,044</b>  | <b>8,170</b>  | <b>8,312</b>  | <b>8,600</b>  | <b>10,4</b>     | <b>5,137</b>  | <b>-40,3</b>    |
| H.C. 15   | 6,418         | 6,222         | 5,336         | 4,743         | 4,119         | 4,106         | 4,062         | -36,7           | 2,912         | -28,3           |
| H.C. 16   | 3,515         | 3,370         | 3,179         | 2,980         | 2,720         | 2,780         | 2,994         | -14,8           | 1,475         | -50,7           |
| H.C. 17   | 11,307        | 10,950        | 10,188        | 10,386        | 10,060        | 8,152         | 7,771         | -31,3           | 3,667         | -52,8           |
| H.C. 18   | 4,760         | 4,464         | 4,168         | 4,146         | 3,784         | 4,260         | 4,618         | -3,0            | 2,643         | -42,8           |
| H.C. 19   | 6,009         | 5,580         | 5,572         | 5,213         | 4,160         | 4,130         | 4,162         | -30,7           | 1,953         | -53,1           |
| <b>Lazio Total</b>  | <b>32,009</b> | <b>30,586</b> | <b>28,443</b> | <b>27,468</b> | <b>25,211</b> | <b>23,428</b> | <b>23,607</b> | <b>-26,2</b>    | <b>12,650</b> | <b>-46,4</b>    |
| <b>CENTRAL ITALY TOTAL</b>                                  | <b>39,799</b> | <b>38,194</b> | <b>36,125</b> | <b>35,512</b> | <b>33,381</b> | <b>31,740</b> | <b>32,207</b> | <b>-19,1</b>    | <b>17,787</b> | <b>-44,8</b>    |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*  
**Revenues from co-payment charges for external specialist services as per the IS (Cod. A0940)**  
 (4)

| Hospital Centers and University Hospital Centers (1) | 2013           | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | % var. 13-19 | 2020          | % var. 19-20 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|---------------|--------------|
| H.C. 20  | 5,989          | 5,708          | 5,675          | 4,569          | 4,899          | 5,284          | 5,344          | -10.8        | 4,092         | -23.4        |
| H.C. 21  | 2,820          | 2,806          | 2,793          | 2,437          | 2,657          | 2,858          | 2,999          | 6.3          | 1,710         | -43.0        |
| <b>Apulia Total</b>                                  | <b>8,809</b>   | <b>8,514</b>   | <b>8,468</b>   | <b>7,006</b>   | <b>7,556</b>   | <b>8,142</b>   | <b>8,343</b>   | <b>-5.3</b>  | <b>5,802</b>  | <b>-30.5</b> |
| H.C. 22  | 2,042          | 2,054          | 1,849          | 2,036          | 1,945          | 2,767          | 1,937          | -5.1         | 841           | -56.6        |
| H.C. 23  | 2,560          | 2,332          | 2,451          | 2,510          | 2,338          | 2,479          | 2,578          | 0.7          | 1,738         | -32.6        |
| H.C. 24  | 1,778          | 1,610          | 1,560          | 1,508          | 1,564          | 1,713          | 1,791          | 0.7          | 1,090         | -39.1        |
| H.C. 25  | 1,586          | 1,694          | 1,695          | 1,502          | 1,387          | 1,495          | 1,470          | -7.3         | 783           | -46.7        |
| <b>Calabria Total</b>                                | <b>7,966</b>   | <b>7,690</b>   | <b>7,555</b>   | <b>7,556</b>   | <b>7,234</b>   | <b>8,454</b>   | <b>7,776</b>   | <b>-2.4</b>  | <b>4,452</b>  | <b>-42.7</b> |
| H.C. 26  | 1,464          | 1,380          | 1,366          | 1,404          | 1,554          | 1,459          | 1,363          | -6.9         | 784           | -42.5        |
| H.C. 27  | 2,430          | 2,303          | 2,333          | 2,335          | 2,333          | 2,362          | 2,388          | -1.7         | 1,405         | -41.2        |
| H.C. 28  | 4,248          | 3,979          | 3,944          | 3,917          | 3,386          | 3,473          | 3,220          | -24.2        | 1,483         | -53.9        |
| H.C. 29  | 1,322          | 1,231          | 1,237          | 1,161          | 995            | 1,045          | 1,008          | -23.8        | 624           | -38.1        |
| H.C. 30  | 2,639          | 2,466          | 2,479          | 2,371          | 2,296          | 2,345          | 2,380          | -9.8         | 1,280.0       | -46.2        |
| H.C. 31  | 2,033          | 1,985          | 1,873          | 1,744          | 1,838          | 1,752          | 1,765          | -13.2        | 988           | -44.0        |
| H.C. 32  | 2,084          | 1,890          | 1,749          | 1,736          | 1,633          | 1,517          | 1,508          | -27.6        | 947           | -37.2        |
| H.C. 33  | 1,884          | 1,806          | 1,754          | 1,715          | 1,722          | 1,636          | 1,629          | -13.5        | 711           | -56.4        |
| <b>Sicily Total</b>                                  | <b>18,104</b>  | <b>17,040</b>  | <b>16,735</b>  | <b>16,383</b>  | <b>15,957</b>  | <b>15,589</b>  | <b>15,261</b>  | <b>-15.7</b> | <b>8,222</b>  | <b>-46.1</b> |
| <b>SOUTH ITALY TOTAL</b>                             | <b>34,879</b>  | <b>33,244</b>  | <b>32,758</b>  | <b>30,945</b>  | <b>30,747</b>  | <b>32,185</b>  | <b>31,380</b>  | <b>-10.0</b> | <b>18,476</b> | <b>-41.1</b> |
| <b>ITALY</b>   | <b>150,155</b> | <b>147,622</b> | <b>142,235</b> | <b>138,492</b> | <b>141,728</b> | <b>143,183</b> | <b>140,389</b> | <b>-6.5</b>  | <b>85,964</b> | <b>-38.8</b> |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) | Revenues from FSR transfer for “by function” activities as per the IS (Cod. AA0030) |                  |                  |                  |                  |                  |                  |              |                  |              |
|--|---|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|
|  | 2013  | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |
|  |   |                  |                  |                  |                  |                  |                  | (5)          |                  |              |
| H.C. 1   | 36,673  | 31,600           | 34,500           | 40,908           | 41,647           | 45,163           | 42,988           | 17.2         | 61,810           | 43.8         |
| H.C. 2   | 64,002  | 66,200           | 74,041           | 89,816           | 67,365           | 97,021           | 99,879           | 56.1         | 123,298          | 33.4         |
| H.C. 3   | 48,028  | 48,500           | 49,400           | 53,977           | 55,340           | 53,734           | 55,934           | 16.5         | 76,053           | 26.0         |
| H.C. 4   | 62,321  | 60,010           | 65,400           | 72,369           | 75,350           | 75,439           | 74,788           | 20.0         | 96,250           | 28.7         |
| H.C. 5   | 37,884  | 42,438           | 42,360           | 51,755           | 46,076           | 50,654           | 48,686           | 28.5         | 62,344           | 28.1         |
| H.C. 6   | 366,810   | 357,400          | 362,282          | 369,228          | 394,630          | 294,928          | 302,071          | -17.6        | 467,627          | 54.8         |
| <b>Piedmont Total</b>                                | <b>615,718</b>  | <b>606,148</b>   | <b>627,983</b>   | <b>678,053</b>   | <b>680,408</b>   | <b>616,939</b>   | <b>624,346</b>   | <b>1.4</b>   | <b>887,382</b>   | <b>42.1</b>  |
| H.C. 7   | 94,209  | 138,893          | 136,414          | 165,421          | 120,010          | 111,750          | 110,609          | 17.4         | 112,843          | 2.0          |
| H.C. 8   | 97,171  | 107,648          | 130,392          | 121,234          | 107,626          | 131,529          | 106,691          | 9.8          | 118,900          | 11.4         |
| <b>Veneto Total</b>                                  | <b>191,380</b>  | <b>246,541</b>   | <b>266,806</b>   | <b>286,655</b>   | <b>227,636</b>   | <b>243,279</b>   | <b>217,300</b>   | <b>13.5</b>  | <b>231,743</b>   | <b>6.6</b>   |
| H.C. 9   | 47,817  | 62,711           | 58,155           | 58,978           | 63,145           | 71,374           | 73,281           | 53.3         | 103,962          | 41.9         |
| H.C. 10  | 33,897  | 43,200           | 44,960           | 45,929           | 63,663           | 58,863           | 63,940           | 88.6         | 92,223           | 44.2         |
| H.C. 11  | 76,387  | 89,465           | 91,752           | 97,560           | 103,694          | 100,959          | 118,790          | 55.5         | 162,626          | 36.9         |
| H.C. 12  | 36,703  | 77,290           | 85,221           | 73,050           | 70,575           | 71,417           | 79,693           | 117.1        | 91,653           | 15.0         |
| <b>Emilia R. Total</b>                               | <b>194,804</b>  | <b>272,666</b>   | <b>280,088</b>   | <b>275,517</b>   | <b>301,077</b>   | <b>302,613</b>   | <b>335,704</b>   | <b>72.3</b>  | <b>450,464</b>   | <b>34.2</b>  |
| <b>NORTH ITALY TOTAL</b>                             | <b>1,001,902</b>  | <b>1,125,355</b> | <b>1,174,877</b> | <b>1,240,225</b> | <b>1,209,121</b> | <b>1,162,831</b> | <b>1,177,350</b> | <b>17.5</b>  | <b>1,569,589</b> | <b>33.3</b>  |
| H.C. 13  | 56,448  | 66,451           | 62,730           | 72,419           | 71,190           | 45,344           | 44,457           | -21.2        | 60,697           | 36.5         |
| H.C. 14  | 73,269  | 91,200           | 102,162          | 94,570           | 88,831           | 74,503           | 77,837           | 6.2          | 115,317          | 48.2         |
| <b>Marche Total</b>                                  | <b>129,717</b>  | <b>157,651</b>   | <b>164,892</b>   | <b>166,989</b>   | <b>160,021</b>   | <b>119,847</b>   | <b>122,294</b>   | <b>-5.7</b>  | <b>176,014</b>   | <b>43.9</b>  |
| H.C. 15  | 60,354  | 69,985           | 53,605           | 46,153           | 49,027           | 52,080           | 55,249           | -8.5         | 65,278           | 18.2         |
| H.C. 16  | 21,463  | 30,429           | 20,918           | 17,432           | 16,244           | 17,150           | 22,468           | 4.7          | 30,072           | 33.8         |
| H.C. 17  | 95,541  | 106,828          | 85,192           | 81,914           | 81,444           | 85,428           | 84,923           | -11.1        | 128,314          | 51.1         |
| H.C. 18  | 19,436  | 23,952           | 20,043           | 18,632           | 18,618           | 25,684           | 19,045           | -2.0         | 34,763           | 82.5         |
| H.C. 19  | 31,207  | 35,118           | 34,016           | 33,981           | 38,947           | 40,050           | 40,880           | 31.0         | 57,708           | 41.2         |
| <b>Lazio Total</b>                                   | <b>228,001</b>  | <b>266,312</b>   | <b>213,774</b>   | <b>198,112</b>   | <b>204,280</b>   | <b>220,392</b>   | <b>222,565</b>   | <b>-2.4</b>  | <b>316,135</b>   | <b>42.0</b>  |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>357,718</b>  | <b>423,963</b>   | <b>378,666</b>   | <b>365,101</b>   | <b>364,301</b>   | <b>340,239</b>   | <b>344,859</b>   | <b>-3.6</b>  | <b>492,149</b>   | <b>42.7</b>  |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Revenues from FSR transfer for “by function” activities as per the IS (Cod. AA0030) |                  |                  |                  |                  |                  |                  |              |                  |              |
|--|---|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|
|  | 2013  | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |
|  |   |                  |                  |                  |                  |                  |                  |              |                  |              |
| H.C. 20  | 160,843   | 188,356          | 156,616          | 155,241          | 160,050          | 152,643          | 153,943          | -4.3         | 183,728          | 19.3         |
| H.C. 21  | 78,809  | 81,625           | 73,454           | 73,154           | 78,004           | 70,138           | 75,400           | -4.3         | 105,112          | 39.4         |
| <b>Apulia Total</b>                                  | <b>239,652</b>  | <b>269,981</b>   | <b>230,070</b>   | <b>228,395</b>   | <b>238,054</b>   | <b>222,781</b>   | <b>229,343</b>   | <b>-4.3</b>  | <b>288,840</b>   | <b>25.9</b>  |
| H.C. 22  | 84,427  | 83,950           | 87,790           | 66,398           | 72,140           | 60,264           | 57,761           | -31.6        | 62,284           | 7.8          |
| H.C. 23  | 67,476  | 66,200           | 66,222           | 58,416           | 43,626           | 43,626           | 39,759           | -41.1        | 44,593           | 12.2         |
| H.C. 24  | 14,849  | 14,349           | 444              | 22,888           | 17,594           | 17,594           | 22,213           | 49.6         | 19,651           | -11.5        |
| H.C. 25  | 63,996  | 63,996           | 58,681           | 58,579           | 59,323           | 49,689           | 52,203           | -18.4        | 50,550           | -3.2         |
| <b>Calabria Total</b>                                | <b>230,748</b>  | <b>228,495</b>   | <b>213,137</b>   | <b>206,281</b>   | <b>192,683</b>   | <b>171,173</b>   | <b>171,936</b>   | <b>-25.5</b> | <b>177,078</b>   | <b>3.0</b>   |
| H.C. 26  | 63,525  | 67,730           | 67,494           | 67,685           | 58,646           | 56,821           | 56,503           | -11.1        | 87,620           | 55.1         |
| H.C. 27  | 71,728  | 80,684           | 74,643           | 75,078           | 74,559           | 76,706           | 72,906           | 1.6          | 124,283          | 70.5         |
| H.C. 28  | 136,862   | 139,702          | 145,198          | 142,094          | 128,190          | 132,712          | 138,075          | 0.9          | 203,612          | 47.5         |
| H.C. 29  | 79,450  | 103,931          | 88,302           | 79,646           | 65,797           | 62,287           | 57,447           | -27.7        | 77,398           | 34.7         |
| H.C. 30  | 57,758  | 57,620           | 54,844           | 54,525           | 61,581           | 73,327           | 66,434           | 15.0         | 149,061          | 124.4        |
| H.C. 31  | 117,156   | 131,790          | 122,478          | 109,141          | 106,019          | 116,767          | 117,947          | 0.7          | 167,631          | 42.1         |
| H.C. 32  | 146,799   | 167,800          | 165,573          | 149,380          | 130,427          | 153,134          | 102,237          | -30.4        | 184,560          | 80.5         |
| H.C. 33  | 61,744  | 93,812           | 92,770           | 79,042           | 78,493           | 80,718           | 81,522           | 32.0         | 129,734          | 59.1         |
| <b>Sicily Total</b>                                  | <b>735,022</b>  | <b>843,069</b>   | <b>811,302</b>   | <b>756,591</b>   | <b>703,712</b>   | <b>752,472</b>   | <b>693,071</b>   | <b>-5.7</b>  | <b>1,123,899</b> | <b>62.2</b>  |
| <b>SOUTH ITALY TOTAL</b>                             | <b>1,205,422</b>  | <b>1,341,545</b> | <b>1,254,509</b> | <b>1,191,267</b> | <b>1,134,449</b> | <b>1,146,426</b> | <b>1,094,350</b> | <b>-9.2</b>  | <b>1,589,817</b> | <b>45.3</b>  |
| <b>ITALY</b>   | <b>2,565,042</b>  | <b>2,890,863</b> | <b>2,808,052</b> | <b>2,796,593</b> | <b>2,707,871</b> | <b>2,649,496</b> | <b>2,616,559</b> | <b>2.0</b>   | <b>3,651,555</b> | <b>39.6</b>  |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Other revenues as per the IS (6) |                |                |                |                |                |                |              |                |              |
|--|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|----------------|--------------|
|  | 2013                             | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | % var. 13-19 | 2020           | % var. 19-20 |
| H.C. 1   | 7.707                            | 8.909          | 10.756         | 11.843         | 14.590         | 5.881          | 7.778          | 0.9          | 9.347          | 20.2         |
| H.C. 2   | 10.563                           | 10.730         | 14.850         | 14.151         | 49.751         | 13.118         | 11.504         | 8.9          | -978           | -108.5       |
| H.C. 3   | 8.228                            | 7.249          | 9.277          | 7.714          | 7.555          | 4.515          | 6.358          | -22.7        | 8.957          | 40.9         |
| H.C. 4   | 8.343                            | 8.400          | 9.790          | 9.364          | 8.500          | 9.181          | 7.675          | -8.0         | 8.304          | 8.2          |
| H.C. 5   | 7.635                            | 3.023          | 5.331          | 5.342          | 8.473          | -3.456         | 3.429          | -78.9        | 3.429          | 112.7        |
| H.C. 6   | 80.607                           | 73.454         | 94.942         | 94.845         | 63.887         | 84.042         | 88.727         | 10.1         | 64.639         | -27.1        |
| <b>Piedmont Total</b>                                | <b>123,083</b>                   | <b>111,765</b> | <b>144,946</b> | <b>143,259</b> | <b>152,756</b> | <b>113,281</b> | <b>123,654</b> | <b>0.5</b>   | <b>93,698</b>  | <b>-24.2</b> |
| H.C. 7   | 42.946                           | -6.708         | 17.972         | -11.858        | 32.525         | 45.018         | 44.331         | 3.2          | 43.807         | -1.2         |
| H.C. 8   | 15.710                           | 10.969         | 9.347          | 17.958         | 31.118         | -              | 23.285         | 48.2         | 43.714         | 87.7         |
| <b>Veneto Total</b>                                  | <b>58,656</b>                    | <b>4,261</b>   | <b>27,319</b>  | <b>6,100</b>   | <b>63,643</b>  | <b>45,018</b>  | <b>67,616</b>  | <b>15.3</b>  | <b>87,521</b>  | <b>29.4</b>  |
| H.C. 9   | 28.629                           | 12.199         | 17.145         | 15.817         | 14.260         | 15.853         | 20.333         | -29.0        | 277,853        | 1,266.5      |
| H.C. 10  | 20.628                           | 8.957          | 10.375         | 11.308         | 18.561         | 33.690         | 32.557         | 57.8         | 60,164         | 84.8         |
| H.C. 11  | 46.192                           | 29.029         | 48.284         | 29.688         | 29.095         | 48.252         | 57.801         | 25.1         | 83,285         | 44.1         |
| H.C. 12  | 62.889                           | 21.445         | 25.967         | 28.387         | 26.430         | 27.725         | 24.809         | -60.6        | 34,077         | 37.4         |
| <b>Emilia R. Total</b>                               | <b>158,338</b>                   | <b>71,650</b>  | <b>101,771</b> | <b>85,200</b>  | <b>88,346</b>  | <b>125,520</b> | <b>135,500</b> | <b>-14.4</b> | <b>455,379</b> | <b>236.1</b> |
| <b>NORTH ITALY TOTAL</b>                             | <b>340,077</b>                   | <b>187,656</b> | <b>274,036</b> | <b>234,559</b> | <b>304,745</b> | <b>283,819</b> | <b>326,770</b> | <b>-3.9</b>  | <b>636,598</b> | <b>94.8</b>  |
| H.C. 13  | 8.733                            | 3.514          | 11.438         | 173            | -3.929         | 11.692         | 11.901         | 36.3         | 25,195         | 111.7        |
| H.C. 14  | 14.683                           | 20.208         | 18.638         | 10.794         | 13.453         | 18.451         | 23.877         | 62.6         | 40,017         | 67.6         |
| <b>Marche Total</b>                                  | <b>23,416</b>                    | <b>23,722</b>  | <b>30,076</b>  | <b>10,967</b>  | <b>9,524</b>   | <b>30,143</b>  | <b>35,778</b>  | <b>52.8</b>  | <b>65,212</b>  | <b>82.3</b>  |
| H.C. 15  | 24.450                           | 15.140         | 18.038         | 15.875         | 15.399         | 15.902         | 13.969         | -42.9        | 14,948         | 7.0          |
| H.C. 16  | 18.157                           | 17.360         | 20.947         | 29.177         | 15.534         | 38.131         | 14.548         | -19.9        | 18,480         | 27.0         |
| H.C. 17  | 31.871                           | 29.370         | 30.508         | 38.406         | 24.373         | 26.674         | 25.175         | -21.0        | 28,352         | 12.6         |
| H.C. 18  | 17.193                           | 14.761         | 14.351         | 13.984         | 20.361         | 13.024         | 18.452         | 7.2          | 20,880         | 13.3         |
| H.C. 19  | 7.965                            | 7.426          | 9.887          | 8.324          | 8.975          | 5.120          | 7.412          | -6.9         | 11,439         | 54.3         |
| <b>Lazio Total</b>                                   | <b>99,636</b>                    | <b>84,057</b>  | <b>93,751</b>  | <b>105,766</b> | <b>84,642</b>  | <b>98,851</b>  | <b>79,536</b>  | <b>-20.2</b> | <b>94,099</b>  | <b>18.3</b>  |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>123,052</b>                   | <b>107,779</b> | <b>123,827</b> | <b>116,733</b> | <b>94,166</b>  | <b>128,994</b> | <b>115,314</b> | <b>-6.3</b>  | <b>159,311</b> | <b>38.2</b>  |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) | Other revenues as per the IS (6) |                |                |                |                |                |                |              |                |              |
|--|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|----------------|--------------|
|  | 2013                             | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | % var. 13-19 | 2020           | % var. 19-20 |
| H.C. 20  | 6,530                            | 1,858          | -              | 7,969          | 23,895         | 31,489         | 29,676         | 354.5        | 22,172         | -25.3        |
| H.C. 21  | 3,600                            | 2,975          | 2,871          | 7,642          | 7,375          | 8,964          | 10,226         | 184.1        | 8,098          | -20.8        |
| <b>Apulia Total</b>                                  | <b>10,130</b>                    | <b>4,833</b>   | <b>2,871</b>   | <b>15,611</b>  | <b>31,270</b>  | <b>40,453</b>  | <b>39,902</b>  | <b>293.9</b> | <b>30,270</b>  | <b>-24.1</b> |
| H.C. 22  | 2,517                            | 5,549          | 4,765          | 4,330          | 4,280          | 7,917          | 10,586         | 320.6        | 4,997          | -52.8        |
| H.C. 23  | 4,165                            | 6,454          | 12,201         | 6,109          | 5,438          | 3,466          | 7,467          | 79.3         | 4,675          | -37.4        |
| H.C. 24  | 12,731                           | 5,969          | 9,588          | 4,996          | 6,952          | 6,364          | 1,859          | -85.4        | 3,032          | 63.1         |
| H.C. 25  | 4,415                            | 8,886          | 12,708         | 6,822          | 5,760          | 7,475          | 8,073          | 82.9         | 18,322         | 127.0        |
| <b>Calabria Total</b>                                | <b>23,828</b>                    | <b>26,858</b>  | <b>39,262</b>  | <b>22,257</b>  | <b>22,430</b>  | <b>25,222</b>  | <b>27,985</b>  | <b>174</b>   | <b>31,026</b>  | <b>10.9</b>  |
| H.C. 26  | 6,084                            | 11,715         | 5,580          | 10,539         | 8,203          | 11,479         | 12,030         | 97.7         | 2,789          | -76.8        |
| H.C. 27  | 8,684                            | 4,172          | 8,629          | 2,739          | 10,125         | 9,890          | 14,728         | 69.6         | 1,681          | -88.6        |
| H.C. 28  | 27,166                           | 32,415         | 19,009         | 14,562         | 16,383         | 40,637         | 40,297         | 48.3         | 45,048         | 11.8         |
| H.C. 29  | 5,143                            | 5,524          | 3,641          | 7,606          | 11,621         | 13,918         | 12,415         | 141.4        | -98            | -100.8       |
| H.C. 30  | 6,450                            | 5,042          | 3,505          | 6,174          | 3,837          | 4,426          | 17,086         | 164.9        | 5,123          | -70.0        |
| H.C. 31  | 13,994                           | 5,403          | 4,157          | 8,624          | 18,710         | 17,018         | 19,670         | 40.6         | 505            | -97.4        |
| H.C. 32  | 23,346                           | 19,446         | 20,861         | 36,929         | 39,298         | 25,102         | 13,065         | -44.0        | 7,628          | -41.6        |
| H.C. 33  | 14,122                           | -              | -              | 8,459          | 7,017          | 9,401          | 11,379         | -19.4        | 6,785          | -40.4        |
| <b>Sicily Total</b>                                  | <b>104,989</b>                   | <b>83,717</b>  | <b>65,382</b>  | <b>95,632</b>  | <b>115,194</b> | <b>131,871</b> | <b>140,670</b> | <b>34.0</b>  | <b>69,461</b>  | <b>-50.6</b> |
| <b>SOUTH ITALY TOTAL</b>                             | <b>138,947</b>                   | <b>115,408</b> | <b>107,515</b> | <b>133,500</b> | <b>168,894</b> | <b>197,546</b> | <b>208,557</b> | <b>50.1</b>  | <b>130,757</b> | <b>-37.3</b> |
| <b>ITALY</b>   | <b>602,076</b>                   | <b>410,843</b> | <b>505,378</b> | <b>484,792</b> | <b>567,805</b> | <b>610,359</b> | <b>650,641</b> | <b>8.1</b>   | <b>926,666</b> | <b>42.4</b>  |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) |                  | Total Revenues as per the IS (Code A2999) |                  |                  |                  |                  |                  |             |                  |             |  | % var. /19-20 |
|--|------------------|---|------------------|------------------|------------------|------------------|------------------|-------------|------------------|-------------|--|---------------|
|  |                  | 2013                                      | 2014             | 2015             | 2016             | 2017             | 2018             | 2019        | % var. /13-19    | 2020        |  |               |
| H.C. 1   | 153,553          | 147,155                                   | 155,520          | 163,793          | 164,981          | 168,849          | 171,169          | 15.4        | 182,159          | 2.8         |  |               |
| H.C. 2   | 263,047          | 267,195                                   | 286,328          | 303,036          | 319,094          | 332,581          | 346,876          | 31.9        | 320,977          | -7.5        |  |               |
| H.C. 3   | 236,121          | 229,850                                   | 238,529          | 246,055          | 249,153          | 255,655          | 263,737          | 11.7        | 256,543          | -2.7        |  |               |
| H.C. 4   | 227,780          | 220,622                                   | 233,365          | 247,393          | 252,400          | 262,785          | 270,514          | 18.8        | 271,782          | 0.5         |  |               |
| H.C. 5   | 175,439          | 168,936                                   | 171,079          | 185,272          | 187,502          | 176,887          | 187,540          | 6.9         | 200,852          | 7.1         |  |               |
| H.C. 6   | 1,002,564        | 975,221                                   | 1,012,806        | 1,016,328        | 1,008,322        | 941,909          | 982,730          | -2.0        | 1,056,996        | 7.6         |  |               |
| <b>Piedmont Total</b>                                | <b>2,058,504</b> | <b>2,008,979</b>                          | <b>2,097,627</b> | <b>2,161,877</b> | <b>2,181,452</b> | <b>2,138,666</b> | <b>2,228,566</b> | <b>8.3</b>  | <b>2,289,309</b> | <b>2.7</b>  |  |               |
| H.C. 7   | 566,177          | 552,840                                   | 580,552          | 581,423          | 605,275          | 613,825          | 622,641          | 10.0        | 679,851          | 9.2         |  |               |
| H.C. 8   | 514,042          | 527,378                                   | 575,791          | 590,134          | 607,239          | 611,827          | 631,849          | 22.9        | 621,899          | -1.6        |  |               |
| <b>Veneto Total</b>                                  | <b>1,080,219</b> | <b>1,080,218</b>                          | <b>1,156,343</b> | <b>1,171,557</b> | <b>1,212,514</b> | <b>1,225,652</b> | <b>1,254,490</b> | <b>16.1</b> | <b>1,301,750</b> | <b>3.8</b>  |  |               |
| H.C. 9   | 376,978          | 381,621                                   | 386,033          | 387,458          | 390,235          | 404,694          | 410,399          | 8.9         | 664,784          | 62.0        |  |               |
| H.C. 10  | 264,136          | 261,182                                   | 264,726          | 266,364          | 412,288          | 424,239          | 431,048          | 63.2        | 480,002          | 11.4        |  |               |
| H.C. 11  | 558,234          | 558,028                                   | 581,445          | 579,743          | 597,793          | 620,764          | 653,357          | 17.0        | 702,078          | 7.5         |  |               |
| H.C. 12  | 304,804          | 307,768                                   | 320,918          | 310,229          | 310,859          | 319,032          | 327,019          | 7.3         | 340,481          | 4.1         |  |               |
| <b>Emilia R. Total</b>                               | <b>1,504,152</b> | <b>1,508,599</b>                          | <b>1,533,122</b> | <b>1,543,794</b> | <b>1,711,175</b> | <b>1,768,729</b> | <b>1,821,823</b> | <b>21.1</b> | <b>2,187,345</b> | <b>20.1</b> |  |               |
| <b>NORTH ITALY TOTAL</b>                             | <b>4,642,875</b> | <b>4,597,796</b>                          | <b>4,807,092</b> | <b>4,877,228</b> | <b>5,105,141</b> | <b>5,133,047</b> | <b>5,304,879</b> | <b>14.3</b> | <b>5,778,404</b> | <b>8.9</b>  |  |               |
| H.C. 13  | 220,167          | 217,830                                   | 218,782          | 221,547          | 231,819          | 235,483          | 240,515          | 9.2         | 244,669          | 1.7         |  |               |
| H.C. 14  | 370,901          | 376,362                                   | 382,876          | 381,445          | 388,573          | 395,786          | 406,871          | 9.7         | 424,572          | 4.4         |  |               |
| <b>Marche Total</b>                                  | <b>591,068</b>   | <b>594,192</b>                            | <b>601,658</b>   | <b>602,992</b>   | <b>620,392</b>   | <b>631,269</b>   | <b>647,386</b>   | <b>9.5</b>  | <b>669,241</b>   | <b>3.4</b>  |  |               |
| H.C. 15  | 333,051          | 330,098                                   | 309,964          | 290,966          | 293,161          | 304,244          | 307,365          | -7.7        | 303,738          | -1.2        |  |               |
| H.C. 16  | 167,235          | 166,877                                   | 176,762          | 171,781          | 162,767          | 184,951          | 198,713          | 18.8        | 202,276          | 1.8         |  |               |
| H.C. 17  | 457,383          | 452,353                                   | 440,938          | 447,196          | 440,556          | 456,153          | 454,778          | -0.6        | 443,307          | -2.5        |  |               |
| H.C. 18  | 173,842          | 175,701                                   | 175,748          | 177,384          | 191,191          | 199,628          | 204,483          | 17.6        | 205,798          | 0.6         |  |               |
| H.C. 19  | 213,774          | 224,930                                   | 237,693          | 240,403          | 251,926          | 254,800          | 262,758          | 22.9        | 242,994          | -7.5        |  |               |
| <b>Lazio Total</b>                                   | <b>1,345,285</b> | <b>1,349,959</b>                          | <b>1,341,105</b> | <b>1,333,730</b> | <b>1,339,601</b> | <b>1,399,776</b> | <b>1,428,097</b> | <b>6.2</b>  | <b>1,398,113</b> | <b>-2.1</b> |  |               |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>1,936,353</b> | <b>1,944,151</b>                          | <b>1,942,763</b> | <b>1,936,722</b> | <b>1,959,993</b> | <b>2,031,045</b> | <b>2,075,483</b> | <b>7.2</b>  | <b>2,067,354</b> | <b>-0.4</b> |  |               |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Total Revenues as per the IS (Code A2999) |                  |                  |                  |                  |                  |                  |              |                  |              | % var. 19-20 |
|--|---|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|--------------|
|  | 2013                                      | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |              |
| H.C. 20  | 473,014                                   | 501,282          | 476,073          | 465,932          | 471,837          | 456,794          | 480,998          | 1.7          | 443,361          | -7.8         |              |
| H.C. 21  | 249,592                                   | 251,845          | 252,949          | 246,023          | 259,745          | 247,083          | 257,762          | 3.3          | 259,792          | 0.8          |              |
| <b>Apulia Total</b>                                  | <b>722,606</b>                            | <b>753,127</b>   | <b>729,022</b>   | <b>711,955</b>   | <b>731,582</b>   | <b>703,877</b>   | <b>738,760</b>   | <b>2.2</b>   | <b>703,153</b>   | <b>-4.8</b>  |              |
| H.C. 22  | 187,043                                   | 188,765          | 191,056          | 190,139          | 196,633          | 196,497          | 195,229          | 4.4          | 201,076          | 3.0          |              |
| H.C. 23  | 169,213                                   | 170,224          | 176,279          | 168,555          | 162,027          | 161,421          | 183,172          | 8.2          | 184,255          | 0.6          |              |
| H.C. 24  | 65,229                                    | 57,952           | 54,550           | 76,319           | 84,212           | 83,936           | 96,348           | 47.7         | 93,588           | -2.9         |              |
| H.C. 25  | 164,590                                   | 168,219          | 165,804          | 170,596          | 178,452          | 186,435          | 200,473          | 21.8         | 198,430          | -1.0         |              |
| <b>Calabria Total</b>                                | <b>586,075</b>                            | <b>585,160</b>   | <b>587,689</b>   | <b>605,609</b>   | <b>621,324</b>   | <b>628,289</b>   | <b>675,222</b>   | <b>15.2</b>  | <b>677,349</b>   | <b>0.3</b>   |              |
| H.C. 26  | 188,700                                   | 194,076          | 195,444          | 200,658          | 199,501          | 199,957          | 205,472          | 8.9          | 213,469          | 3.9          |              |
| H.C. 27  | 238,370                                   | 238,366          | 249,091          | 257,290          | 263,810          | 267,125          | 272,401          | 14.3         | 278,241          | 2.1          |              |
| H.C. 28  | 382,315                                   | 391,492          | 404,849          | 403,666          | 386,942          | 425,838          | 433,622          | 13.4         | 481,010          | 10.9         |              |
| H.C. 29  | 176,683                                   | 197,698          | 183,504          | 181,447          | 168,682          | 163,602          | 162,812          | -7.9         | 162,469          | -0.2         |              |
| H.C. 30  | 185,093                                   | 188,143          | 198,845          | 209,778          | 212,710          | 232,377          | 244,753          | 32.2         | 288,450          | 17.9         |              |
| H.C. 31  | 290,827                                   | 293,922          | 294,569          | 293,562          | 300,870          | 319,007          | 312,887          | 7.6          | 330,467          | 5.6          |              |
| H.C. 32  | 333,721                                   | 349,751          | 349,207          | 359,626          | 338,746          | 357,661          | 289,002          | -13.4        | 346,670          | -20.0        |              |
| H.C. 33  | 199,133                                   | 212,679          | 233,128          | 255,682          | 242,300          | 252,247          | 247,706          | 24.4         | 263,453          | 6.4          |              |
| <b>Sicily Total</b>                                  | <b>1,994,842</b>                          | <b>2,066,127</b> | <b>2,108,637</b> | <b>2,161,709</b> | <b>2,113,561</b> | <b>2,217,814</b> | <b>2,168,635</b> | <b>8.7</b>   | <b>2,364,229</b> | <b>9.0</b>   |              |
| <b>SOUTH ITALY TOTAL</b>                             | <b>3,303,523</b>                          | <b>3,404,414</b> | <b>3,425,348</b> | <b>3,479,273</b> | <b>3,466,467</b> | <b>3,549,980</b> | <b>3,582,637</b> | <b>8.4</b>   | <b>3,744,731</b> | <b>4.5</b>   |              |
| ITALY  | 9,882,751                                 | 9,946,361        | 10,175,203       | 10,293,223       | 10,531,601       | 10,714,072       | 10,962,999       | 10.9         | 11,590,489       | 5.7          |              |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) |                  | Cost for the Purchase of Goods (Cod. BA010) |                  |                  |                  |                  |                  |             |                  |             |              | % var. /9-20 |
|--|------------------|---|------------------|------------------|------------------|------------------|------------------|-------------|------------------|-------------|--------------|--------------|
|  |                  | 2013  | 2014             | 2015             | 2016             | 2017             | 2018             | 2019        | % var. /3-19     | 2020        | % var. /9-20 |              |
| H.C. 1   | 46,390           | 45,969                                      | 51,422           | 55,241           | 57,241           | 61,256           | 68,548           | 47.8        | 68,734           | 0.3         |              |              |
| H.C. 2   | 61,468           | 64,774                                      | 74,082           | 76,095           | 78,570           | 85,724           | 96,743           | 57.4        | 105,152          | 8.7         |              |              |
| H.C. 3   | 57,997           | 57,513                                      | 60,922           | 64,109           | 65,142           | 71,931           | 75,111           | 29.5        | 79,640           | 6.0         |              |              |
| H.C. 4   | 54,787           | 52,129                                      | 55,272           | 61,916           | 63,900           | 68,860           | 72,179           | 31.7        | 77,003           | 6.7         |              |              |
| H.C. 5   | 39,444           | 37,781                                      | 40,423           | 42,051           | 44,735           | 45,025           | 47,312           | 19.9        | 58,368           | 23.4        |              |              |
| H.C. 6   | 216,951          | 209,926                                     | 230,646          | 229,825          | 237,212          | 250,906          | 262,911          | 21.2        | 263,372          | 0.2         |              |              |
| <b>Piedmont Total</b>                                | <b>477,037</b>   | <b>468,092</b>                              | <b>512,767</b>   | <b>529,237</b>   | <b>546,800</b>   | <b>583,702</b>   | <b>622,804</b>   | <b>30.6</b> | <b>652,269</b>   | <b>4.7</b>  |              |              |
| H.C. 7   | 187,067          | 180,174                                     | 204,019          | 200,265          | 210,030          | 214,402          | 227,219          | 21.5        | 246,405          | 8.4         |              |              |
| H.C. 8   | 138,086          | 145,114                                     | 174,411          | 172,379          | 186,165          | 189,677          | 204,480          | 48.1        | 211,901          | 3.6         |              |              |
| <b>Veneto Total</b>                                  | <b>325,153</b>   | <b>325,288</b>                              | <b>378,430</b>   | <b>372,644</b>   | <b>396,195</b>   | <b>404,079</b>   | <b>431,699</b>   | <b>32.8</b> | <b>458,306</b>   | <b>6.2</b>  |              |              |
| H.C. 9   | 84,489           | 90,865                                      | 87,417           | 93,791           | 99,682           | 111,471          | 106,349          | 25.9        | 319,033          | 200.0       |              |              |
| H.C. 10  | 53,030           | 54,987                                      | 58,822           | 60,574           | 102,295          | 101,645          | 98,961           | 86.6        | 126,080          | 27.4        |              |              |
| H.C. 11  | 127,769          | 135,059                                     | 174,518          | 164,324          | 177,786          | 196,587          | 211,683          | 65.7        | 227,918          | 7.7         |              |              |
| H.C. 12  | 58,801           | 60,468                                      | 69,659           | 66,769           | 69,822           | 76,848           | 76,794           | 30.6        | 88,336           | 15.0        |              |              |
| <b>Emilia R. Total</b>                               | <b>324,089</b>   | <b>341,379</b>                              | <b>390,416</b>   | <b>385,458</b>   | <b>449,585</b>   | <b>486,551</b>   | <b>493,787</b>   | <b>52.4</b> | <b>761,367</b>   | <b>54.2</b> |              |              |
| <b>NORTH ITALY TOTAL</b>                             | <b>1,126,279</b> | <b>1,134,759</b>                            | <b>1,281,613</b> | <b>1,287,339</b> | <b>1,392,580</b> | <b>1,474,332</b> | <b>1,548,290</b> | <b>37.5</b> | <b>1,871,942</b> | <b>20.9</b> |              |              |
| H.C. 13  | 52,925           | 54,593                                      | 57,104           | 58,368           | 65,235           | 68,065           | 66,742           | 26.1        | 67,257           | 0.8         |              |              |
| H.C. 14  | 105,185          | 108,958                                     | 122,782          | 120,650          | 126,471          | 137,065          | 139,255          | 32.4        | 138,426          | -0.6        |              |              |
| <b>Marche Total</b>                                  | <b>158,110</b>   | <b>163,551</b>                              | <b>179,886</b>   | <b>179,018</b>   | <b>191,706</b>   | <b>205,130</b>   | <b>205,997</b>   | <b>30.3</b> | <b>205,683</b>   | <b>-0.2</b> |              |              |
| H.C. 15  | 85,856           | 86,638                                      | 84,898           | 81,706           | 74,813           | 82,016           | 83,779           | -2.4        | 87,919           | 4.9         |              |              |
| H.C. 16  | 39,491           | 38,729                                      | 43,674           | 45,850           | 48,172           | 55,220           | 61,537           | 55.8        | 64,736           | 5.2         |              |              |
| H.C. 17  | 173,123          | 170,228                                     | 181,357          | 177,454          | 189,812          | 183,018          | 184,608          | 6.6         | 176,934          | -4.2        |              |              |
| H.C. 18  | 57,720           | 62,116                                      | 60,353           | 62,234           | 72,944           | 83,812           | 86,824           | 50.4        | 81,772           | -5.8        |              |              |
| H.C. 19  | 101,041          | 106,257                                     | 104,687          | 97,605           | 98,621           | 101,700          | 104,007          | 2.9         | 100,706          | -3.2        |              |              |
| <b>Lazio Total</b>                                   | <b>457,231</b>   | <b>463,968</b>                              | <b>474,969</b>   | <b>464,849</b>   | <b>484,362</b>   | <b>505,766</b>   | <b>520,755</b>   | <b>13.9</b> | <b>512,067</b>   | <b>-1.7</b> |              |              |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>615,341</b>   | <b>627,519</b>                              | <b>654,855</b>   | <b>643,867</b>   | <b>676,068</b>   | <b>710,896</b>   | <b>726,752</b>   | <b>18.1</b> | <b>717,750</b>   | <b>-1.2</b> |              |              |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) | Cost for the Purchase of Goods (Cod. BA010) |                  |                  |                  |                  |                  |                  |               |                  |               | % var. /19-20 |
|--|---|------------------|------------------|------------------|------------------|------------------|------------------|---------------|------------------|---------------|---------------|
|  | 2013  | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. /13-19 | 2020             | % var. /19-20 |               |
| H.C. 20  | 156,332                                     | 152,227          | 175,965          | 152,259          | 131,792          | 139,200          | 140,024          | -10.4         | 131,798          | -5.9          |               |
| H.C. 21  | 72,117                                      | 78,259           | 82,473           | 74,060           | 80,436           | 70,035           | 71,781           | -0.5          | 77,683           | 8.2           |               |
| <b>Apulia Total</b>                                  | <b>228,449</b>                              | <b>230,486</b>   | <b>258,438</b>   | <b>226,319</b>   | <b>212,228</b>   | <b>209,235</b>   | <b>211,805</b>   | <b>-7.3</b>   | <b>209,481</b>   | <b>-1.1</b>   |               |
| H.C. 22  | 38,241                                      | 37,379           | 40,174           | 41,988           | 44,311           | 48,072           | 53,489           | 39.9          | 49,941           | -6.6          |               |
| H.C. 23  | 34,905                                      | 32,756           | 37,857           | 36,442           | 38,300           | 41,562           | 43,486           | 24.6          | 46,331           | 6.5           |               |
| H.C. 24  | 23,373                                      | 22,286           | 22,540           | 23,150           | 32,502           | 37,872           | 36,971           | 58.2          | 41,981           | 13.6          |               |
| H.C. 25  | 36,966                                      | 39,966           | 39,705           | 41,773           | 47,626           | 54,692           | 59,780           | 61.7          | 61,540           | 2.9           |               |
| <b>Calabria Total</b>                                | <b>133,485</b>                              | <b>132,387</b>   | <b>140,276</b>   | <b>143,353</b>   | <b>162,739</b>   | <b>182,198</b>   | <b>193,726</b>   | <b>45.1</b>   | <b>199,793</b>   | <b>3.1</b>    |               |
| H.C. 26  | 44,129                                      | 44,904           | 47,546           | 50,062           | 54,008           | 56,727           | 55,313           | 25.3          | 57,410           | 3.8           |               |
| H.C. 27  | 53,451                                      | 56,307           | 68,120           | 69,107           | 71,428           | 76,531           | 78,380           | 46.6          | 83,181           | 6.1           |               |
| H.C. 28  | 111,358                                     | 116,388          | 139,112          | 139,517          | 138,094          | 150,865          | 159,331          | 43.1          | 170,499          | 7.0           |               |
| H.C. 29  | 30,986                                      | 32,779           | 35,358           | 35,998           | 38,328           | 38,770           | 41,927           | 35.3          | 45,386           | 8.3           |               |
| H.C. 30  | 41,608                                      | 43,988           | 58,936           | 57,888           | 63,248           | 74,333           | 78,875           | 89.6          | 90,143           | 14.3          |               |
| H.C. 31  | 69,449                                      | 73,519           | 81,139           | 78,493           | 85,622           | 87,748           | 90,590           | 30.4          | 102,380          | 13.2          |               |
| H.C. 32  | 73,644                                      | 76,283           | 75,215           | 80,939           | 78,063           | 85,576           | 90,736           | 23.2          | 89,107           | -1.8          |               |
| H.C. 33  | 56,170                                      | 62,848           | 83,827           | 87,994           | 79,596           | 81,307           | 85,659           | 52.5          | 90,660           | 5.8           |               |
| <b>Sicily Total</b>                                  | <b>480,795</b>                              | <b>507,016</b>   | <b>589,253</b>   | <b>599,998</b>   | <b>608,387</b>   | <b>651,857</b>   | <b>680,811</b>   | <b>41.6</b>   | <b>728,966</b>   | <b>7.1</b>    |               |
| <b>SOUTH ITALY TOTAL</b>                             | <b>842,729</b>                              | <b>869,889</b>   | <b>987,967</b>   | <b>969,670</b>   | <b>983,354</b>   | <b>1,043,290</b> | <b>1,086,342</b> | <b>28.9</b>   | <b>1,138,240</b> | <b>4.8</b>    |               |
| <b>ITALY</b>   | <b>2,584,349</b>                            | <b>2,632,167</b> | <b>2,924,435</b> | <b>2,900,876</b> | <b>3,052,002</b> | <b>3,228,518</b> | <b>3,361,384</b> | <b>30.1</b>   | <b>3,727,932</b> | <b>10.9</b>   |               |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*  
**Cost for the Purchase of Non-Health Services (Cod. BA1570)**

|   | 2013           | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | % var.<br>13-19 | 2020           | % var.<br>19-20 |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|
| <b>Hospital Centers and University Hospital Centers (1)</b> |                |                |                |                |                |                |                |                 |                |                 |
| H.C. 1  | 11,267         | 13,188         | 11,200         | 11,094         | 10,499         | 11,586         | 12,268         | 8.9             | 11,491         | -6.3            |
| H.C. 2  | 23,147         | 25,817         | 26,899         | 27,121         | 28,120         | 27,987         | 29,851         | 29.0            | 30,053         | 0.7             |
| H.C. 3  | 23,005         | 23,247         | 23,804         | 25,232         | 27,375         | 27,982         | 30,234         | 31.4            | 30,216         | -0.1            |
| H.C. 4  | 23,023         | 24,569         | 23,655         | 23,471         | 24,100         | 25,993         | 26,437         | 14.8            | 26,972         | 2.0             |
| H.C. 5  | 13,740         | 16,597         | 16,599         | 16,768         | 17,396         | 25,249         | 26,650         | 94.0            | 26,755         | 0.4             |
| H.C. 6  | 85,610         | 80,845         | 78,423         | 75,484         | 71,398         | 70,917         | 67,412         | -21.3           | 63,330         | -6.1            |
| <b>Piedmont Total</b>                                       | <b>179,792</b> | <b>184,263</b> | <b>180,580</b> | <b>179,170</b> | <b>178,888</b> | <b>189,714</b> | <b>192,852</b> | <b>7.3</b>      | <b>188,817</b> | <b>-2.1</b>     |
| H.C. 7  | 61,354         | 60,575         | 60,297         | 54,561         | 52,588         | 53,272         | 46,507         | -24.2           | 54,747         | 17.7            |
| H.C. 8  | 73,027         | 69,925         | 67,850         | 63,866         | 62,902         | 61,141         | 60,480         | -17.2           | 56,904         | -5.9            |
| <b>Veneto Total</b>   | <b>134,381</b> | <b>130,500</b> | <b>128,147</b> | <b>118,427</b> | <b>115,490</b> | <b>114,413</b> | <b>106,987</b> | <b>-20.4</b>    | <b>111,651</b> | <b>4.4</b>      |
| H.C. 9  | 43,662         | 44,653         | 43,155         | 38,961         | 38,451         | 37,683         | 36,541         | -16.3           | 42,065         | 15.1            |
| H.C. 10   | 31,037         | 31,950         | 30,996         | 27,073         | 27,073         | 62,478         | 64,040         | 106.3           | 54,476         | -14.9           |
| H.C. 11   | 56,997         | 53,019         | 51,089         | 57,562         | 57,706         | 55,810         | 56,449         | -1.0            | 60,124         | 6.5             |
| H.C. 12   | 46,737         | 47,169         | 46,543         | 44,684         | 40,817         | 46,832         | 48,414         | 3.6             | 47,441         | -2.0            |
| <b>Emilia R. Total</b>                                      | <b>178,433</b> | <b>176,791</b> | <b>171,783</b> | <b>168,280</b> | <b>194,501</b> | <b>202,803</b> | <b>205,444</b> | <b>15.1</b>     | <b>204,106</b> | <b>-0.7</b>     |
| <b>NORTH ITALY TOTAL</b>                                    | <b>492,606</b> | <b>491,554</b> | <b>480,510</b> | <b>463,877</b> | <b>488,879</b> | <b>506,930</b> | <b>505,283</b> | <b>2.6</b>      | <b>504,574</b> | <b>-0.1</b>     |
| H.C. 13   | 23,821         | 23,028         | 23,162         | 22,406         | 24,418         | 24,860         | 24,834         | 4.3             | 25,225         | 1.6             |
| H.C. 14   | 24,412         | 24,831         | 23,369         | 23,471         | 22,306         | 21,901         | 21,792         | -10.7           | 22,023         | 1.1             |
| <b>Marche Total</b>   | <b>48,233</b>  | <b>47,859</b>  | <b>46,531</b>  | <b>45,877</b>  | <b>46,724</b>  | <b>46,761</b>  | <b>46,626</b>  | <b>-3.3</b>     | <b>47,248</b>  | <b>1.3</b>      |
| H.C. 15   | 46,153         | 45,364         | 41,604         | 35,671         | 34,493         | 34,629         | 27,416         | -40.6           | 35,501         | 29.5            |
| H.C. 16   | 27,622         | 28,036         | 30,036         | 28,705         | 28,169         | 25,460         | 27,492         | -0.5            | 28,224         | 2.7             |
| H.C. 17   | 60,866         | 69,566         | 65,115         | 70,198         | 77,214         | 63,283         | 62,483         | 2.7             | 65,725         | 5.2             |
| H.C. 18   | 31,187         | 33,210         | 32,955         | 25,706         | 24,162         | 24,802         | 25,305         | -18.9           | 25,251         | -0.2            |
| H.C. 19   | 35,443         | 33,014         | 32,777         | 33,014         | 34,251         | 33,950         | 33,477         | 0.1             | 33,907         | -4.4            |
| <b>Lazio Total</b>  | <b>201,271</b> | <b>211,045</b> | <b>202,487</b> | <b>193,294</b> | <b>198,289</b> | <b>182,124</b> | <b>178,173</b> | <b>-11.5</b>    | <b>188,608</b> | <b>5.9</b>      |
| <b>CENTRAL ITALY TOTAL</b>                                  | <b>249,504</b> | <b>258,904</b> | <b>249,018</b> | <b>239,171</b> | <b>245,013</b> | <b>228,885</b> | <b>224,799</b> | <b>-9.9</b>     | <b>235,856</b> | <b>4.9</b>      |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*  
**Cost for the Purchase of Non-Health Services (Cod. BA1570)**  
 (9)

| Hospital Centers and University Hospital Centers (1) | 2013             | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|
| H.C. 20  | 60,482           | 56,000           | 55,787           | 53,795           | 56,674           | 54,539           | 55,118           | -8.9         | 60,302           | 9.4          |
| H.C. 21  | 27,514           | 27,751           | 27,667           | 26,114           | 28,088           | 27,733           | 28,523           | 3.7          | 35,239           | 23.5         |
| <b>Apulia Total</b>                                  | <b>87,996</b>    | <b>83,751</b>    | <b>83,454</b>    | <b>79,909</b>    | <b>84,762</b>    | <b>82,272</b>    | <b>83,641</b>    | <b>-4.9</b>  | <b>95,541</b>    | <b>14.2</b>  |
| H.C. 22  | 25,278           | 25,728           | 26,232           | 27,362           | 27,170           | 26,468           | 20,766           | -17.8        | 20,990           | 1.1          |
| H.C. 23  | 21,459           | 21,752           | 21,978           | 22,155           | 20,827           | 21,152           | 22,091           | 2.9          | 21,981           | -0.5         |
| H.C. 24  | 6,456            | 7,248            | 7,150            | 6,988            | 7,935            | 7,935            | 7,151            | 10.8         | 7,095            | -0.8         |
| H.C. 25  | 15,331           | 16,676           | 15,726           | 16,056           | 17,409           | 17,922           | 17,408           | 13.5         | 17,321           | -0.5         |
| <b>Calabria Total</b>                                | <b>68,524</b>    | <b>71,404</b>    | <b>71,086</b>    | <b>72,561</b>    | <b>73,341</b>    | <b>73,477</b>    | <b>67,416</b>    | <b>-1.6</b>  | <b>67,387</b>    | <b>-0.0</b>  |
| H.C. 26  | 20,725           | 21,458           | 21,345           | 21,339           | 20,149           | 21,768           | 23,334           | 12.6         | 23,533           | 0.9          |
| H.C. 27  | 18,513           | 17,457           | 16,890           | 16,472           | 17,907           | 19,336           | 18,654           | 0.8          | 20,467           | 9.7          |
| H.C. 28  | 33,399           | 28,315           | 26,611           | 27,696           | 28,383           | 31,077           | 35,541           | 6.4          | 36,805           | 3.6          |
| H.C. 29  | 15,660           | 14,171           | 12,865           | 13,256           | 13,860           | 14,526           | 14,838           | -5.2         | 11,734           | -20.9        |
| H.C. 30  | 23,750           | 20,430           | 18,338           | 18,865           | 22,030           | 23,665           | 23,305           | -1.9         | 24,216           | 3.9          |
| H.C. 31  | 25,246           | 24,549           | 24,050           | 24,766           | 24,526           | 25,510           | 25,829           | 2.3          | 27,896           | 8.0          |
| H.C. 32  | 28,871           | 24,950           | 23,617           | 19,254           | 18,243           | 17,976           | 18,702           | -35.2        | 19,595           | 4.8          |
| H.C. 33  | 14,454           | 13,067           | 14,543           | 15,451           | 14,121           | 15,856           | 16,937           | 17.2         | 19,546           | 15.4         |
| <b>Sicily Total</b>                                  | <b>180,618</b>   | <b>164,397</b>   | <b>158,259</b>   | <b>157,099</b>   | <b>159,219</b>   | <b>169,664</b>   | <b>177,140</b>   | <b>-1.9</b>  | <b>183,792</b>   | <b>3.8</b>   |
| <b>SOUTH ITALY TOTAL</b>                             | <b>337,138</b>   | <b>319,552</b>   | <b>312,799</b>   | <b>309,569</b>   | <b>317,322</b>   | <b>325,413</b>   | <b>328,197</b>   | <b>-2.7</b>  | <b>346,720</b>   | <b>5.6</b>   |
| <b>ITALY</b>   | <b>1,079,248</b> | <b>1,070,010</b> | <b>1,042,327</b> | <b>1,014,617</b> | <b>1,051,214</b> | <b>1,061,228</b> | <b>1,058,279</b> | <b>-1.9</b>  | <b>1,087,150</b> | <b>2.7</b>   |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Personnel costs (Cod. BA.2080) |                  |                  |                  |                  |                  |                  |              |                  |              | % var. /9-20 |
|--|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|--------------|
|  | 2013                           | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |              |
| H.C. 1   | 68,257                         | 68,937           | 68,500           | 68,242           | 66,571           | 68,433           | 70,550           | 3.4          | 75,686           | 7.3          |              |
| H.C. 2   | 124,016                        | 124,323          | 130,325          | 131,059          | 133,700          | 137,482          | 141,921          | 14.4         | 156,545          | 10.3         |              |
| H.C. 3   | 116,907                        | 116,958          | 118,070          | 117,977          | 118,078          | 120,267          | 121,825          | 4.2          | 126,929          | 4.2          |              |
| H.C. 4   | 110,019                        | 108,828          | 112,093          | 113,350          | 113,150          | 117,297          | 120,866          | 9.9          | 128,337          | 6.2          |              |
| H.C. 5   | 92,680                         | 91,428           | 91,455           | 91,255           | 91,112           | 93,734           | 95,429           | 3.0          | 100,788          | 5.6          |              |
| H.C. 6   | 473,756                        | 473,869          | 476,016          | 469,123          | 467,466          | 475,758          | 480,352          | 1.4          | 489,775          | 2.0          |              |
| <b>Piedmont Total</b>                                | <b>985,635</b>                 | <b>984,343</b>   | <b>996,459</b>   | <b>991,006</b>   | <b>990,077</b>   | <b>1,012,971</b> | <b>1,030,943</b> | <b>4.6</b>   | <b>1,078,060</b> | <b>4.6</b>   |              |
| H.C. 7   | 207,052                        | 203,814          | 208,069          | 209,295          | 210,304          | 214,789          | 220,183          | 6.3          | 275,294          | 25.0         |              |
| H.C. 8   | 228,240                        | 220,412          | 219,722          | 222,050          | 221,148          | 223,719          | 228,538          | 0.1          | 240,188          | 5.1          |              |
| <b>Veneto Total</b>                                  | <b>435,292</b>                 | <b>424,226</b>   | <b>427,791</b>   | <b>431,345</b>   | <b>431,345</b>   | <b>438,508</b>   | <b>448,721</b>   | <b>3.1</b>   | <b>515,482</b>   | <b>14.9</b>  |              |
| H.C. 9   | 167,899                        | 167,288          | 169,137          | 170,411          | 171,193          | 176,035          | 187,322          | 11.6         | 201,273          | 7.4          |              |
| H.C. 10  | 109,604                        | 110,715          | 111,171          | 111,411          | 112,214          | 115,517          | 122,761          | 12.0         | 195,046          | 58.9         |              |
| H.C. 11  | 226,774                        | 222,428          | 217,790          | 215,994          | 222,659          | 229,945          | 235,706          | 3.9          | 251,131          | 6.5          |              |
| H.C. 12  | 126,695                        | 124,263          | 123,733          | 12,203           | 123,843          | 125,724          | 128,807          | 1.7          | 133,501          | 3.6          |              |
| <b>Emilia R. Total</b>                               | <b>630,972</b>                 | <b>624,694</b>   | <b>621,831</b>   | <b>510,019</b>   | <b>629,909</b>   | <b>647,221</b>   | <b>674,596</b>   | <b>6.9</b>   | <b>780,951</b>   | <b>15.8</b>  |              |
| <b>NORTH ITALY TOTAL</b>                             | <b>2,051,899</b>               | <b>2,033,263</b> | <b>2,046,081</b> | <b>1,932,370</b> | <b>2,051,438</b> | <b>2,098,700</b> | <b>2,154,260</b> | <b>5.0</b>   | <b>2,374,493</b> | <b>10.2</b>  |              |
| H.C. 13  | 102,663                        | 102,813          | 100,746          | 101,551          | 103,301          | 104,930          | 105,724          | 3.0          | 107,056          | 1.3          |              |
| H.C. 14  | 162,827                        | 161,704          | 159,555          | 161,828          | 166,898          | 172,399          | 173,664          | 6.7          | 182,923          | 5.3          |              |
| <b>Marche Total</b>                                  | <b>265,490</b>                 | <b>264,517</b>   | <b>260,301</b>   | <b>263,379</b>   | <b>270,199</b>   | <b>277,329</b>   | <b>279,388</b>   | <b>5.2</b>   | <b>289,979</b>   | <b>3.8</b>   |              |
| H.C. 15  | 242,361                        | 236,001          | 232,783          | 231,558          | 226,686          | 226,611          | 222,824          | -8.1         | 228,059          | 2.3          |              |
| H.C. 16  | 127,590                        | 123,966          | 122,989          | 123,684          | 122,805          | 124,018          | 126,227          | -1.1         | 136,630          | 8.2          |              |
| H.C. 17  | 119,291                        | 116,237          | 123,581          | 142,486          | 141,307          | 146,019          | 149,218          | 25.1         | 159,152          | 6.7          |              |
| H.C. 18  | 89,239                         | 89,507           | 90,359           | 90,553           | 90,197           | 91,106           | 95,639           | 7.2          | 108,466          | 13.4         |              |
| H.C. 19  | 52,179                         | 51,521           | 51,892           | 55,048           | 58,782           | 59,052           | 65,243           | 25.0         | 71,237           | 9.2          |              |
| <b>Lazio Total</b>                                   | <b>630,660</b>                 | <b>617,232</b>   | <b>621,604</b>   | <b>643,329</b>   | <b>639,777</b>   | <b>646,809</b>   | <b>659,151</b>   | <b>4.5</b>   | <b>703,544</b>   | <b>6.7</b>   |              |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>896,150</b>                 | <b>881,749</b>   | <b>881,905</b>   | <b>906,708</b>   | <b>909,976</b>   | <b>924,138</b>   | <b>938,539</b>   | <b>4.7</b>   | <b>993,523</b>   | <b>5.9</b>   |              |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) | Personnel costs (Cod. BA.2080) |                  |                  |                  |                  |                  |                  |              |                  |              | % var. /9-20 |
|--|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|--------------|
|  | 2013                           | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |              |
| H.C. 20  | 193,950                        | 193,159          | 197,474          | 194,126          | 194,362          | 195,676          | 202,042          | 4.2          | 211,339          | 4.6          |              |
| H.C. 21  | 108,565                        | 108,993          | 109,989          | 111,581          | 112,148          | 114,682          | 120,508          | 11.0         | 150,204          | 24.6         |              |
| <b>Apulia Total</b>                                  | <b>302,515</b>                 | <b>302,152</b>   | <b>307,463</b>   | <b>305,707</b>   | <b>306,510</b>   | <b>310,358</b>   | <b>322,550</b>   | <b>6.6</b>   | <b>361,543</b>   | <b>12.1</b>  |              |
| H.C. 22  | 104,152                        | 102,133          | 101,131          | 100,768          | 101,621          | 101,159          | 101,159          | -2.9         | 101,370          | 0.2          |              |
| H.C. 23  | 93,112                         | 91,855           | 92,167           | 92,110           | 96,822           | 99,334           | 102,123          | 9.7          | 107,117          | 4.9          |              |
| H.C. 24  | 32,346                         | 32,281           | 32,455           | 32,015           | 38,050           | 39,623           | 40,064           | 23.9         | 42,814           | 6.9          |              |
| H.C. 25  | 83,682                         | 82,873           | 81,080           | 83,613           | 87,816           | 89,528           | 94,551           | 13.0         | 96,669           | 2.2          |              |
| <b>Calabria Total</b>                                | <b>313,292</b>                 | <b>309,142</b>   | <b>306,833</b>   | <b>308,506</b>   | <b>324,309</b>   | <b>329,644</b>   | <b>337,897</b>   | <b>7.9</b>   | <b>347,970</b>   | <b>3.0</b>   |              |
| H.C. 26  | 83,756                         | 83,149           | 83,514           | 82,904           | 83,793           | 85,260           | 87,144           | 4.0          | 89,014           | 2.1          |              |
| H.C. 27  | 114,212                        | 113,964          | 113,706          | 114,625          | 118,696          | 120,310          | 122,887          | 7.6          | 124,323          | 1.2          |              |
| H.C. 28  | 155,086                        | 151,990          | 149,678          | 149,251          | 151,313          | 153,565          | 159,588          | 2.9          | 170,389          | 6.8          |              |
| H.C. 29  | 98,062                         | 96,926           | 92,886           | 86,392           | 77,257           | 77,311           | 77,428           | -21.0        | 77,950           | 0.7          |              |
| H.C. 30  | 87,486                         | 87,751           | 89,983           | 90,339           | 66,030           | 77,026           | 83,074           | -5.0         | 88,683           | 6.8          |              |
| H.C. 31  | 145,249                        | 140,907          | 141,391          | 140,780          | 141,710          | 142,838          | 143,515          | -1.2         | 147,339          | 2.7          |              |
| H.C. 32  | 164,280                        | 161,480          | 158,094          | 154,749          | 155,264          | 157,334          | 153,454          | -6.6         | 157,196          | 2.4          |              |
| H.C. 33  | 61,164                         | 60,096           | 61,179           | 62,852           | 63,533           | 64,731           | 68,655           | 12.2         | 73,540           | 7.1          |              |
| <b>Sicily Total</b>                                  | <b>909,295</b>                 | <b>896,263</b>   | <b>890,431</b>   | <b>881,892</b>   | <b>857,596</b>   | <b>878,375</b>   | <b>895,745</b>   | <b>-1.5</b>  | <b>928,434</b>   | <b>3.6</b>   |              |
| <b>SOUTH ITALY TOTAL</b>                             | <b>1,525,102</b>               | <b>1,507,557</b> | <b>1,504,727</b> | <b>1,496,105</b> | <b>1,488,415</b> | <b>1,518,377</b> | <b>1,556,192</b> | <b>2.0</b>   | <b>1,637,947</b> | <b>5.3</b>   |              |
| <b>ITALY</b>   | <b>4,473,151</b>               | <b>4,422,569</b> | <b>4,432,713</b> | <b>4,335,183</b> | <b>4,449,829</b> | <b>4,541,215</b> | <b>4,648,991</b> | <b>3.9</b>   | <b>5,005,963</b> | <b>7.7</b>   |              |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) | Provisions (Cod. BA2690)<br>(11) |                |               |                |               |                |               |                 |                |                 |
|--|----------------------------------|----------------|---------------|----------------|---------------|----------------|---------------|-----------------|----------------|-----------------|
|  | 2013                             | 2014           | 2015          | 2016           | 2017          | 2018           | 2019          | % var.<br>13-19 | 2020           | % var.<br>19-20 |
| H.C. 1   | 2,269                            | 306            | 350           | 472            | 2,337         | 570            | 566           | -75.1           | 2,272          | 301.4           |
| H.C. 2   | 3,546                            | 593            | 1,906         | 300            | 4,137         | 5,948          | 2,108         | -40.6           | 1,203          | -42.9           |
| H.C. 3   | 1,720                            | 142            | 169           | 849            | 1,643         | 1,643          | 991           | -42.4           | 2,927          | 195.4           |
| H.C. 4   | 2,657                            | 645            | 1,486         | 1,301          | 1,120         | 1,209          | 792           | -70.2           | 2,003          | 152.9           |
| H.C. 5   | 1,740                            | 679            | 2,129         | 1,958          | 1,389         | 1,389          | 1,390         | -20.1           | 1,357          | -2.4            |
| H.C. 6   | 15,198                           | 13,853         | 12,236        | 15,124         | 20,062        | 22,737         | 19,566        | 28.7            | 27,908         | 42.6            |
| <b>Piedmont Total</b>                                | <b>27,130</b>                    | <b>16,218</b>  | <b>18,276</b> | <b>20,004</b>  | <b>30,788</b> | <b>33,496</b>  | <b>25,413</b> | <b>-6.3</b>     | <b>37,670</b>  | <b>48.2</b>     |
| H.C. 7   | 21,015                           | 18,020         | 10,763        | 12,781         | 15,445        | 15,267         | 13,899        | -33.9           | 15,218         | 9.5             |
| H.C. 8   | 5,562                            | 4,741          | 7,694         | 17,586         | 17,776        | 20,864         | 20,331        | 265.5           | 29,148         | 43.4            |
| <b>Veneto Total</b>                                  | <b>26,577</b>                    | <b>22,761</b>  | <b>18,457</b> | <b>30,367</b>  | <b>33,221</b> | <b>36,131</b>  | <b>34,230</b> | <b>28.8</b>     | <b>44,366</b>  | <b>29.6</b>     |
| H.C. 9   | 3,289                            | 2,622          | 5,180         | 8,489          | 4,831         | 6,657          | 5,912         | 79.8            | 13,060         | 120.9           |
| H.C. 10  | 6,338                            | 3,325          | 5,346         | 10,407         | 9,139         | 9,498          | 6,521         | 2.9             | 7,430          | 13.9            |
| H.C. 11  | 17,485                           | 28,078         | 21,082        | 11,648         | 10,251        | 8,044          | 19,018        | 8.8             | 11,080         | -41.7           |
| H.C. 12  | 3,124                            | 2,587          | 4,539         | 4,935          | 4,671         | 6,481          | 5,754         | 84.2            | 7,051          | 22.5            |
| <b>Emilia R. Total</b>                               | <b>30,236</b>                    | <b>36,612</b>  | <b>36,147</b> | <b>35,479</b>  | <b>28,892</b> | <b>30,680</b>  | <b>37,205</b> | <b>23.0</b>     | <b>38,621</b>  | <b>3.8</b>      |
| <b>NORTH ITALY TOTAL</b>                             | <b>83,943</b>                    | <b>75,591</b>  | <b>72,880</b> | <b>85,850</b>  | <b>92,901</b> | <b>100,307</b> | <b>96,848</b> | <b>15.4</b>     | <b>120,657</b> | <b>24.6</b>     |
| H.C. 13  | 6,110                            | 7,983          | 7,494         | 9,630          | 7,934         | 3,426          | 6,314         | 3.3             | 9,249          | 46.5            |
| H.C. 14  | 11,254                           | 11,352         | 9,009         | 8,415          | 9,402         | 9,712          | 6,300         | -44.0           | 13,272         | 110.7           |
| <b>Marche Total</b>                                  | <b>17,364</b>                    | <b>19,335</b>  | <b>16,503</b> | <b>18,045</b>  | <b>17,336</b> | <b>13,138</b>  | <b>12,614</b> | <b>-27.4</b>    | <b>22,521</b>  | <b>78.5</b>     |
| H.C. 15  | 9,610                            | 10,873         | 7,486         | 16,580         | 15,980        | 10,258         | 8,053         | -16.2           | 12,379         | 53.7            |
| H.C. 16  | 6,114                            | 10,544         | 17,863        | 6,455          | 9,246         | 8,880          | 6,061         | -0.9            | 8,298          | 36.9            |
| H.C. 17  | 45,178                           | 46,443         | 37,404        | 40,816         | 12,488        | 10,823         | 14,618        | -67.6           | 16,217         | 10.9            |
| H.C. 18  | 3,226                            | 6,720          | 6,462         | 7,483          | 8,176         | 6,663          | 7,091         | 119.8           | 6,135          | -13.5           |
| H.C. 19  | 2,841                            | 7,109          | 9,630         | 10,640         | 6,401         | 5,900          | 3,896         | 37.1            | 7,815          | 100.6           |
| <b>Lazio Total</b>                                   | <b>66,969</b>                    | <b>81,689</b>  | <b>79,045</b> | <b>81,974</b>  | <b>52,291</b> | <b>42,524</b>  | <b>39,719</b> | <b>-40.7</b>    | <b>50,844</b>  | <b>28.0</b>     |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>84,333</b>                    | <b>101,024</b> | <b>95,548</b> | <b>100,019</b> | <b>69,627</b> | <b>55,662</b>  | <b>52,333</b> | <b>-37.9</b>    | <b>73,365</b>  | <b>40.2</b>     |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) | Provisions (Cod. BA2690)<br>(11) |                |                |                |                |                |                |                 |                |                 |
|--|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|
|  | 2013                             | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | % var.<br>13-19 | 2020           | % var.<br>19-20 |
| H.C. 20  | 8,913                            | 14,375         | 2,014          | 3,099          | 8,852          | 12,619         | 7,862          | -11.8           | 11,867         | 50.9            |
| H.C. 21  | 3,154                            | 5,518          | 4,876          | 3,753          | 6,004          | 7,591          | 2,361          | -25.1           | 3,644          | 54.3            |
| <b>Apulia Total</b>                                  | <b>12,067</b>                    | <b>19,893</b>  | <b>6,890</b>   | <b>6,852</b>   | <b>14,856</b>  | <b>20,210</b>  | <b>10,223</b>  | <b>-15.3</b>    | <b>15,511</b>  | <b>51.7</b>     |
| H.C. 22  | 3,424                            | 6,403          | 6,873          | 4,096          | 4,982          | 4,685          | 11,738         | 242.8           | 8,978          | -23.5           |
| H.C. 23  | 1,424                            | 1,250          | 1,289          | 1,315          | 1,505          | 2,079          | 803            | -43.6           | 22,186         | 2,662.9         |
| H.C. 24  | 3,249                            | 2,280          | 2,295          | 2,850          | 551            | 773            | 10,015         | 208.2           | 16,682         | 66.6            |
| H.C. 25  | 3,270                            | 2,943          | 3,314          | 2,545          | 1,903          | 2,075          | 471            | -85.6           | 1,025          | 117.6           |
| <b>Calabria Total</b>                                | <b>11,367</b>                    | <b>12,876</b>  | <b>13,771</b>  | <b>10,806</b>  | <b>8,941</b>   | <b>9,612</b>   | <b>23,027</b>  | <b>102.6</b>    | <b>48,871</b>  | <b>112.2</b>    |
| H.C. 26  | 6,201                            | 9,047          | 8,994          | 15,268         | 7,801          | 5,012          | 5,539          | -10.7           | 6,660          | 20.2            |
| H.C. 27  | 8,374                            | 10,758         | 10,026         | 10,218         | 7,039          | 4,940          | 6,308          | -24.7           | 7,955          | 26.1            |
| H.C. 28  | 8,345                            | 12,851         | 17,167         | 18,468         | 16,483         | 7,514          | 4,133          | -50.5           | 11,887         | 187.6           |
| H.C. 29  | 3,398                            | 11,283         | 10,825         | 17,986         | 8,837          | 5,366          | 3,408          | 0.3             | 3,992          | 17.1            |
| H.C. 30  | 6,655                            | 8,131          | 6,010          | 8,835          | 4,694          | 9,155          | 2,280          | -65.7           | 13,463         | 490.5           |
| H.C. 31  | 7,167                            | 8,714          | 12,737         | 8,353          | 7,814          | 12,297         | 11,788         | 64.5            | 12,060         | 2.3             |
| H.C. 32  | 12,269                           | 18,689         | 23,436         | 31,623         | 15,041         | 16,288         | 6,939          | -43.4           | 18,707         | 169.6           |
| H.C. 33  | 4,947                            | 3,277          | 3,708          | 4,269          | 3,678          | 4,232          | 4,845          | -2.1            | 12,441         | 156.8           |
| <b>Sicily Total</b>                                  | <b>57,356</b>                    | <b>82,750</b>  | <b>92,903</b>  | <b>115,020</b> | <b>71,387</b>  | <b>64,804</b>  | <b>45,240</b>  | <b>-21.1</b>    | <b>87,165</b>  | <b>92.7</b>     |
| <b>SOUTH ITALY TOTAL</b>                             | <b>80,790</b>                    | <b>115,519</b> | <b>113,564</b> | <b>132,678</b> | <b>95,184</b>  | <b>94,626</b>  | <b>78,490</b>  | <b>-2.8</b>     | <b>151,547</b> | <b>93.1</b>     |
| <b>ITALY</b>   | <b>249,066</b>                   | <b>292,134</b> | <b>281,992</b> | <b>318,547</b> | <b>257,712</b> | <b>250,595</b> | <b>227,671</b> | <b>-8.6</b>     | <b>345,569</b> | <b>51.8</b>     |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros) \*

| Hospital Centers and University Hospital Centers (1) | Other Costs<br>(12) |                |                |                |                |                |                |                 |                |                 |
|--|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|
|  | 2013                | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | % var.<br>13-19 | 2020           | % var.<br>19-20 |
| H.C. 1   | 24,606              | 24,951         | 24,078         | 23,529         | 23,167         | 25,001         | 26,284         | 6.8             | 25,306         | -3.7            |
| H.C. 2   | 50,034              | 55,472         | 58,841         | 63,168         | 76,653         | 66,799         | 66,530         | 33.0            | 50,171         | -24.6           |
| H.C. 3   | 27,644              | 28,722         | 26,975         | 27,634         | 28,493         | 27,458         | 27,342         | -1.1            | 24,125         | -11.8           |
| H.C. 4   | 31,425              | 36,211         | 39,278         | 36,888         | 35,230         | 43,000         | 45,779         | 45.7            | 42,987         | -6.1            |
| H.C. 5   | 23,445              | 23,111         | 26,420         | 26,716         | 27,896         | 9,199          | 11,849         | -49.5           | 18,953         | 60.0            |
| H.C. 6   | 197,833             | 204,449        | 200,390        | 206,214        | 205,000        | 216,080        | 228,997        | 15.8            | 214,001        | -6.5            |
| <b>Piedmont Total</b>                                | <b>354,987</b>      | <b>372,916</b> | <b>375,982</b> | <b>384,149</b> | <b>396,439</b> | <b>387,537</b> | <b>406,801</b> | <b>14.6</b>     | <b>375,543</b> | <b>-7.7</b>     |
| H.C. 7   | 98,745              | 98,716         | 96,835         | 98,058         | 99,209         | 103,318        | 91,414         | -7.4            | 93,862         | 2.7             |
| H.C. 8   | 72,214              | 74,354         | 86,775         | 95,171         | 99,280         | 98,143         | 97,714         | 35.3            | 99,092         | 1.4             |
| <b>Veneto Total</b>                                  | <b>170,959</b>      | <b>173,070</b> | <b>183,610</b> | <b>193,229</b> | <b>198,489</b> | <b>201,461</b> | <b>189,128</b> | <b>10.6</b>     | <b>192,954</b> | <b>2.0</b>      |
| H.C. 9   | 68,100              | 65,258         | 70,544         | 64,036         | 64,117         | 66,859         | 72,085         | 5.9             | 75,678         | 5.0             |
| H.C. 10  | 55,392              | 52,335         | 50,363         | 48,972         | 123,848        | 129,624        | 137,229        | 147.7           | 85,483         | -37.7           |
| H.C. 11  | 115,356             | 109,213        | 110,857        | 122,452        | 117,318        | 119,894        | 120,864        | 4.8             | 137,417        | 13.7            |
| H.C. 12  | 61,801              | 63,570         | 62,488         | 172,500        | 64,599         | 56,624         | 58,111         | -6.0            | 55,319         | -4.8            |
| <b>Emilia R. Total</b>                               | <b>300,649</b>      | <b>290,376</b> | <b>294,252</b> | <b>407,960</b> | <b>369,882</b> | <b>373,001</b> | <b>388,289</b> | <b>29.2</b>     | <b>353,897</b> | <b>-8.9</b>     |
| <b>NORTH ITALY TOTAL</b>                             | <b>826,595</b>      | <b>836,362</b> | <b>853,844</b> | <b>985,338</b> | <b>964,810</b> | <b>961,999</b> | <b>984,218</b> | <b>19.1</b>     | <b>922,394</b> | <b>-6.3</b>     |
| H.C. 13  | 27,434              | 23,941         | 23,682         | 23,441         | 24,182         | 27,070         | 30,395         | 10.8            | 29,758         | -2.1            |
| H.C. 14  | 56,563              | 58,639         | 56,715         | 57,921         | 57,164         | 59,432         | 65,330         | 15.5            | 60,344         | -7.6            |
| <b>Marche Total</b>                                  | <b>83,997</b>       | <b>82,580</b>  | <b>80,397</b>  | <b>81,362</b>  | <b>81,346</b>  | <b>86,502</b>  | <b>95,725</b>  | <b>14.0</b>     | <b>90,102</b>  | <b>-5.9</b>     |
| H.C. 15  | 83,525              | 87,508         | 76,387         | 65,353         | 60,806         | 59,720         | 64,144         | -23.2           | 57,736         | -10.0           |
| H.C. 16  | 41,312              | 35,163         | 43,305         | 42,627         | 23,216         | 36,640         | 35,122         | -15.0           | 35,529         | 1.2             |
| H.C. 17  | 139,328             | 124,487        | 125,606        | 130,571        | 118,127        | 127,168        | 118,500        | -14.9           | 96,086         | -18.9           |
| H.C. 18  | 41,957              | 33,965         | 37,064         | 34,093         | 31,719         | 26,530         | 29,183         | -30.4           | 27,399         | -6.1            |
| H.C. 19  | 80,348              | 82,692         | 77,907         | 71,573         | 62,988         | 63,660         | 58,488         | -27.2           | 56,874         | -2.8            |
| <b>Lazio Total</b>                                   | <b>386,470</b>      | <b>363,815</b> | <b>360,269</b> | <b>344,217</b> | <b>296,856</b> | <b>313,718</b> | <b>305,437</b> | <b>-21.0</b>    | <b>273,624</b> | <b>-10.4</b>    |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>470,467</b>      | <b>446,395</b> | <b>440,666</b> | <b>423,579</b> | <b>378,202</b> | <b>400,220</b> | <b>401,162</b> | <b>-14.7</b>    | <b>363,726</b> | <b>-9.3</b>     |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Other Costs<br>(12) |                  |                  |                  |                  |                  |                  |                 |                  |                 | % var.<br>19-20 |
|--|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|------------------|-----------------|-----------------|
|  | 2013                | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var.<br>13-19 | 2020             | % var.<br>19-20 |                 |
| H.C. 20  | 54,728              | 63,037           | 60,617           | 70,429           | 70,985           | 81,006           | 81,283           | 48.5            | 73,978           | -9.0            |                 |
| H.C. 21  | 24,545              | 20,590           | 20,363           | 22,416           | 23,856           | 19,803           | 26,563           | 8.2             | 27,430           | 3.3             |                 |
| <b>Apulia Total</b>                                  | <b>79,273</b>       | <b>83,627</b>    | <b>80,980</b>    | <b>92,845</b>    | <b>94,841</b>    | <b>100,809</b>   | <b>107,846</b>   | <b>36.0</b>     | <b>101,408</b>   | <b>-6.0</b>     |                 |
| H.C. 22  | 10,350              | 12,275           | 14,466           | 14,858           | 13,264           | 11,554           | 14,348           | 38.6            | 11,882           | -17.2           |                 |
| H.C. 23  | 13,611              | 14,481           | 15,356           | 18,250           | 18,734           | 14,457           | 17,249           | 26.7            | 27,417           | 58.9            |                 |
| H.C. 24  | 7,418               | 9,783            | 14,747           | 27,016           | 14,239           | 11,323           | 83,184           | 1,021.4         | 18,835           | -77.4           |                 |
| H.C. 25  | 18,414              | 18,438           | 18,705           | 19,483           | 19,914           | 18,760           | 22,634           | 22.9            | 17,100           | -24.4           |                 |
| <b>Calabria Total</b>                                | <b>49,793</b>       | <b>54,977</b>    | <b>63,274</b>    | <b>79,607</b>    | <b>66,151</b>    | <b>56,094</b>    | <b>137,415</b>   | <b>176.0</b>    | <b>75,234</b>    | <b>-45.3</b>    |                 |
| H.C. 26  | 24,793              | 25,011           | 26,597           | 25,819           | 27,343           | 27,399           | 28,121           | 13.4            | 38,381           | 36.5            |                 |
| H.C. 27  | 32,837              | 28,127           | 29,951           | 38,611           | 40,904           | 38,579           | 37,606           | 14.5            | 34,044           | -9.5            |                 |
| H.C. 28  | 61,783              | 66,025           | 60,643           | 54,748           | 43,943           | 76,654           | 69,539           | 12.6            | 78,918           | 13.5            |                 |
| H.C. 29  | 19,706              | 28,389           | 23,549           | 25,395           | 23,999           | 22,314           | 19,270           | -2.2            | 22,678           | 17.7            |                 |
| H.C. 30  | 17,471              | 19,480           | 18,052           | 27,412           | 49,867           | 41,099           | 44,056           | 152.2           | 35,201           | -20.1           |                 |
| H.C. 31  | 25,967              | 27,185           | 23,732           | 32,002           | 32,871           | 37,876           | 30,134           | 16.0            | 28,836           | -4.3            |                 |
| H.C. 32  | 41,864              | 52,845           | 56,535           | 61,663           | 60,262           | 71,275           | 60,388           | 44.2            | 56,692           | -6.1            |                 |
| H.C. 33  | 56,098              | 62,341           | 60,564           | 75,464           | 73,624           | 77,061           | 63,084           | 12.5            | 58,616           | -7.1            |                 |
| <b>Sicily Total</b>                                  | <b>280,519</b>      | <b>309,403</b>   | <b>299,623</b>   | <b>341,114</b>   | <b>352,813</b>   | <b>392,257</b>   | <b>352,218</b>   | <b>25.6</b>     | <b>353,566</b>   | <b>0.3</b>      |                 |
| <b>SOUTH ITALY TOTAL</b>                             | <b>409,585</b>      | <b>448,007</b>   | <b>443,877</b>   | <b>513,566</b>   | <b>513,805</b>   | <b>549,160</b>   | <b>597,479</b>   | <b>45.9</b>     | <b>530,008</b>   | <b>-11.3</b>    |                 |
| <b>ITALY</b>   | <b>1,706,647</b>    | <b>1,730,764</b> | <b>1,738,387</b> | <b>1,924,483</b> | <b>1,856,817</b> | <b>1,911,379</b> | <b>1,982,859</b> | <b>16.2</b>     | <b>1,816,128</b> | <b>-8.4</b>     |                 |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Total Costs (Cod. BZ999) |                  |                  |                  |                  |                  |                  |              |                  |              |
|--|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------|------------------|--------------|
|  | 2013                     | 2014             | 2015             | 2016             | 2017             | 2018             | 2019             | % var. 13-19 | 2020             | % var. 19-20 |
|  |                          |                  |                  |                  |                  |                  |                  |              |                  |              |
| H.C. 1   | 152,789                  | 153,351          | 155,550          | 158,578          | 159,815          | 166,846          | 178,216          | 16.6         | 183,489          | 3.0          |
| H.C. 2   | 262,211                  | 270,979          | 292,053          | 297,743          | 321,180          | 323,940          | 337,173          | 28.6         | 343,124          | 3.8          |
| H.C. 3   | 227,273                  | 226,582          | 229,940          | 235,801          | 240,716          | 249,281          | 255,503          | 12.4         | 263,837          | 3.3          |
| H.C. 4   | 221,911                  | 222,382          | 231,784          | 236,926          | 237,500          | 256,359          | 266,053          | 19.9         | 277,302          | 4.2          |
| H.C. 5   | 171,049                  | 169,596          | 177,026          | 178,748          | 182,643          | 174,596          | 182,630          | 6.8          | 206,221          | 12.9         |
| H.C. 6   | 989,348                  | 982,942          | 997,711          | 995,770          | 1,001,138        | 1,036,398        | 1,059,238        | 7.1          | 1,058,386        | -0.1         |
| <b>Piedmont Total</b>                                | <b>2,024,581</b>         | <b>2,025,832</b> | <b>2,084,064</b> | <b>2,103,566</b> | <b>2,142,992</b> | <b>2,207,420</b> | <b>2,278,813</b> | <b>12.6</b>  | <b>2,332,359</b> | <b>2.3</b>   |
| H.C. 7   | 575,233                  | 561,299          | 579,983          | 574,960          | 587,576          | 601,048          | 599,222          | 4.2          | 685,526          | 14.4         |
| H.C. 8   | 517,129                  | 514,546          | 556,452          | 571,052          | 587,271          | 593,544          | 611,543          | 18.3         | 637,233          | 4.2          |
| <b>Veneto Total</b>                                  | <b>1,092,362</b>         | <b>1,075,845</b> | <b>1,136,435</b> | <b>1,146,012</b> | <b>1,174,847</b> | <b>1,194,592</b> | <b>1,210,765</b> | <b>10.8</b>  | <b>1,322,759</b> | <b>9.2</b>   |
| H.C. 9   | 367,439                  | 370,686          | 375,433          | 375,688          | 378,274          | 398,705          | 408,209          | 11.1         | 651,109          | 59.5         |
| H.C. 10  | 255,401                  | 253,312          | 256,698          | 258,437          | 405,023          | 418,762          | 429,512          | 68.2         | 468,515          | 9.1          |
| H.C. 11  | 544,381                  | 547,797          | 575,336          | 571,980          | 585,720          | 610,280          | 643,720          | 18.2         | 687,670          | 6.8          |
| H.C. 12  | 297,158                  | 298,057          | 306,962          | 301,091          | 303,752          | 312,509          | 317,880          | 7.0          | 331,648          | 4.3          |
| <b>Emilia R. Total</b>                               | <b>1,464,379</b>         | <b>1,469,852</b> | <b>1,514,429</b> | <b>1,507,196</b> | <b>1,672,769</b> | <b>1,740,256</b> | <b>1,799,321</b> | <b>22.9</b>  | <b>2,138,942</b> | <b>18.9</b>  |
| <b>NORTH ITALY TOTAL</b>                             | <b>4,581,322</b>         | <b>4,571,529</b> | <b>4,734,928</b> | <b>4,756,774</b> | <b>4,990,608</b> | <b>5,142,268</b> | <b>5,288,899</b> | <b>15.4</b>  | <b>5,794,060</b> | <b>9.6</b>   |
| H.C. 13  | 212,953                  | 212,358          | 212,188          | 215,396          | 225,070          | 228,351          | 234,009          | 9.9          | 238,545          | 1.9          |
| H.C. 14  | 360,241                  | 365,484          | 371,430          | 372,285          | 382,241          | 400,509          | 406,341          | 12.8         | 416,988          | 2.6          |
| <b>Marche Total</b>                                  | <b>573,194</b>           | <b>577,842</b>   | <b>583,618</b>   | <b>587,681</b>   | <b>607,311</b>   | <b>628,860</b>   | <b>640,350</b>   | <b>11.7</b>  | <b>655,533</b>   | <b>2.4</b>   |
| H.C. 15  | 467,505                  | 466,384          | 443,158          | 430,868          | 412,778          | 413,234          | 406,216          | -13.1        | 421,594          | 3.8          |
| H.C. 16  | 242,129                  | 236,438          | 227,867          | 247,321          | 231,608          | 250,218          | 256,439          | 5.9          | 273,417          | 6.6          |
| H.C. 17  | 537,786                  | 526,961          | 533,063          | 561,525          | 538,948          | 530,311          | 529,427          | -1.6         | 514,114          | -2.9         |
| H.C. 18  | 223,529                  | 225,518          | 227,193          | 220,069          | 227,198          | 232,913          | 244,042          | 9.3          | 249,023          | 2.0          |
| H.C. 19  | 271,852                  | 282,448          | 277,093          | 267,880          | 261,043          | 264,265          | 267,111          | -1.7         | 270,539          | 1.3          |
| <b>Lazio Total</b>                                   | <b>1,742,601</b>         | <b>1,737,749</b> | <b>1,738,374</b> | <b>1,727,663</b> | <b>1,671,575</b> | <b>1,690,941</b> | <b>1,703,235</b> | <b>-2.3</b>  | <b>1,728,687</b> | <b>1.5</b>   |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>2,315,795</b>         | <b>2,315,591</b> | <b>2,321,992</b> | <b>2,315,344</b> | <b>2,278,886</b> | <b>2,319,801</b> | <b>2,343,585</b> | <b>1.2</b>   | <b>2,384,220</b> | <b>1.7</b>   |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Total Costs (Cod. BZ999)<br>(13) |                   |                   |                   |                   |                   |                   |                 |                   |                 | % var.<br>19-20 |
|--|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------|-----------------|-----------------|
|  | 2013                             | 2014              | 2015              | 2016              | 2017              | 2018              | 2019              | % var.<br>13-19 | 2020              | % var.<br>19-20 |                 |
| H.C. 20  | 474,405                          | 478,798           | 491,857           | 473,708           | 462,665           | 483,040           | 486,329           | 2.5             | 489,284           | 0.6             |                 |
| H.C. 21  | 235,895                          | 241,111           | 245,368           | 237,924           | 250,532           | 239,844           | 249,736           | 5.9             | 294,200           | 17.8            |                 |
| <b>Apulia Total</b>                                  | <b>710,300</b>                   | <b>719,909</b>    | <b>737,225</b>    | <b>711,632</b>    | <b>713,197</b>    | <b>722,884</b>    | <b>736,065</b>    | <b>3.6</b>      | <b>783,484</b>    | <b>6.4</b>      |                 |
| H.C. 22  | 181,445                          | 183,918           | 188,876           | 189,072           | 191,348           | 191,938           | 201,500           | 11.1            | 193,161           | -4.1            |                 |
| H.C. 23  | 164,511                          | 162,094           | 168,647           | 170,272           | 176,188           | 178,584           | 185,752           | 12.9            | 225,032           | 21.1            |                 |
| H.C. 24  | 72,842                           | 73,878            | 79,187            | 93,019            | 93,277            | 97,576            | 177,385           | 143.5           | 127,407           | -28.2           |                 |
| H.C. 25  | 157,663                          | 160,896           | 158,530           | 163,470           | 174,668           | 182,977           | 194,844           | 23.6            | 193,655           | -0.6            |                 |
| <b>Calabria Total</b>                                | <b>576,461</b>                   | <b>580,786</b>    | <b>595,240</b>    | <b>614,833</b>    | <b>635,481</b>    | <b>651,025</b>    | <b>759,481</b>    | <b>31.7</b>     | <b>739,255</b>    | <b>-2.7</b>     |                 |
| H.C. 26  | 179,604                          | 183,569           | 187,996           | 195,392           | 193,094           | 196,166           | 199,451           | 11.1            | 214,998           | 7.8             |                 |
| H.C. 27  | 227,387                          | 226,613           | 238,693           | 249,033           | 255,974           | 259,696           | 263,835           | 16.0            | 269,970           | 2.3             |                 |
| H.C. 28  | 369,971                          | 375,569           | 393,211           | 389,680           | 378,216           | 419,675           | 428,152           | 15.7            | 468,498           | 9.4             |                 |
| H.C. 29  | 167,812                          | 183,548           | 175,483           | 179,027           | 162,281           | 158,287           | 156,871           | -6.5            | 161,740           | 3.1             |                 |
| H.C. 30  | 176,970                          | 179,780           | 191,319           | 203,339           | 205,869           | 225,278           | 231,590           | 30.9            | 251,706           | 8.7             |                 |
| H.C. 31  | 273,078                          | 274,874           | 283,049           | 284,394           | 292,543           | 306,269           | 301,856           | 10.5            | 318,711           | 5.6             |                 |
| H.C. 32  | 320,928                          | 334,247           | 336,897           | 348,228           | 326,873           | 348,399           | 330,219           | 2.9             | 341,297           | 3.4             |                 |
| H.C. 33  | 192,833                          | 201,629           | 223,821           | 246,030           | 234,552           | 243,187           | 239,180           | 24.0            | 254,803           | 6.5             |                 |
| <b>Sicily Total</b>                                  | <b>1,908,583</b>                 | <b>1,939,829</b>  | <b>2,030,469</b>  | <b>2,095,123</b>  | <b>2,049,402</b>  | <b>2,156,937</b>  | <b>2,151,154</b>  | <b>12.7</b>     | <b>2,281,723</b>  | <b>6.1</b>      |                 |
| <b>SOUTH ITALY TOTAL</b>                             | <b>3,195,344</b>                 | <b>3,260,524</b>  | <b>3,362,934</b>  | <b>3,421,588</b>  | <b>3,398,080</b>  | <b>3,550,866</b>  | <b>3,646,700</b>  | <b>14.1</b>     | <b>3,804,462</b>  | <b>4.3</b>      |                 |
| <b>ITALY</b>   | <b>10,092,461</b>                | <b>10,147,644</b> | <b>10,419,854</b> | <b>10,493,706</b> | <b>10,667,574</b> | <b>10,992,935</b> | <b>11,279,184</b> | <b>11.8</b>     | <b>11,982,742</b> | <b>6.2</b>      |                 |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Operating Results (Cod. Z2999) |                 |                 |                 |                 |                 |                 |      |                 |  |
|--|--------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|-----------------|--|
|  | 2013                           | 2014            | 2015            | 2016            | 2017            | 2018            | 2019            | 2020 |                 |  |
| H.C. 1   | 0                              | -10,147         | -7,716          | 0               | 1,926           | 0               | 0               | 0    | -6,603          |  |
| H.C. 2   | -5,990                         | -12,852         | -18,864         | -6,428          | -2,406          | -               | 1,814           | -    | -19,419         |  |
| H.C. 3   | 0                              | -5,619          | 0               | 0               | 0               | 1,156           | -               | -    | -13,741         |  |
| H.C. 4   | 0                              | -5,737          | -4,486          | 0               | 1,180           | -               | -               | -    | -13,978         |  |
| H.C. 5   | 0                              | -8,432          | -6,568          | 0               | -1,495          | -3,818          | 511             | -    | -12,963         |  |
| H.C. 6   | -12,750                        | -30,648         | -15,081         | -11,040         | -17,478         | -120,997        | -102,504        | -    | -31,338         |  |
| <b>Piedmont Total</b>                                | <b>-18,740</b>                 | <b>-73,435</b>  | <b>-52,715</b>  | <b>-17,468</b>  | <b>-18,273</b>  | <b>-123,659</b> | <b>-100,179</b> | -    | <b>-98,042</b>  |  |
| H.C. 7   | -25,609                        | -22,835         | -17,047         | -10,491         | 0               | 0               | 5,637           | -    | -24,375         |  |
| H.C. 8   | -24,950                        | -13,451         | 1,000           | 0               | 0               | 0               | 1,425           | -    | -33,486         |  |
| <b>Veneto Total</b>                                  | <b>-50,559</b>                 | <b>-36,286</b>  | <b>-16,047</b>  | <b>-10,491</b>  | -               | -               | <b>7,062</b>    | -    | <b>-57,861</b>  |  |
| H.C. 9   | 0                              | 0               | 0               | 0               | 0               | 0               | 0               | 0    | 0               |  |
| H.C. 10  | 0                              | 0               | 0               | 0               | 0               | 0               | 0               | 0    | 0               |  |
| H.C. 11  | 0                              | 0               | 0               | 0               | 0               | 0               | 0               | 0    | 0               |  |
| H.C. 12  | 0                              | 0               | 0               | 0               | 0               | 0               | 0               | 0    | 0               |  |
| <b>Emilia R. Total</b>                               | -                              | -               | -               | -               | -               | -               | -               | -    | -               |  |
| <b>NORTH ITALY TOTAL</b>                             | <b>-69,299</b>                 | <b>-109,721</b> | <b>-68,762</b>  | <b>-27,959</b>  | <b>-18,273</b>  | <b>-123,659</b> | <b>-93,117</b>  | -    | <b>-155,903</b> |  |
| H.C. 13  | -                              | 0               | 0               | 0               | 0               | 0               | 0               | 0    | 0               |  |
| H.C. 14  | -                              | 0               | 0               | 0               | 0               | 0               | 0               | 0    | 0               |  |
| <b>Marche Total</b>                                  | 0                              | 0               | 0               | 0               | 0               | 0               | 0               | 0    | 0               |  |
| H.C. 15  | -151,274                       | -158,632        | -161,799        | -155,718        | -130,712        | -116,314        | -113,719        | -    | -132,948        |  |
| H.C. 16  | -91,594                        | -102,291        | -98,853         | -81,733         | -83,599         | -77,401         | -57,726         | -    | -83,397         |  |
| H.C. 17  | -77,273                        | -74,610         | -92,543         | -140,252        | -104,166        | -87,743         | -88,327         | -    | -92,648         |  |
| H.C. 18  | -102,291                       | -53,708         | -54,160         | -49,108         | -41,510         | -40,432         | -48,230         | -    | -51,327         |  |
| H.C. 19  | -55,349                        | -73,601         | -62,567         | -41,794         | -24,902         | -19,500         | -19,589         | -    | -34,213         |  |
| <b>Lazio Total</b>                                   | <b>-477,781</b>                | <b>-462,842</b> | <b>-469,922</b> | <b>-468,605</b> | <b>-384,889</b> | <b>-341,390</b> | <b>-327,591</b> | -    | <b>-394,533</b> |  |
| <b>CENTRAL ITALY TOTAL</b>                           | <b>-477,781</b>                | <b>-462,842</b> | <b>-469,922</b> | <b>-468,605</b> | <b>-384,889</b> | <b>-341,390</b> | <b>-327,591</b> | -    | <b>-394,533</b> |  |

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(Continued) Table Appendix 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2020 (in thousands of euros)\*

| Hospital Centers and University Hospital Centers (1) | Operating Results (Cod. Z/2999) |                 |                 |                 |                 |                 |                 |                 |      |  |
|--|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|--|
|  | 2013                            | 2014            | 2015            | 2016            | 2017            | 2018            | 2019            | 2020            | (14) |  |
| H.C. 20  | 0                               | 0               | -28,102         | -19,736         | -9,740          | -41,114         | -14,876         | -61,644         |      |  |
| H.C. 21  | 0                               | 0               | 0               | 0               | 0               | 0               | 0               | -45,316         |      |  |
| <b>Apulia Total</b>                                  | -                               | -               | <b>-28,102</b>  | <b>-19,736</b>  | <b>-9,740</b>   | <b>-41,114</b>  | <b>-14,876</b>  | <b>-106,960</b> |      |  |
| H.C. 22  | -4,584                          | -6,007          | -1,880          | 0               | 0               | 0               | 0               | -666            |      |  |
| H.C. 23  | -1,682                          | -3,764          | -2,265          | 0               | -12,930         | -27,743         | -14,544         | -54,257         |      |  |
| H.C. 24  | -15,516                         | -14,562         | -29,858         | -42,000         | -12,319         | -20,942         | -101,787        | -72,371         |      |  |
| H.C. 25  | -                               | -17,377         | -20,279         | 0               | 0               | 0               | 0               | -               |      |  |
| <b>Calabria Total</b>                                | <b>-21,782</b>                  | <b>-41,710</b>  | <b>-54,282</b>  | <b>-42,000</b>  | <b>-25,249</b>  | <b>-48,685</b>  | <b>-128,562</b> | <b>-127,294</b> |      |  |
| H.C. 26  | 0                               | 0               | 0               | 0               | 0               | 0               | 0               | 0               |      |  |
| H.C. 27  | 0                               | 0               | 0               | 0               | 0               | 0               | 0               | 0               |      |  |
| H.C. 28  | 0                               | 788             | 0               | 0               | 0               | 0               | 0               | 0               |      |  |
| H.C. 29  | 0                               | 0               | 0               | 0               | 0               | 0               | 0               | 0               |      |  |
| H.C. 30  | 0                               | 0               | 0               | 0               | 0               | 0               | 0               | 0               |      |  |
| H.C. 31  | 0                               | 2,456           | 2,680           | 0               | 0               | 0               | 0               | 0               |      |  |
| H.C. 32  | 0                               | 0               | 0               | 0               | 0               | 0               | 0               | -50,699         |      |  |
| H.C. 33  | 0                               | 22,09           | 0               | 11,20           | 0               | 1,666           | 0               | 0               |      |  |
| <b>Sicily Total</b>                                  | -                               | <b>5,453</b>    | <b>2,680</b>    | <b>1,120</b>    | -               | <b>1,666</b>    | <b>-50,699</b>  | -               |      |  |
| <b>SOUTH ITALY TOTAL</b>                             | <b>-21,782</b>                  | <b>-36,257</b>  | <b>-79,704</b>  | <b>-60,616</b>  | <b>-34,989</b>  | <b>-88,133</b>  | <b>-194,137</b> | <b>-234,254</b> |      |  |
| <b>ITALY</b>   | <b>-568,862</b>                 | <b>-608,820</b> | <b>-618,388</b> | <b>-557,180</b> | <b>-438,151</b> | <b>-553,182</b> | <b>-614,845</b> | <b>-784,690</b> |      |  |

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## NOTES

- (\*) The values of the individual items refer to the Income Statements contained in the approved and published Financial Statements of the various Fiscal Years.
- 1 The 33 Hospital Centers and University Hospital Centers (both public Institutes) that were monitored are listed.
  - 2 The number of hospitalizations is expressed in units, whereas the economic values of the various items of both Revenues and Costs are expressed in thousands of euros and have been reported starting from the approved and published Financial Statements.
  - 3 The total of health and social and healthcare services with health relevance refers to Code A00320 on the Income Statement.
  - 4 The value of the Revenues from co-payment charges, understood as sharing the expense, refer to the Income Statement Code A0940.
  - 5 The value of the Revenues from transfers of “by-function activities” have been recognized in the Income Statement, Code A0020/A0030.
  - 6 The item Other Revenues constitutes the difference between column 7 and the sum of columns 3, 4 and 5 (if negative results are obtained, this is due to “Contribution Adjustments”).
  - 7 The value of the Total Revenues is obtained from Income Statement Code AZ999.
  - 8 The item Purchase of Assets has been reported in the Income Statement, Code BA010.
  - 9 Cost for the Purchase of non-health services: these are mainly outsourced/contracted services referred to by Code BA1570 on the Income Statement.
  - 10 The item Personnel Costs was taken from the Income Statement, Code BA2080.
  - 11 The item Costs for Provisions refers to Code BA2690 of the Income Statement.
  - 12 The value of the item Other Costs was calculated as the difference between the values in column 13 and the sum of the values in columns 8, 9, 10 and 11.
  - 13 The item Total Costs corresponds to the Code BZ999 of the Income Statement.
  - 14 The item Results for the Fiscal Year was taken from Code ZZ999 of the Income Statement.

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2021*

As regards the two field surveys dedicated to Covid patients and non-Covid patients 18 years of age and older, respectively, a single questionnaire was used, containing a first section that was filled in exclusively by Covid patients, and additional sections that were filled in by both Covid patients and by the general population sample. The questionnaire was structured as follows:

- there was a set of three “filter” questions at the beginning, dedicated to the entire population and aimed at collecting information on those who may have had one or more experiences of treatment and/or hospitalization as a Covid patient and one or more experiences as a non-Covid patient or both types of experiences, to which a direct question was added to detect whether one or more cases of Covid-19 had occurred in the immediate family or the extended family in the period 2020-2021<sup>2</sup>; and finally, we wanted to report the perception of the respondents about the presence of a real emergency of Covid-19 infections in their home Region (or Autonomous Province), taking into account the four semesters of reference in the two-year period considered;
- Section A: reserved for respondents who had direct personal experiences of infection with Covid-19 during 2020 and/or 2021<sup>2</sup>, who were asked questions about the experience they had and the relative intensity, the treatment paths experienced, the evaluation of the services received from the healthcare facilities, any experience of the phenomena of long Covid, and their opinion of their state of health after the infection experience, to which some questions were added on the topic of whether they had been vaccinated or not and on their disposition to taking the vaccine;
- Section B: aimed at all respondents and dedicated to ascertaining the experiences with waiting lists for access to local health services and for access to hospital admissions, also reporting the experience with any interruptions/postponements of one or more services and their duration in the two reference years 2020 and 2021<sup>2</sup>; it was also asked whether the services interrupted/postponed in the year 2020 and/or in the year 2021<sup>2</sup> had been recouped, again reporting the self-assessment of the state of health of those individuals who experienced an interruption/postponement of regular health services; in addition, the respondents were asked their opinion about the ability of the healthcare facilities in their home Region (or Autonomous Province) to react, with reference to both Covid and non-Covid patients;

<sup>2</sup> Until the second half of September 2021, the period in which the questionnaire was administered.



- Section C: dedicated to certain behaviors and attitudes of the respondents with regard to how they observed daily hygiene and sanitization conditions in order to protect themselves from the virus, along with the behaviors and dispositions towards the vaccine and Green Pass, concluding with the evaluation of some statements concerning the possible priorities of the treatments to be made available for Covid patients and for non-Covid patients, as well as the possible introduction of some charges for the provision of hospital care for Covid patients who personally chose not to get vaccinated (regardless of the limits from specific health conditions).

The survey – carried out by means of the above questionnaire – was conducted using a special panel (Telepanel) based on a representative sample of the Italian population of 2,000 families. The sample construction method was based on a proportional stratification of “sampling cells” in order to guarantee representativeness according to the main social-demographic variables of sex (2 levels), age (6 levels), education (4 levels), work status (7 levels), geographical distribution (8 levels), and size of the municipality of residence (5 levels): for a total of 32 sampling cells. On the basis of the ISTAT demographic data, the number of adult Italians present in each of the aforementioned cells was determined both in absolute and percentage terms, with reference to a population of 49,424,499 individuals.

The questionnaire was administered in the second half of September 2021, resulting in the collection of 3,615 valid questionnaires, whose numbers were subsequently corrected by means of specific weighting, according to the socio-demographic variables mentioned above. The sampling error, with a confidence interval of 95%, is equal to  $\pm 1.63\%$ .

The comparison between universe and sample is shown in Table App. 1 below.

An oversample survey, complementary to that of the adult population was conducted using an Internet panel made up of people who had contracted the Covid-19 virus in 2020 and/or 2021<sup>3</sup>, the aim of this being to “strengthen” the overall number of respondents with these characteristics. A completely homogeneous questionnaire was submitted to this group of respondents with respect to the one prepared for the population. One hundred (100) valid questionnaires were thus collected following administration of this oversample survey. The oversample sample was then checked and weighted according to the main socio-demographic variables, taking as the reference universe the

<sup>3</sup> Until the second half of September 2021, the period in which the questionnaire was administered.

profile that characterizes the survey of the population, corresponding to the same type of people or individuals who had contracted Covid-19.

The processing of the data collected for the set of respondents who contracted the virus is therefore based on an overall sample of 404 individuals, deriving from 304 cases originating from the survey on the population and from 100 cases originating from the oversample survey.

The summary of the “raw” respondents and the weighted respondents of Covid-19 patients is shown in Table App. 2.

The sampling error for this database, with a confidence interval of 95%, is equal to  $\pm 4.88\%$ .

The information thus collected was processed in order to obtain simple distribution tables, which were then used to make some cross-checks of variable groups considered particularly significant, as shown in Sections 3 and 4 of the Appendices.

The overall results of the two surveys, with reference to the responses obtained through the questionnaire, have been placed – along with the related comment – in Part Two of this Report for Covid patients and in Part Three of the Report for the general population.

Table Appendix 1 – Universe-sample comparison, with reference to the population survey (individuals aged 18 years and older)

| Socio-demographic variables                                 | Universe          |              | Raw respondents |              | Weighted respondents |              |
|---|-------------------|--------------|-----------------|--------------|----------------------|--------------|
|   | A.V.              | %            | A.V.            | %            | A.V.                 | %            |
| <b>GENDER</b>   |                   |              |                 |              |                      |              |
| Male  | 23,586,982        | 47.7         | 1,737           | 48.0         | 1,918                | 47.7         |
| Female  | 25,837,517        | 52.3         | 1,878           | 52.0         | 2,102                | 52.3         |
| <b>Total</b>  | <b>49,424,499</b> | <b>100.0</b> | <b>3,615</b>    | <b>100.0</b> | <b>4,020</b>         | <b>100.0</b> |
| <b>SIZE OF THE MUNICIPALITY</b>                             |                   |              |                 |              |                      |              |
| Up to 5,000 inhabitants                                     | 8,664,530         | 17.5         | 475             | 13.1         | 703                  | 17.5         |
| 5,001-20,000 inhabitants                                    | 14,827,458        | 30.0         | 930             | 25.7         | 1,210                | 30.1         |
| 20,001-50,000 inhabitants                                   | 9,207,758         | 18.6         | 695             | 19.2         | 748                  | 18.6         |
| 50,001-100,000 inhabitants                                  | 5,239,541         | 10.6         | 551             | 15.2         | 426                  | 10.6         |
| 100,000 inhabitants more                                    | 11,485,212        | 23.2         | 964             | 26.7         | 933                  | 23.2         |
| <b>Total</b>  | <b>49,424,499</b> | <b>100.0</b> | <b>3,615</b>    | <b>100.0</b> | <b>4,020</b>         | <b>100.0</b> |
| <b>NIELSEN REGION</b>                                       |                   |              |                 |              |                      |              |
| Piedmont+Liguria+Aosta Valley                               | 5,150,039         | 10.4         | 306             | 8.5          | 418                  | 10.4         |
| Lombardy  | 8,065,824         | 16.3         | 531             | 14.7         | 656                  | 16.3         |
| Triveneto   | 5,901,062         | 11.9         | 496             | 13.7         | 479                  | 11.9         |
| Emilia Romagna  | 3,657,153         | 7.4          | 391             | 10.8         | 298                  | 7.4          |
| Tuscany+Marche+Umbria+Sardinia                              | 6,548,538         | 13.2         | 551             | 15.2         | 531                  | 13.2         |
| Lazio   | 4,591,716         | 9.3          | 406             | 11.2         | 374                  | 9.3          |
| Abruzzo+Molise+Campania+Apulia                              | 9,321,821         | 18.9         | 510             | 14.1         | 761                  | 18.9         |
| Sicily+Calabria+Basilicata                                  | 6,188,345         | 12.5         | 424             | 11.7         | 503                  | 12.5         |
| <b>Total</b>  | <b>49,424,499</b> | <b>100.0</b> | <b>3,615</b>    | <b>100.0</b> | <b>4,020</b>         | <b>100.0</b> |
| <b>QUALIFICATION</b>  |                   |              |                 |              |                      |              |
| No qualifications/Primary school                            | 11,450,263        | 23.2         | 49              | 1.4          | 933                  | 23.2         |
| Lower secondary school certificate                          | 17,545,950        | 35.5         | 553             | 15.3         | 1,427                | 35.5         |
| Higher secondary school certificate                         | 14,724,308        | 29.8         | 2,049           | 56.7         | 1,198                | 29.8         |
| First cycle degree, Second cycle degree, Third cycle degree | 5,703,978         | 11.5         | 964             | 26.7         | 462                  | 11.5         |
| <b>Total</b>  | <b>49,424,499</b> | <b>100.0</b> | <b>3,615</b>    | <b>100.0</b> | <b>4,020</b>         | <b>100.0</b> |
| <b>AGE RANGE</b>  |                   |              |                 |              |                      |              |
| 18-24 years   | 4,240,198         | 8.6          | 277             | 7.7          | 346                  | 8.6          |
| 25-34 years   | 7,057,113         | 14.3         | 402             | 11.1         | 575                  | 14.3         |
| 35-44 years   | 9,360,064         | 18.9         | 675             | 18.7         | 760                  | 18.9         |
| 45-54 years   | 8,915,288         | 18.0         | 769             | 21.3         | 724                  | 18.0         |
| 55-64 years   | 7,467,295         | 15.1         | 709             | 19.6         | 607                  | 15.1         |
| >64 years   | 12,384,541        | 25.1         | 783             | 21.7         | 1,009                | 25.1         |
| <b>Total</b>  | <b>49,424,499</b> | <b>100.0</b> | <b>3,615</b>    | <b>100.0</b> | <b>4,020</b>         | <b>100.0</b> |
| <b>OCCUPATIONAL ACTIVITY</b>                                |                   |              |                 |              |                      |              |
| Self-employed   | 5,624,780         | 11.4         | 394             | 10.9         | 458                  | 11.4         |
| Employed  | 9,332,266         | 18.9         | 1,069           | 29.6         | 760                  | 18.9         |
| Laborer   | 7,602,018         | 15.4         | 456             | 12.6         | 619                  | 15.4         |
| Housewife   | 8,322,598         | 16.8         | 440             | 12.2         | 675                  | 16.8         |
| Pensioner   | 11,467,163        | 23.2         | 729             | 20.2         | 933                  | 23.2         |
| Job seekers   | 2,016,961         | 4.1          | 332             | 9.2          | 165                  | 4.1          |
| Other   | 5,058,713         | 10.2         | 195             | 5.4          | 410                  | 10.2         |
| <b>Total</b>  | <b>49,424,499</b> | <b>100.0</b> | <b>3,615</b>    | <b>100.0</b> | <b>4,020</b>         | <b>100.0</b> |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

Table Appendix 2 – Profile of the “backup” sample of people who contracted Covid-19, with relative comparison between “raw” respondents and weighted respondents

| Socio-demographic variables              | Raw respondents |              | Weighted respondents |              |
|--|-----------------|--------------|----------------------|--------------|
|  | A.V.            | %            | A.V.                 | %            |
| <b>GENDER</b>                            |                 |              |                      |              |
| Male                                     | 198             | 49.0         | 190                  | 52.7         |
| Female                                   | 206             | 51.0         | 171                  | 47.3         |
| <b>Total</b>                             | <b>404</b>      | <b>100.0</b> | <b>360</b>           | <b>100.0</b> |
| <b>SIZE OF THE MUNICIPALITY</b>          |                 |              |                      |              |
| Up to 5,000 inhabitants                  | 51              | 12.6         | 53                   | 14.8         |
| 5,001-20,000 inhabitants                 | 90              | 22.3         | 92                   | 25.6         |
| 20,001-50,000 inhabitants                | 79              | 19.6         | 71                   | 19.7         |
| 50,001-100,000 inhabitants               | 70              | 17.3         | 50                   | 13.7         |
| 100,000 inhabitants more                 | 114             | 28.2         | 94                   | 26.2         |
| <b>Total</b>                             | <b>404</b>      | <b>100.0</b> | <b>360</b>           | <b>100.0</b> |
| <b>NIELSEN REGION</b>                    |                 |              |                      |              |
| Piedmont+Liguria+Aosta Valley            | 27              | 6.7          | 19                   | 5.4          |
| Lombardy                                 | 63              | 15.6         | 72                   | 20.1         |
| Triveneto                                | 66              | 16.3         | 57                   | 15.9         |
| Emilia Romagna                           | 48              | 11.9         | 38                   | 10.5         |
| Tuscany+Marche+Umbria+Sardinia           | 58              | 14.4         | 72                   | 20.0         |
| Lazio                                    | 50              | 12.4         | 43                   | 12.0         |
| Abruzzo+Molise+Campania+Apulia           | 46              | 11.4         | 30                   | 8.4          |
| Sicily+Calabria+Basilicata               | 46              | 11.4         | 28                   | 7.7          |
| <b>Total</b>                             | <b>404</b>      | <b>100.0</b> | <b>360</b>           | <b>100.0</b> |
| <b>QUALIFICATION</b>                     |                 |              |                      |              |
| No qualifications/Primary school         | 3               | 0.7          | 29                   | 8.2          |
| Lower secondary school certificate       | 46              | 11.4         | 97                   | 27.0         |
| Higher secondary school certificate      | 230             | 56.9         | 156                  | 43.2         |
| First cycle degree, Second cycle degree, | 125             | 30.9         | 78                   | 21.6         |
| Third cycle degree                       |                 |              |                      |              |
| <b>Total</b>                             | <b>404</b>      | <b>100.0</b> | <b>360</b>           | <b>100.0</b> |
| <b>AGE RANGE</b>                         |                 |              |                      |              |
| 18-24 years                              | 49              | 12.1         | 56                   | 15.5         |
| 25-34 years                              | 61              | 15.1         | 72                   | 20.0         |
| 35-44 years                              | 92              | 22.8         | 91                   | 25.1         |
| 45-54 years                              | 91              | 22.5         | 56                   | 15.4         |
| 55-64 years                              | 60              | 14.9         | 50                   | 14.0         |
| >64 years                                | 51              | 12.6         | 36                   | 9.9          |
| <b>Total</b>                             | <b>404</b>      | <b>100.0</b> | <b>360</b>           | <b>100.0</b> |
| <b>OCCUPATIONAL ACTIVITY</b>             |                 |              |                      |              |
| Self-employed                            | 51              | 12.6         | 54                   | 15.1         |
| Employed                                 | 161             | 39.9         | 110                  | 30.5         |
| Laborer                                  | 48              | 11.9         | 60                   | 16.7         |
| Housewife                                | 35              | 8.7          | 23                   | 6.4          |
| Pensioner                                | 49              | 12.1         | 49                   | 13.6         |
| Job seekers                              | 38              | 9.4          | 39                   | 10.7         |
| Other                                    | 22              | 5.4          | 25                   | 6.9          |
| <b>Total</b>                             | <b>404</b>      | <b>100.0</b> | <b>360</b>           | <b>100.0</b> |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

The socio-demographic profile of Covid patients, appropriately weighted as just mentioned, is provided in the Tables from App. 3 to App. 9.

*Table Appendix 3 – Gender of the respondents (%)*

| <i>Gender</i> | <i>%</i> |
|---------------|----------|
| – Male        | 52.7     |
| – Female      | 47.3     |
| Total         | 100.0    |
| A.V.          | 360      |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

*Table Appendix 4 – Age of the respondents (%)*

| <i>Age range</i> | <i>%</i> |
|------------------|----------|
| – 18-24 years    | 15.5     |
| – 25-34 years    | 20.0     |
| – 35-44 years    | 25.2     |
| – 45-54 years    | 15.4     |
| – 55-64 years    | 14.0     |
| – ≥ 65 years     | 9.9      |
| Total            | 100.0    |
| A.V.             | 360      |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

*Table Appendix 5 – Geographical distribution of respondents by residence (%)*

| <i>Distribution</i> | <i>%</i> |
|---------------------|----------|
| – North-West        | 25.5     |
| – North-East        | 26.4     |
| – Center            | 27.7     |
| – South and Islands | 20.4     |
| Total               | 100.0    |
| A.V.                | 360      |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

*Table Appendix 6 – Distribution of respondents by size of town of residence (%)*

| <i>Size</i>                   | <i>%</i> |
|-------------------------------|----------|
| – Up to 5,000 inhabitants     | 14.8     |
| – 5,001-20,000 inhabitants    | 25.6     |
| – 20,001-50,000 inhabitants   | 19.7     |
| – 50,001-100,000 inhabitants  | 13.7     |
| – 100,000 or more inhabitants | 26.2     |
| Total                         | 100.0    |
| A.V.                          | 360      |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

*Table Appendix 7 – Occupational Activity stated by the respondents (%)*

| <i>Occupational Activity</i> | <i>%</i> |
|------------------------------|----------|
| – Self-employed              | 15.1     |
| – Employed                   | 30.6     |
| – Laborer                    | 16.7     |
| – Housewife                  | 6.4      |
| – Pensioner                  | 13.6     |
| – Job seekers                | 10.7     |
| – Other                      | 6.9      |
| Total                        | 100.0    |
| A.V.                         | 360      |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

*Table Appendix 8 – Highest level of education achieved by the respondent (%)*

| <i>Qualification</i>  | <i>%</i> |
|---|----------|
| – No qualifications/Primary school                            | 8.2      |
| – Lower secondary school certificate                          | 27.0     |
| – High school diploma   | 43.2     |
| – First cycle degree, Second cycle degree, Third cycle degree | 21.6     |
| Total   | 100.0    |
| A.V.  | 360      |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

*Table Appendix 9 – Socioeconomic status stated by the respondents (%)*

| <i>Status</i>                      | <i>%</i> |
|------------------------------------|----------|
| – High socio-economic level        | 2.7      |
| – Medium-High socio-economic level | 15.5     |
| – Medium socio-economic level      | 49.9     |
| – Medium-Low socio-economic level  | 16.4     |
| – Low socio-economic level         | 15.5     |
| Total                              | 100.0    |
| A.V.                               | 360      |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

The social-personal profile of the respondents, appropriately weighted as just mentioned, is provided in the Tables from App. 10 to App. 16.

*Table Appendix 10 – Gender of the respondents (%)*

| <i>Gender</i> | <i>%</i> |
|---------------|----------|
| – Male        | 47.7     |
| – Female      | 52.3     |
| Total         | 100.0    |
| A.V.          | 4,020    |

Source: survey by Ermeneia – Studi & Strategie di Sistema, 2021

*Table Appendix 11 – Age of the respondents (%)*

| <i>Age range</i> | <i>%</i> |
|------------------|----------|
| – 18-24 years    | 8.6      |
| – 25-34 years    | 14.3     |
| – 35-44 years    | 18.9     |
| – 45-54 years    | 18.0     |
| – 55-64 years    | 15.1     |
| – ≥ 65 years     | 25.1     |
| Total            | 100.0    |
| A.V.             | 4,020    |

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2021*

*Table Appendix 12 – Geographical distribution of respondents by residence (%)*

| <i>Distribution</i> | <i>%</i> |
|---------------------|----------|
| – North-West        | 26.7     |
| – North-East        | 19.3     |
| – Center            | 19.2     |
| – South and Islands | 34.8     |
| Total               | 100.0    |
| A.V.                | 4,020    |

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2021*

*Table Appendix 13 – Distribution of respondents by size of town of residence (%)*

| <i>Size</i>                   | <i>%</i> |
|-------------------------------|----------|
| – Up to 5,000 inhabitants     | 17.5     |
| – 5,001-20,000 inhabitants    | 30.1     |
| – 20,001-50,000 inhabitants   | 18.6     |
| – 50,001-100,000 inhabitants  | 10.6     |
| – 100,000 or more inhabitants | 23.2     |
| Total                         | 100.0    |
| A.V.                          | 4,020    |

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2021*

*Table Appendix 14 – Occupational activity stated by the respondents (val. %)*

| <i>Occupational Activity</i> | <i>%</i> |
|------------------------------|----------|
| – Self-employed              | 11.4     |
| – Employed                   | 18.9     |
| – Laborer                    | 15.4     |
| – Housewife                  | 16.8     |
| – Pensioner                  | 23.2     |
| – Job seekers                | 4.1      |
| – Other                      | 10.2     |
| Total                        | 100.0    |
| A.V.                         | 4,020    |

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2021*

*Table Appendix 15 – Education of the respondents (%)*

| <i>Qualification</i>  | <i>%</i> |
|---|----------|
| – No qualifications/Primary school                            | 23.2     |
| – Lower secondary school certificate                          | 35.5     |
| – High school diploma   | 29.8     |
| – First cycle degree, Second cycle degree, Third cycle degree | 11.5     |
| Total   | 100.0    |
| A.V.  | 4,020    |

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2021*

*Table Appendix 16 – Socioeconomic status stated by the respondents (%)*

| <i>Status</i>                      | <i>%</i> |
|------------------------------------|----------|
| – High socio-economic level        | 1.1      |
| – Medium-High socio-economic level | 6.1      |
| – Medium socio-economic level      | 48.5     |
| – Medium-Low socio-economic level  | 32.3     |
| – Low socio-economic level         | 12.0     |
| Total                              | 100.0    |
| A.V.                               | 4,020    |

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2021*



## 2. The complete list of contents of the 2021 Report

### **Introduction**

by *Barbara Cittadini, National President of AIOP*

page I

### **Part One**

#### **THE DIFFICULT BALANCE (THAT NEEDS TO BE FOUND) BETWEEN COVID PATIENTS AND NON-COVID PATIENTS**

|   |   |    |
|---|---|----|
| <b>1. The Further Development of a “Dual-Nature” Hospital System</b>  | » | 11 |
| 1.1. The successful experience of Italy’s mixed public and private NHS system, and how this has contributed to dealing with the pandemic through advantageous alliances | » | 11 |
| 1.2. The continual increase of the average values of the complexity and effectiveness of hospital services  | » | 20 |
| 1.3. Two tension factors present in the system: one pre-Covid and one in the Covid period   | » | 37 |
| <b>2. A pandemic experience that cuts across the emergencies experienced by both Covid and non-Covid patients</b>   | » | 43 |
| 2.1. A challenging treatment path declared by Covid patients, with some “regret”  | » | 43 |
| 2.2. Divergences and convergences of behaviors, attitudes and priorities of care between Covid patients and the general public  | » | 48 |

|   |      |    |
|---|------|----|
| 2.3. The penalization of non-Covid patients in terms of access and, therefore, the postponement of regular services   | page | 53 |
| 2.4. A more mature socialization of the pandemic by the general public and by Covid patients, but with a marked polarization across the board                     | »    | 60 |
| <b>3. The importance of knowing how to invest resources to rethink the National Health Service, enhancing the contribution of public and accredited operators</b> | »    | 66 |
| 3.1. The (slow) progress of the alliance between public and private hospitals brought about by the pandemic   | »    | 66 |
| 3.2. The extraordinary impact of Covid-19 on the financial statements of public Hospital Centers as part of the annual monitoring of the related budgets          | »    | 77 |

## **Part Two**

### **EXPERIENCES, ASSESSMENTS AND BEHAVIORS OF PEOPLE INFECTED WITH COVID-19**

|  |   |     |
|--|---|-----|
| <b>1. The path experienced by patients infected with the virus</b>   | » | 101 |
| 1.1. Feedback on the different “waves” of the pandemic from the survey responses   | » | 101 |
| 1.2. An extremely challenging development in terms of impact and duration  | » | 106 |
| 1.3. The different assessments of the services obtained from the health services, without prejudice to the lingering illnesses brought on by <i>long Covid</i> | » | 110 |
| 1.4. The influence of the virus on the inclination to take the vaccine   | » | 112 |
| <b>2. The (added) experiences of access to inpatient health services and the gradual socialization of the pandemic</b>   | » | 116 |
| 2.1. The significant impact on waiting lists   | » | 116 |
| 2.2. The inevitable great increase in postponements  | » | 121 |
| 2.3. Assessment of the reaction capacity of the reference healthcare facilities  | » | 132 |

|   |      |     |
|---|------|-----|
| 2.4. Attitudes and behaviors towards prevention and vaccine, as well as the evolution of the culture of emergency | page | 140 |
|---|------|-----|

### Part Three

## THE TREND OF NON-COVID PATIENTS DURING THE TWO YEAR PERIOD 2020-2021

|  |   |     |
|--|---|-----|
| <b>1. The slowdown in regular services, with signs of recovery</b>   | » | 153 |
| 1.1. The pandemic as an extended social experience   | » | 153 |
| 1.2. The decrease in numbers of non-Covid patients on waiting lists and the “explosion” in the demand for services from Covid patients   | » | 161 |
| 1.3. The evolution of the interruption/postponement of inpatient services, with a recovery that has not yet been fully completed   | » | 172 |
| <b>2. The slight improvement in the evaluation of local healthcare facilities</b>  | » | 182 |
| 2.1. Respondents’ opinions on the ability to react to the needs of Covid-19 patients, in the two-year period 2020-2021   | » | 182 |
| 2.2. Respondents’ opinions on the ability to resume regular activity with respect to the needs of non-Covid patients, in the years 2020 and 2021   | » | 186 |
| 2.3. Respondents’ opinions on the ability to respond in an average satisfactory manner to the needs of Covid patients as well as to ensure the continuity of services for regular non-Covid patients, in 2020 and 2021 | » | 191 |
| <b>3. The ambivalent socialization of the pandemic</b>   | » | 195 |
| 3.1. The incorporation of “recommended” behaviors and the positive perception of shared underlying values  | » | 195 |
| 3.2. Behaviors and dispositions towards anti-Covid vaccination   | » | 202 |
| 3.3. Personal responsibility and collective solidarity in the acceptance or rejection of the <i>Green Pass</i> and the implications that could derive from it at the ethical and political level                       | » | 205 |

## Part Four STATISTICAL INDICATORS

|   |      |     |
|---|------|-----|
| <b>1. Facility data</b>   | page | 217 |
| 1.1. The presence of the public and private component institutions of the National Health Service | »    | 217 |
| 1.2. Bed distribution   | »    | 218 |
| 1.3. Medical equipment  | »    | 219 |
| <b>2. Activity data</b>   | »    | 233 |
| 2.1. In-hospital days and patient bed occupancy rate  | »    | 233 |
| 2.2. Types of admissions and discharges   | »    | 234 |
| 2.3. Prevalent DRGs   | »    | 235 |
| 2.4. Activities classified according to major diagnostic categories                               | »    | 236 |
| 2.5. Activities classified according to specialty   | »    | 237 |
| 2.6. A brief summary of the “waves” of the Covid-19 virus   | »    | 237 |
| 2.7. Services Lost  | »    | 240 |
| 2.8. Patient mobility   | »    | 242 |
| <b>3. Staff information</b>   | »    | 303 |
| 3.1. Staff fluctuation over the years   | »    | 303 |
| 3.2. Staff distribution throughout Italy  | »    | 304 |
| <b>4. Spending data</b>   | »    | 310 |
| 4.1. Economic flow trends over the years  | »    | 310 |
| 4.2. Health expenditure comparisons   | »    | 311 |
| <br><b>Appendices</b>   |      |     |
| 1. Methods applied  | »    | 319 |
| 2. Index of structural tables   | »    | 345 |
| 3. The detailed tables of the survey on Covid-19 patients   | »    | 350 |
| 4. The detailed tables of the survey on people  | »    | 376 |

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**T**he “Health&Hospitals” Report provides an annual overview and interpretation of the performance of the Italian hospital system. Regulated partly by public law and partly by private law, the system as a whole is conceived as a mixed public-private system and is recognized and governed by the Legislative Decree 502, issued in 1992.

With a total of 187 thousand patient beds (131 thousand in public hospitals and 56 thousand in private accredited hospitals), Italy’s hospital system handles 8 million admissions per year, resulting in 57.5 million in-hospital days overall. Public expenditure of 65.9 billion Euros is paid into the system, accounting for 56.3% of public health spending as a whole.

**From the outset, the Report opted to focus on two aspects most**, analyzed by the third-party organization independently conducting the surveys: the first aspect concerns the dynamics (whether positive or problematic) affecting hospital services, whilst the second examines the opinions and feedback of citizens and users in relation to the above services.

**In 2021, hospital and local health systems were forced to handle two tension factors.** The first concerns the quantitative and qualitative disparities (neither of which is new) between services delivered to people living in different territories. As a result, 21 Regional Health Services were formed as opposed to a single, relatively uniform National Health Service: a phenomena that have started well before the onset of the Covid-19 pandemic. The second tension factor (a recent event) concerns all the problems involved in striking a balance between the services delivered to infected people and those delivered (or yet to be delivered) to ordinary patients: the latter have suffered as a result of the backlog in cancelled/postponed treatments from 2020 and subsequently 2021, whilst the fourth wave of the pandemic generated a further burden for hospital admissions, particularly amongst the unvaccinated.

**This year, two separate surveys have been conducted:** the first one focuses in an unprecedented way on those people who have been infected and have since recovered (albeit in many cases with problems linked to *long Covid*), while the second one has the goal to evaluate the indirect impact the pandemic has had on non-Covid patients who, for two consecutive years, have suffered cancellations or delays to treatments, with inevitable knock-on consequences in terms of their current and future state of health.

**Since 2020, this two-fold emergency helped foster greater cooperation between public and private accredited hospital facilities**, enhancing ways in which the latter could work alongside the former. This has opened up the way to a potential Alliance, which will hopefully make it possible to catch up on the backlog of services for those non-Covid patients currently on a waiting list, a category that has increased due to the pandemic.

**But it is equally important to promote this Alliance** in order to cover the many areas shared by both types of medical facilities. Only together, they can face the review of the hospital system, considered as part of a broader effort in protecting and promoting health. After the deeply-felt effects of the *spending review*, the aim should be to restore a funding level in line with other OECD countries and to wisely invest the resources from the national recovery plan (PNRR): all this will breathe new life into the National Health Service making it more in touch with patient needs and, at the same time, more efficient when it comes to managing its resources.

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**Ermeneia – Studi & Strategie di Sistema** is a company that specializes in providing analytical and consulting activities to trade associations and public and private clients, including those operating in the healthcare service sector, who are actively redesigning their presence and operational methods to remain in step with progressive changes in Italy.

**AIOP – Associazione Italiana Ospedalità Privata** (Italian Association of Private Hospitals) is a trade association that represents hospital facilities of the privately-operated component of the NHS and private healthcare facilities, throughout every region of Italy, which employ just over 72,000, accounting for 11% of the operators of the entire system, who provide hospital services to 15% of patients.