Ermeneia
Studi & Strategie di Sistema

20

Health&Hospitals in Italy

20th ANNUAL REPORT 2022

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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Furthermore, an Address Committee has also been created; it is made up of Barbara Cittadini, Gabriele Pelissero and Filippo Leonardi.

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Edited by Angelo Cassoni
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This text is an abstract of the Report on "Ospedali & Salute", 20th edition 2022.

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 2022.

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 20th Report are also provided.

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Introduction

by *Barbara Cittadini, National President of AIOP*

Forty-four years ago, Italy adopted a universal and inclusive National Health Service to ensure the right to healthcare to all citizens.

And for the past 20 years (nearly half of this lengthy period) AIOP has endorsed the *Health & Hospitals* Report in order to document its assessment of the condition of the National Health Service for the benefit of the country.

Thus the opening pages of Part One have been dedicated to reconstructing the interpretive approach that has been used over the past two decades.

The assessment contained in the Report focuses its attention specifically on the hospital system, which is composed of both a public and private component.

It has always been a complex and meticulous undertaking. Nevertheless, it is one that has made it possible to provide those who have the onerous task of healthcare planning in Italy with a useful tool and, once again this year, the study was conducted with this aim in view.

This Report prepared by Ermeneia is, again this year, an initiative that responds to the core mission of AIOP which, in addition to protecting the legitimate and widespread interests of its members, has since its founding recognized the particular social value of healthcare and, therefore, the importance of having in-depth knowledge of the institutional reality that provides this healthcare service.

The great benefit of this value is that it focuses attention on citizens and users and, consequently, the ability of healthcare organizations to provide adequate services both in terms of quantity and quality.

The year 2022 ended a three-year period in which the "special needs" of the pandemic and the "regular concerns" of providing healthcare for non-Covid services had to be dealt with at the same time.

In the first part of the three-year period, priority was given to treating Covid patients and non-Covid services were suspended, due also to the need to minimize the risk of infection.

During the second part of the three-year period, despite having gotten through the most critical phase of the pandemic emergency, the decrease in the complexity of Covid cases and the reduced pressure on the hospital system did not see a simultaneous return to the regular provision of services: all types of patients, including those with long Covid, shared the same difficulties in accessing regular services.

The data from the report's user survey show that instances of service interruptions/postponements affected more than half and, sometimes, more than 3 out of 4 patients, regardless of their infection experience.

The widespread vaccination campaign, the extraordinary efforts of healthcare workers and facilities, and better management of Covid patients all contributed to a partial qualitative and quantitative return of hospital services in 2021. It was, however, not capable of recouping the services that had not been provided over the previous year.

In fact, 2020 saw a general worsening of services overall, not only from the point of view of volumes of scheduled and, to a lesser extent, urgent services but also in terms of clinical outcomes.

And the improvement witnessed in 2021 was not enough to significantly reabsorb the unmet healthcare needs.

During the first year of the pandemic, there were fewer decreases of services reported for the public component, proportionally, than those of the accredited private component, although the latter provided better quality services and healthcare overall.

Looking, for example, at the Treemap visualization of the AGENAS National Outcomes Plan, we can see how only 10% of public facilities and 24% of private facilities reported all clinical areas as having high or very high quality in 2020.

Thus, delays caused by the emergency have added to organizational delays within the context of a National Health Service that continues to suffer in terms of equality of access to services both across different areas of the country and within the same local area: the problem mainly concerns the inadequate response to the phenomenon of waiting lists, which in turn is conditioned by fundamental issues such as the recruitment of human resources and the availability of financial resources.

At present, however, we are continuing to deal with 21 different Health Services, with the consequential inconvenience for patients, who are forced into interregional healthcare mobility, paying for healthcare services out of pocket, or even forgoing healthcare treatment.

With regard to the latter aspect, Italian public healthcare spending is currently considerably less than that of the other OECD and G7 countries.

The ratio between public healthcare spending and GDP in Italy, in 2019, was 6.4%, compared to 7.6% and 9.1% for the groups mentioned; in 2020, the first year of the pandemic, it increased to 7.4% compared to 8.4% and 10.5% in OECD and G7 countries.

Having properly reported these considerations, we must also take into account the gloomier outlook for the subsequent five-year period, as indicated by the Update to the Economic and Financial Document for the months of September and November 2022 and supplemented by the values set out by the 2023-2025 Budget Law: in 2023, the ratio of expenditure to expected GDP will amount to 6.4%, this will decrease to 6.3% in 2024 and, then decline even further to 6.1% in 2025.

These are the financial resources with which the National Health Service will have to face the increase in demand for services due to the aging of the population, the essential recovery of services that were suspended/postponed even before the arrival of the pandemic and which then significantly increased, and to the new projects envisaged by the National Recovery and Resilience Plan (PNRR).

The repeal of the so-called "spending caps", introduced in 2012 as part of the provisions of the spending reviews (as set out in Legislative Decree 95/2012) is therefore becoming increasingly urgent.

The caps prevent the Regions from making full use of the potential of the accredited private facilities, as well as limit their planning capacity, making it difficult to straighten out the problems with the waiting lists and offer a complete response to the demands for healthcare.

Alternatively, it is important to create the conditions for a virtuous synergy among different types of facilities for the benefit of patients.

This synergy requires a balancing of care to allow both components of the healthcare system to fully express their respective potential.

Historically, however, we have witnessed an asymmetry in the regulatory approach to healthcare providers according to their respective legal status: from the more structural phenomenon, such as that of the current methods for the reimbursement of services (at the bottom of the list as regards directly managed hospitals), to more contingent issue of dealing with expensive energy costs.

In this sense, reference is made to the limit of 0.8% as set out by the Aid Decree (*ter*) for private facilities only, to the one-off payment that the Regions can use to offset the high energy costs using the resources provided for by the same Decree.

The latter is an extremely unfair and largely insufficient measure. Support, on the other hand, should be granted proportionate to the consumption

by both types of hospitals, in consideration of the fact that they work together to meet the needs of NHS patients.

What has been mentioned so far highlights the need to broaden the perspective of the Italian healthcare system: we cannot continue to hold ourselves down by incorporating "special needs" into "regular concerns", as a direct consequence of the pandemic.

This is also the case given that the "regular concerns" were already witnessing serious problems before the arrival of Covid.

I believe that the present response needs to include some "unusual steps" along multiple plans of action.

The first "step" which, moreover, is the most urgent, concerns addressing the problem of unperformed services.

To this end, we need to see a continuance of the *objective-oriented alliance* between public hospitals and accredited private hospitals that was effectively in force during the most critical phase of the pandemic emergency, when the latter facilities made more than 10,000 patient beds available for Covid patients and another 25,000 patient beds for non-Covid patients, thereby creating an evident added value through the convergence of supported objectives.

Starting from the above *objective-oriented alliances*, it might also be possible to imagine a gradual transition towards a *system-wide alliance* based on a collaborative/competitive approach between the two types of facilities, increasing healthcare service areas and encouraging the drive towards greater equity.

The second unusual "step" concerns the philosophy that must underlie the use of resources intended for healthcare.

We have recently witnessed the period of *Financial Healthcare* that was essentially based on cost cutting regardless of the reorganization necessary to ensure the minimum needs of patients, thus neglecting *Real Healthcare*, which translated into the actual experience of the patients and their families, as well as operators at all levels.

The emergency at the time was the need to balance public finances, but the consequences being felt today of choices based on financial assumptions are the personnel shortages from which we are suffering and will continue to suffer, the drama of lengthy waits, the forgoing of treatment and a severe reduction in services.

Seriously considering healthcare as an investment rather than a cost should lead to more coherent and forward-thinking spending choices.

Investing more resources into healthcare, as the more virtuous OECD and G7 countries already do compared to us, means not only improving people's

lives today but also treating chronic illnesses and preventing advanced conditions that are more complex and burdensome for the National Health Service and a social network that relies almost exclusively on the family unit.

The third "step" pertains to a rationalization of the system, overcoming the ideological conditioning which, until now, has relegated the private component to a vicarious role, acting through a different allocation of resources to the facilities that provide better quality services and more efficient management.

The aforementioned three "steps" naturally require a series of concrete applications to rationalize healthcare activities, which in reality highlights a more overarching need: that to better systematize the public and private healthcare facilities that comprise the mixed hospital system in Italy.

This could, among other things, facilitate the revision of the health pact that forms the basis of our welfare system.

Obviously, everything just mentioned would entail an important change of policy direction.

Such a change in policy now appears to be unavoidable and crucial if we really want to keep our country's NHS on a par with a modern Italy.

I believe it is appropriate to say a few more words on this topic.

It is first of all indisputable from this standpoint how little attention in general has been paid to the issue of healthcare from the politicians and the governments that have run the country in recent years.

It is this lack of attention that - except for a few sporadic changes - has resulted in a sort of dismantling of the NHS, as well as in a continuous series of attempts to diminish the fundamental role of its private component.

This is a serious decision that will have important health, social and economic repercussions for the whole country.

The crux of the matter is always the same, and entails moving away from the view that financial commitments to the NHS are expenses to an opposite concept that sees every euro spent on healthcare as an investment for the country's progress.

This latter approach - attested to by the findings set out in the 20th Report - must be accompanied by enhancing the role of the private component as an integral part of the NHS.

How far there is still to go in this direction can be understood, for example, from the ever-present continual inequalities relating to services, such as the aforementioned spending caps which now impose weighty, fanciful and uneconomic limits to the development of Italian healthcare.

It is thus necessary to increase the amount of investment in Italian healthcare.

These investments must be informed, equitable, scrupulously distributed among the territories and among the different types of facilities, with the awareness that the entire range of healthcare services that render our NHS unique stems directly from the diversity of the facilities that provide them.

Such investments - and this point touches upon the profound relevance of this Report - also require accurate and reliable knowledge of the context in which they operate.

And it is in this sense that I would like to remind the reader how much Luigi Einaudi's ever timely statement is still valid today, especially at present: "Know in order to decide".

We must understand the context in which it is necessary to act but, having achieved this awareness, we must truly act, and decide courageously for the good of the country.

But just as correct decisions should follow from objective assessments, the latter cannot disregard impartial interpretations.

First of all, a different approach to assessing the System and its critical issues is needed, as is a change of thinking. Albert Einstein said it well when speaking of society's problems: "We cannot solve our problems with the same thinking we used when we created them".

AIOP strongly believes in this change of vision and will commit itself not only to defending the principles of the facilities it represents but, above all, to contributing to the improvement of our NHS, which must be worthy of a modern country.

Part One

Why "special needs" care must now be part of our "regular concerns"

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1. Twenty years as the watchful eye of the Italian hospital system

1.1. The basic rationale and aims of the Report

The initial undertaking that came into being in 2003 was formed around a set of considerations relating to the role played by the AIOP. These naturally included representing its members' interests, but also of being a stakeholder with opinions and proposals about the national hospital system, primarily regarding the needs and expectations of citizens and patients, though also with the opportunity to continue to see healthcare services develop 25 years following the introduction of the National Health Service, the time when the *Health & Hospitals* Report was first published.

Three specific reasons prompted the AIOP to champion the initiative, namely:

- the fact that the Reports dedicated to hospitals and healthcare in general ended up mainly analyzing the dynamics of supply (financial resources, organization, personnel and obviously diseases, research, medical and technological innovations, etc.) and much less so patient demand (needs, expectations, behaviors, opinions, assessments, and proposals);
- the fact that the hospital system in particular constituted (and constitutes) an enormous social experience, given that more than 14 million people enter its facilities each year for tests, visits, check-ups, treatments and operations, access to the Emergency Room, with an operational, emotional and financial commitment that affects not only the patient but also the immediate family and, not infrequently, also the extended family;
- finally, the fact that the AIOP, in addition to protecting the interests of its members, also felt the burden - as a Representative Association - to contribute to the overall improvement of the system of supply of hospital services in terms of efficiency and effectiveness, also taking into account the proper financing of public health which was certainly closer in terms

of the GDP ratio twenty years ago than it is at present, compared to other neighboring countries: 6.2% for Italy in 2003 compared to the 6.5% average of OECD European countries and 7.0% of G7 countries, whereas at present, after the increase in spending in 2020 due to the pandemic, a figure of 6.2% for 2024 and even of 6.0% for 2025 is envisaged[1].

It was, therefore, deemed useful and appropriate to prepare a Report focused on four basic aims and decisions.

The first decision was to create a cultural product at the "service of the country", even though the aforementioned Report is sponsored by a Representative Association of private hospitals that form a part of Italy's mixed system. The stated aim was to create a yearly monitoring instrument to watch over and assess the performance of the Italian hospital system and report on its adaptation (or lack thereof) to the needs and expectations of citizens and patients, on the one hand, and the methods for operating and financing the hospital "machine", on the other. In short, the intention was to put into practice a logical procedure designed to observe the methods and processes that make the hospital system work.

The second decision was to entrust preparation of the Report to a "third-party", since it was the desire of the AIOP to have an objective assessment and interpretation instrument. Thus, it had to be produced by a competent, independent and external entity.

The third decision was that of a constant "binocular vision" approach to the assessment, in order to consistently compare the logics and points of view of the two basic components that make up the paradigmatic exchange in the field of healthcare: first of all, that of the patients (i.e. the demand for services), and then, that of the hospital "machine" (i.e. the provision of services). This was due to the tendency (that continues to persist) of all-too-easily stating the centrality of users, only to then dedicate most of the assessment to supply problems, whether these relate to finances, organization, technology or personnel.

Finally, the fourth decision was that of identifying the proper communicative position of the Report so as to directly engage the institutions, obviously widening the audience to include decision-makers, operators, citizens' and patients' associations and the media: and this is why the Report has been presented (and debated) each year in the Chamber of Deputies or in the Senate of the Republic.

[1] According to the Update to the Economic and Financial Document of September 2022, approved by the new Council of Ministers on November 4, 2022.

1.2. Four large reporting cycles

1.2.1. The first reporting cycle: the beginnings and early development of the Report

The first six Reports (2003-2008) initiated the use of and then continued to develop the "dual-vision" approach that highlighted, by means of a special annual survey of the population, the attitudes, behaviors and evaluations relating to services as well as the level of awareness of the opportunities for patients to choose between public facilities and accredited private facilities, to which was added the subsequent perception of the appreciation of the mixed hospital system. At the same time, the dynamics of the provision of hospital services within the mixed system of public facilities and accredited facilities were taken into consideration, including the differences in terms of the funding of the two types of hospitals (First and Second Report/2003 and 2004).

The Report began gradually to measure the level of complexity of hospital services by means of the *Average weight* and *Case-mix* indicators for each Region, and then comparing the results for the public institutes and accredited private institutes, respectively, with the results of the latter usually faring better than those of the former. Furthermore, a discussion was made about the at-the-time topical theme of the so-called *devolution* and the right to access various treatment options in Regions other than that of a patient's home region (Third Report/2005).

Finally, a set of three indicators was adopted (beginning in the Fourth Report/2006), the first looked at the available hospital services in order to measure the evolution over time of the mixed public and accredited private hospital system (*AIOP Index/1*); the second indicator aimed at examining the level of satisfaction of users and citizens in realtion to hospital services, divided among public facilities, accredited facilities and completely private paid facilities (*AIOP Index/2*), and the third indicator was concerned with the level of awareness of and the propensity to use, on the basis of a logic of free choice by users, public hospitals or accredited private hospitals (*AIOP Index/3*).

These noted an increase in the levels of awareness among the public of the opportunity to choose between public hospitals and accredited private hospitals, as well as the value of the agreements between the two types of facilities designed to reduce waiting lists, while showing the mechanisms of asymmetry between how public hospitals and accredited hospitals is treated.

1.2.2. The second reporting cycle: the impact of the spending review

Starting with the Seventh Report/2009, the assessment also began to include a preliminary estimate of the level of implicit inefficiency of public hospitals. Six Regions (Piedmont and Lombardy for the North, Tuscany and Marche for the Center and Calabria and Apulia for Southern Italy) were selected. This method of analysis was then expanded (Eighth Report/2010) to the 15 Regions with regular administrative status and subsequently (Ninth Report/2011), also to the Regions with special administrative status.

Then came the period of the so-called spending review (10th Report/2012), which followed the financial crisis of 2008. This wound up impacting national budgets to the extent that the Report undertook a comparison between what the Report defined as an unbalanced relationship between "Financial Healthcare" and "Real Healthcare" in order to address the distorted dynamics induced by linear spending cuts. A second survey closely related to the one given to the general population was included and dedicated specifically to caregivers. This survey helped to explore those elements that weigh down the lives of patients and their families such as the furether increase in out-of-pocket expenses, the use of paid *intramoenia* services at public hospitals and the fear that the spending review might ultimately wind up being passed on to users both in terms of costs and in terms of the difficulty of obtaining needed services. Finally, the issue of an explicit (desirable) alliance that would make it possible to reconstruct the hospital system post-crisis was raised, including the need to deal with and rebalance what has been defined as the "labyrinth of fees", which needs to be balanced out both for the public and for the private components.

The centrality of users was subsequently accentuated (11th Report/2013) by means of a second survey of caregivers, which accompanied the annual evaluation of the financial situation of citizens and users and showed the gradually worsening situation that patients were experiencing, especially in the more-at-risk Regions. It also looked at the phenomena of the forgoing and/or postponement of healthcare. At the same time, a European Union Directive came into force permitting travel abroad for treatment and operations, so that patients could look outside of their home Regions. Nevertheless, very little was known about this new European legislation.

Attention was given to the substantial "underpricing" process by the accredited private hospitals, and the inadequate reporting system, which, although required by law, is still largely incomplete, was examined by looking the Financial Statements.

The 12th Report/2014 described three contemporary threats: the reduction of overall spending on healthcare, the trend of the de facto transfer of public

inefficiency to accredited facilities, and the gradual deterioration of the universal and inclusive system that forms the base of the National Healthcare Service. Again this time, alongside the monitoring of the population, a specific survey of caregivers was prepared that aimed at investigating the difficulties encountered by the various family members who were hard hit by the indirect effects of the inefficiencies of the supply system and, among the latter, in particular the weakness of the "connection points" when choosing and accessing hospitals, during the period of in-hospital stays and in the delicate post-discharge path of patients. An estimate was also made of the deficit of the public Hospital Centers (using an assessment that now focused on estimating of the so-called "Surcharges"). This deficit accounted for a large amount of the inefficiency of the entire system, while the procedure for the certification of financial statements implicitly required by new legislation was moving very slowly.

Subsequently, a need to explicitly address the actual capacity of the universal and inclusive that was created with the 1978 Reform became clear, also considering the opinions among caregivers about the strain placed on the National Health Service, a perception held (dangerously) by 2/3 of the respondents, and an increase in charges and inefficiencies which together led to the creation of what has been defined as "disheartened patients". The consequence being that people ended up not only postponing but also forgoing treatment or having to seek out alternative private solutions to compensate for system inefficiencies. These same caregivers also expressd a desire for a rethinking of the National Health Service itself, one that would be based upon the same philosophy of its founding. They also wanted to see better organization of services (with greater interlinking between public facilities and accredited private facilities, under the supervision of an independent Third Party to monitor the levels of efficiency and therapeutic efficacy of both), as well as a call to greater responsibility by the public.

Acknowledgment of the risk of "system deflation" on four levels constituted the main theme of the 14th Report/2016, and described the effects as: the deflation of the financial resources supporting the system, the deflation due to inefficiency of the public hospital "machine"; the deflation due to the transfer of financial and regulatory burdens preferably on accredited private hospitals and, finally, the deflation from a de facto rationing of the services offered to users. Parallel to this, the topic of the so-called "Surcharges" was explored and assessed by an examination of the Income Statements of the public Hospital Centers. These surcharges were found mostly to belong to "by-function" activities which wound up covering many of the system's inefficiencies. All of the above raised the issue of a necessary revision of the

Health Pact with citizens which might - among other things - also include the delicate topic of "learning how to do more with less", with an, at least partial, recouping of the not-so-well managed resources.

1.2.3. The third reporting cycle: the consequences of the deflationary aspects of the system

In the 15th Report/2017, a recurring topic was taken up and explored concerning the out-of-pocket spending on healthcare by families, making use of a special caregiver survey that showed how this expense is directly linked to the progressive deterioration of the services of the National Health Service and the surge in the phenomena of postponing and/or forgoing treatment, implying a decreasing level of satisfaction for the services provided by the respondents' home Residence. Comparisons of the "connection systems", i.e. the difficulties arising when opting to access hospital facilities, unmet patient needs to feel cared for when in the hospital, and the increasingly delicate post-hospital stay, were made between the results of the 2017 survey and the one carried out three years earlier. There was a marked increase in the difficulties encountered by patients. Similarly, possible "anomalies" in the reporting of some specific balance sheet items of the Income Statements of public Hospital Centers were examined with reference to the four fiscal years ranging from 2013 to 2016. To this end, Hospitalizations were compared to Revenues, the Costs for the Purchase of Goods and Services and, more specifically, to the Revenues from the so-called "by-function" activities. These latter had already begun to appear in the earlier 2016 Report, highlighting the possibility of implicit covering of losses on the Financial Statements of the Hospital Centers.

In a context marked by average performance stability, moreover, one perceived as showing signs of strain among the public, two in-depth surveys were carried out: one for the general public and one for caregivers. These revealed two inconvenient "bottlenecks" for patients (16th Report/2018): one was that of waiting lists, which contain a large number of patients with medium- to long-term waits, and the other was that of the difficulties encountered when attempting to access the Emergency Room, which also results from the "improper" use of the latter, as it is used as a shortcut to reduce the waiting times for services and to achieve hospitalization more quickly. At the same time, the level of dissatisfaction with public hospital facilities increased, while accredited private facilities continued to receive more positive evaluations from patients and citizens. Additionally, the – now well-estab-

lished – monitoring of the trend of the Income Statements of the public Hospital Centers continued, paying particular attention to the problematic use of financing for "by-function" activities.

In the year immediately prior to the pandemic, what has been defined as "a dual-nature system" (17th Report/2019) could be seen as having asumed a stable form and demonstrating, on the one hand, the progressive increase in the average complexity of the hospital services provided and also of the level of effectiveness and, on the other hand, the simultaneous presence of an unsatisfactory and perceived "average"[2]. The two surveys specially conducted on the general public and on caregivers showed an increase in experiences of waiting lists both for access to local health services and for access to hospital admissions and, in particular, for Emergency Room services. The same was true for the use of the day hospital and day services, to which was added the further accentuation of the weakness of the "connection systems" relating to admission, stay and discharge from the hospital and entry to rehabilitation and/or long-term care services: in fact a comparison of the three years (2014, 2017 and 2019) from the assessments provided by caregivers on these issues presents a picture of a progressive, and clear deterioration of the situation. The consequence was the acknowledgement of an unsatisfactory "average" based on the significant increase in waiting lists for diagnostic services as well as for hospitalizations and for access to the Emergency Department as well as for the gradual process of progressive de-hospitalization of services. Greater difficulties were encountered compared to just a few years ago in particular as regards hospitals when choosing a hospital facility, during the in-hospital stay and, above all, when making the transition to post-hospital care (especially when accessing rehabilitation facilities). On the other hand, the unsatisfactory "average" affects public hospitals to a greater extent and accredited private hospitals and paid private clinics to a lesser extent and also negatively affects the South in a quite evident way compared to the rest of the country. Concurrent with this, the monitoring of the Income Statements of the public Hospital Centers revealed the persistence of problematic indications concerning the consistency of various items under Revenues and Costs.

[2] 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 (individual facilities).

1.2.4. The fourth reporting cycle: the discontinuity of the pandemic emergency

Already in 2019, the assessed situation fully confirmed the bivalent (and by now structural) dynamic of the system which tends to build up average services, yet without ensuring adequate distribution or a significantly acceptable quality among the 21 Regional Health Services and the effects of this contradiction were also felt also in the different ability to respond to the pandemic emergency (18th Report/2020). In fact, the pandemic encountered an already existing situation of "suspended" services due to a backlog of waiting lists, with certainly more than just a few of lengthy duration. Furthermore, the need to address the extraordinary and growing needs of Covid patients caused a further deterioration of the situation for non-Covid patients following the postponement/interruption of regular services, which created serious risks for their current and future health conditions. The consequence of this situation on the de facto presence of 21 different Regional Health Services wound up by showing different reaction capacities, as these had to respond simultaneously to the emergency needs of Covid patients and the ordinary needs of non-Covid patients: this resulted in casting light on the interlinking of critical issues that existed prior to the pandemic and the critical issues brought on directly by the pandemic. Moreover, there also arose a (positive) opportunity for the institutional convergence of public hospital facilities and accredited private hospital facilities which witnessed the latter make more than 10,000 patient beds available for Covid patients, and another 25,000 patient beds added for non-Covid patients. This demonstrated the value of conscious and effective cooperation of all the hospital resources available within our mixed system. Furthermore, this system has always been viewed extremely positively by the general public, given that almost 9 out of 10 people state that "accredited hospitals now form part of the overall hospital system, since when you have to be hospitalized not much consideration is given to the type of facility (public or private), but rather all the other factors affecting the patient and his family are taken into account, such as whether the needed specialization is present, the quality of services, proximity to home, etc.".

A more intricate situation characterized by two "factors of tension" then had to be dealt with the following year: the first was typical of the pre-Covid phase (with the simultaneous presence of an increase in the average complexity of hospital services and the relative effectiveness compared to a still unsatisfactory "average"), and the second, which manifests an inevitable de facto dialectic between services to be provided to Covid patients and services

to be provided to non-Covid patients (19th Report/2021). The result was an overlap between the "special needs" problems and "regular concerns" problems. The two separate public surveys, the first of which was of Covid patients and the second of non-Covid patients, showed first of all how the experience of the former proved to be decidedly demanding both in the infection phase and in the post-infection phase given subsequently arising issues (*Long Covid*), But that was not all, given that there was also extraordinary growth in the demand for regular healthcare services from Covid patients, and a more than significant decrease among non-Covid patients, partly caused by the interruptions/postponements of services and partly from fears of infection at healthcare facilities. Nevertheless, a certain level of greater familiarization with the pandemic among the entire population also emerged after two years of coexistence with the virus, yet there was also a polarization of positions regarding the issue of vaccines. The monitoring of the Income Statements of public Hospital Centers made it possible to compare the trend of the items between 2013 and 2019, on the one hand, and of those between 2019 and 2020, on the other, with clear changes in the numbers. In fact, the year 2020 saw a significant decrease in the number of hospitalizations and yet extremely healthy and indeed better than average Revenues from Healthcare Services and the Purchase of Goods and Services as well as for Revenues from "by-function" activities. This bears witness to the evident effort of having to deal with the epidemic while also having to bear the ordinary costs of facilities and personnel even given the more than substantial reduction in services due to their interruption/postponement.

1.3. An ever-increasing need to stay vigilant

The *Health & Hospitals* Report has thus, as mentioned at the beginning, engaged in the process of providing a reporting supplement to the development to the Italian hospital system over the years. This is because it is quite evident how:

– a report made once and for all is not enough, given that the quantity and quality of the demand for healthcare by users and citizens changes over time - as is obvious - and the supply of relative healthcare services also changes (should change), even if we are aware that public entities have structural difficulty in responding to the new and gradually emerging demands in a reasonable amount of time;

– it is not even enough merely to accumulate data, although increasingly abundant and more and more specific, without identifying an overall interpretative strategy that can, from time to time, bring back into focus the many fragments of partial knowledge of the whole reality;
– and finally, it is not possible to once and for all "conceive" the appropriate (and sometimes absolutely necessary) sectoral and systemic solutions without initiating a process that is capable of listening to the stakeholders (of demand and supply), assessing received information, proposing solutions, experimenting with these and entering the tried and tested solutions permanently into the system to then, in due course, start down the same path again.

Well, the above description is precisely the process for a healthcare system tht is currently on the move and experiencing changes, and as such requires that its activity be examined.

This is the approach that the *Health & Hospitals* Report has implemented over the last twenty years, without any pretense of always giving the most correct and most complete interpretation, but rather of proposing the one it deemed most appropriate (at least in terms of aspirations) with respect to the year's events and always with a look at the steps to be taken next.

And thus, to bring these reflections on the past twenty years to close, some cross-cutting aspects have also been identified in the four major reporting cycles, which - as such - cannot be exhausted within each single Annual Report, since the phenomena evolve over time (for the better, for the worse or remaining unchanged) over the course of the years.

Here below are the main points that can be deduced from the summary descriptions of the individual Reports:

1st The presence in Italy of a mixed system of public hospitals and accredited private hospitals, which has its roots, from a regulatory point of view, in Legislative Decree 502/1992 and, from a social point of view, in the positive view of as well as in the active behavior of freely choosing to make use of public or accredited private facilities by most citizens and users. And yet this mixed system is not yet fully accepted and used as a natural part of the overall hospital system, also due to an ambivalent situation in which the public operator occupies the role of a player and the role of referee at the same time. It is also because part of the media often confuses completely private healthcare facilities (paid services) with accredited private hospitals (which form an integral part of the National Health Service).

Yet the first year of the pandemic represented a (particularly positive) occasion for the convergence of intent and action between public hospitals and accredited private hospitals, given that the latter made more than 10,000 patient beds available for Covid patients and another 25,000 patient beds for non-Covid patients. This useful and appropriate type of alliance should be cultivated permanently for "regular" use and not only for "special" needs.

2nd An ongoing increase in the level of the average complexity of the hospital services offered (assessed with specific indicators), to which has also been added an improvement in the effectiveness of treatments (measured according to the National Outcomes Plan - PNE).
The objective results therefore show steadily "upward" performances, although usually with higher levels and speeds of growth for accredited private hospitals compared to public hospitals.
Nevertheless, the subjective perception of citizens and the media often tends to offer criticism, in the sense that public facilities might be offering the most complex services, while accredited facilities limit themselves to the simpler ones. Objective data actually refute this perception, but stereotypes run the risk of sometimes gaining the upper hand, even if we must take into account that there is variability among the results of complex services within public facilities as well as in accredited ones, depending on the local settings and the individual facilities found in these areas.

3rd The emergence of what has now become a structural process of splitting, which entails:
- on the one hand, a quantitative and qualitative change in the demand for services in light of the rapid aging of the population, the abundance of information, the improved cultural status of citizens, the upsurges of medical and technological innovations and the continually increasing expectations of users;
- and, on the other, a supply of services that is often in trouble due to an accumulation of problematic factors such as those linked to the demand just mentioned, but also such as those arising from the financial crisis of 2008 which affected the public debt and led to the subsequent spending review measures, which have strengthened the progressive objective strain on available services and the relative subjective perception by citizens and users. Yet this happened through a merging with the inefficiencies and rigidities already previously present in the system, including the extension and length of waiting lists, the weakness of the "connections" between different

health services (*primarily* between local healthcare and hospital facilities and between the latter and post-rehabilitation and long-term care facilities).

All this has led patients and their families to seek out alternatives in paid services (private or *intramoenia*), with a growing amount of out-of-pocket healthcare spending and interregional mobility (and those who give up and postpone or even forgo treatment).

In short, the convergence of the problematic factors has generated a sort of "deflationary mixture" on four levels simultaneously: first, deflation due to the financing of the system; second, deflation caused by inefficiencies typical of the public hospital "machine"; third, deflation from the transferring of financial and regulatory burdens mainly onto accredited hospitals and, fourth, deflation from de facto rationing of services. All of these contributed to creating the problematic self-feeding circuit that existed on the eve of the arrival of the pandemic, which came into contact with an already problematic pre-existing situation.

4th The persistence of a substantial asymmetry in the treatment of accredited private hospital facilities compared to the public facilities, aspects of which seem to be structural in nature (such as, for example, all-inclusive rates for operating expenses as well as for investment expenses) and other cyclical aspects (such as underpricing, service caps, medium-long term rate freezes). Whreas the situation is very different in public hospitals, starting with the Hospital Centers where financial compensation is given both for operating costs and for investments, to which financial counterparts are added that are not always completely transparent and which inevitably can include amounts - even significant ones - of inefficiency, which also serve to rebalance the Income Statements. It is due to this specific issue that a specific annual monitoring has been undertaken since the Seventh Report of 2009, precisely to reaffirm the principle of greater fairness of treatment between public facilities and accredited private facilities, with transparency of reporting and comparability of financial statements as required by the legislation for public entities (which would also mark an approach first of all to certifiability and then to actual certification).

5th The formation of a "dual-nature" system, which sees the increase of the average complexity of services and their effectiveness on an objective level, yet which corresponds to an "average"[3] perceived as not equally

[3] 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 (individual facilities).

satisfactory due to the various disadvantages recorded in the territories which have in fact ended up creating 21 Regional Health Services, each different from the other and often quite different even among the individual hospitals within them. And this was the situation that was then in place during the first year of the pandemic (2020), when it was necessary to respond to the emergency needs of Covid patients and (for the most part) put off meeting the needs of regular non-Covid patients.

6th Finally, in the year 2021 the complexity mentioned in point 5 above had to be actively addressed, yet at the same time it was necessary to provide for a special vaccination campaign, on the one hand, and an attempt to, at least partially, recoup the suspended/postponed regular services of non-Covid patients. It was therefore necessary to start living with the "special" problems, while at the same time attempting to find a balance with the "regular" problems.

This *Health & Hospitals 2022* Report has seen a rapid build up of waiting lists for regular services among people who have experienced Covid (and not infrequently the related post-Covid), and there has also been a demand for regular services by patients not affected by the infection, who are now forced to deal with a substantial backlog of services. This scenario has wound up bringing back to the center of attention the need to integrate "special needs" into "regular concerns", and thus the situation to be managed is now even more demanding, and not only today but also that to come.

And with these final reflections we now find ourselves inside of the current issue of the 20th *Health & Hospitals* Report.

2. The value of a system capable of improving the complexity of the services it provides, even in the year 2020, though not the results

2.1. The structural profile of the time-tested mixed system of public and private hospitals

The three-year period of coexistence during the "extraordinary" pandemic developed over the course of six successive "waves", placing a strain on healthcare services and hospital facilities in particular, especially during first year. Yet it is impossible to overlook how the presence of a mixed system of public and private facilities contributed (and even now contributes) to overseeing and indeed improving upon its own capacity to raise the bar of the "ordinary" average system performance, even with the impact of the pandemic.

This capacity has been regularly reported on in previous Reports, highlighting over the years both the positive and the problematic aspects, on the basis of objective and subjective data, the latter resulting from assessments given in specific surveys of users and citizens.

This section will therefore describe the structural characteristics of the mixed system at our disposal, the framework of which includes a very complex set of types of hospitals which constitute the overall system that Italian citizens may access without charge.

First of all, are the public facilities, which include the Hospital Centers, hospitals directly managed by the local health authorities and Hospital Centers integrated with universities: most current public hospital spending (some 77.7%) relates to this type of facilities. But, in addition to these are other types, including public University polyclinics that are not Hospital Centers, public Institutes for Treatment and Research (IRCCS) and Public Foundations, which in turn account for another 10.0% of current spending on public hospitals.

But the aforementioned public facilities are augmented up by private facilities, including accredited private hospitals, private university polyclinics, private IRCCS and religiously-affiliated classified hospitals: this group accounts for the remaining 12.3% of current hospital spending by the National Health Service, and this for 28.3% of days of in-hospital stays provided by the aforementioned facilities (whereas the remaining 71.7% of in-hospital stays are financed by means of the 87.7% spending allocated to public facilities).

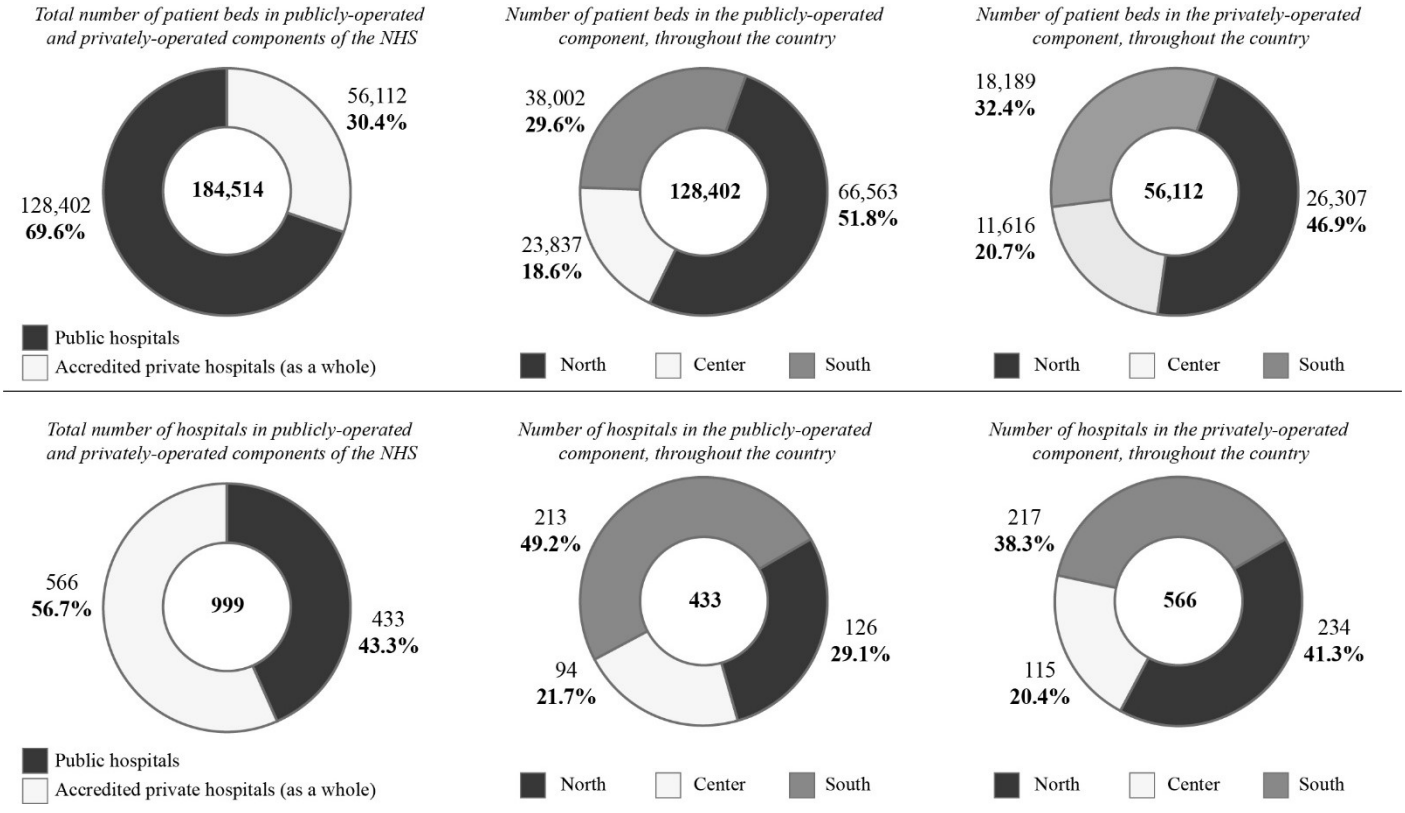
In the year 2020 (latest data available), the entire range of all of the different types of hospitals just mentioned accounted for 184,514 inpatient beds (a decrease of -1.3% on top of the -0.8% drop the previous year), which are broken down as follows: 69.6%, (corresponding to 128,402 units) in public hospitals and 30.4% (equal to 56,112 units) in accredited private hospitals, for the entire system (see Fig. 1). The relative numbers of patient beds show how the hospital system to all intents and purposes reflects the characteristics of a mixed system (as indeed recognized and regulated by Legislative Decree 502/1992), certainly with a prevalence of patient beds belonging to public facilities but with a more than significant presence also at accredited private facilities.

The two types of hospitals totaled 999 units in 2020, compared to 997 in the previous year (an increase of 0.2% compared to -0.3% in 2019), with a prevalence of accredited private facilities (as a whole): 56.7% belong to the latter while the remaining 43.3% relate to public facilities, again shown in Figure 1. In 2020, the two types of hospitals were distributed throughout Italy in different ways, as shown by the following data, again taken from the just cited Figure 1:

Distribution % of public hospitals	*Distribution % of accredited private hospitals (as a whole)*
1st place: South and Islands (49.2%)	1st place: North (41.3%)
2nd place: North (29.1%)	2nd place: South and Islands (38.3%)
3rd place: Center (21.7%)	3rd place: Center (20.4%)

If, on the other hand, the distribution of the above number of patient beds is compared with the number of hospitals (between 2019 and 2020), more precise information can be obtained, which is presented in the following table. First of all, it must be stated that the average number of patient beds in public hospitals was 300 units in 2019 (a decrease of -1.0% compared to the previous year), but drops to 297 units in 2020 (a further decrease of -1.7%). If we then consider the data in the chart below, we can detect a decreasing trend in the case of public hospital facilities in the North (528 compared to

Fig. 1 – Summary of the aggregates of the Italian hospital system: patient beds and institutes (2020)



Source: *data processed by Ermeneia – Studi & Strategie di Sistema, 2022*

531 the previous year) as well as in the South (178 compared to 181 in 2019), while the hospitals of the Center remain unchanged (remaining stable at 254 units in 2020, as was true in 2019). The trend towards a slight decrease in the average number of hospital patient beds also applies to the accredited private facilities as a whole (dropping to 99 beds compared to 100 the previous year): and the same happened for facilities in the North (with 112 patient beds per single hospital in 2020 compared to 114 in 2019) as well as for facilities in Central Italy (with an average of 101 beds compared to 104 in 2019), while on the contrary the South remained stable (with an average of 84 patient beds in the last two-year period considered).

Geographic Distribution	*Public hospitals 2019-2020*						*Accredited private hospitals (as a whole) 2019-2020*					
	No. of hospitals		*No. of patient beds*		*Patient beds No. of hospitals*		*No. of hospitals*		*No. of patient beds*		*Patient beds No. of hospitals*	
	2019	*2020*	*2019*	*2020*	*2019*	*2020*	*2019*	*2020*	*2019*	*2020*	*2019*	*2020*
North	128	126	67,994	66,563	531	528	233	234	26,582	26,307	114	112
Center	94	94	23,881	23,837	254	254	118	115	12,222	11,616	104	101
South and Islands	214	213	38,775	38,002	181	178	210	217	17,556	18,189	84	84
Total	436	433	130,650	128,402	300	297	561	566	56,360	56,112	100	99

Figure 2, on the other hand, shows the data on the number of in-hospital days as well as the expenditure data, with reference to the year 2020 (latest data available). The in-hospital days amounted to 48.4 million and represent the current endpoint which, however, has undergone a process of continual decline over the previous years as shown by the following numbers:

- 67.9 million in 2011;
- 65.2 million in 2012;
- 62.9 million in 2013;
- 61.8 million in 2014;
- 61.2 million in 2015;
- 59.9 million in 2016;
- 58.7 million in 2017;
- 58.2 million in 2018;
- 57.5 million in 2019;
- 48.4 million in 2020.

The decrease in the number of in-hospital stays between 2011 and 2019 (the last year immediately preceding the pandemic) was -15.3%, the result of the drive that has been underway for some time towards a continuous reduction of the patient hospitalization process, promoted by the National Health Service. But the decrease in the last year of 2020 alone (with the first impact of the pandemic) accounted for 9.0 million days, corresponding to a -15.7% drop in just twelve months: the lockdown, on the one hand, and the efforts by the facilities to deal with the impact of Covid patients on the other,

which entailed interruptions/postponements of inpatient services, played a fundamental role in this regard.

Again with reference to the year 2020, the in-hospital days were distributed in a manner similar to 2019, albeit with much lower absolute values, as has just been mentioned: 71.7% for public hospitals (which had been 71.6% the previous year), and the remaining 28.3% for accredited private hospitals (as a whole), compared to 28.4% in 2019.

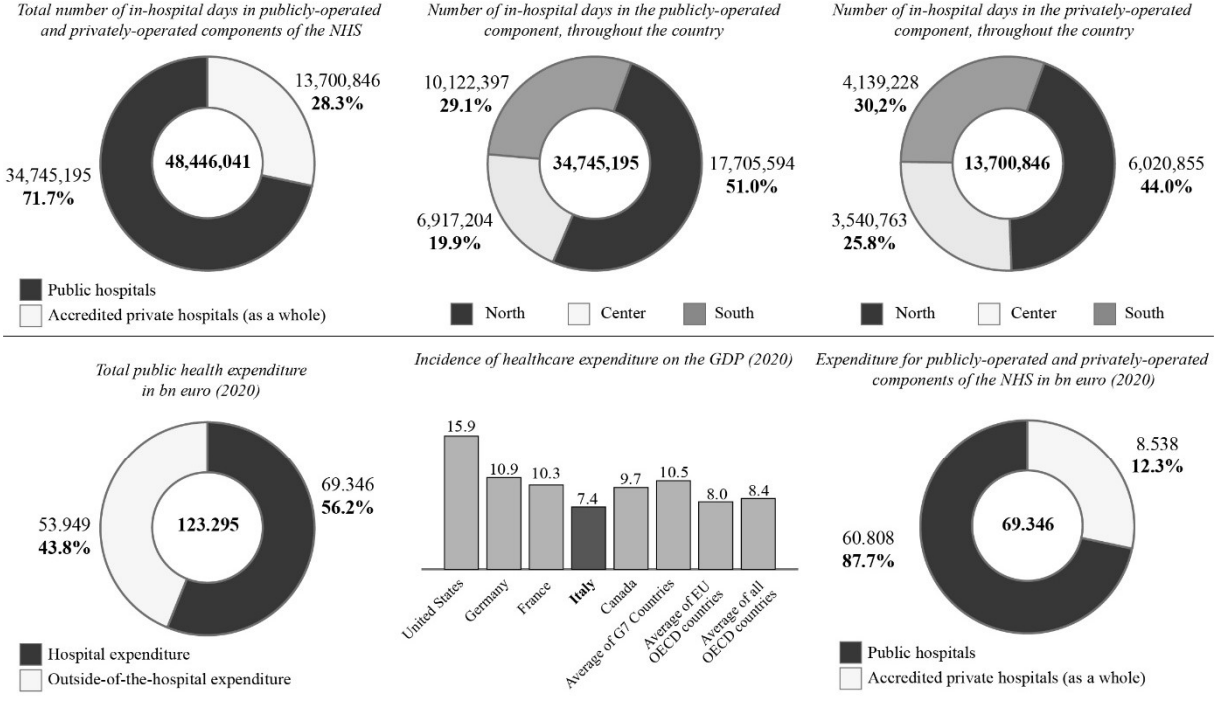
The percentage distribution of in-hospital days, divided among the North, Center and South-Islands in 2020 (see the chart below) differs little from the pre-pandemic year of 2019: showing at most slightly greater numbers for public hospitals in the North and Center and slightly less for those of the South. There were also slight decreases in the amount of in-hospital days for the North and in the South, and increases in Central Italy.

Geographic Distribution	*% Distribution of in-hospital days in public hospitals*						*% Distribution of in-hospital days in accredited private hospitals (as a whole)*					
	2015	*2016*	*2017*	*2018*	*2019*	*2020*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
North	51.4	48.8	49.0	49.3	50.1	51.0	47.7	42.7	43.5	44.4	45.4	44.0
Center	18.7	19.3	19.6	19.7	19.2	19.9	23.0	23.5	24.0	24.2	23.7	25.8
South and Islands	29.9	31.9	31.4	31.0	30.7	29.1	29.3	33.8	32.5	31.4	30.9	30.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

If we then go on to consider the flow of public spending (see the second part of Figure 2), we can see how:

a) total public healthcare spending totaled EUR 116.9 billion in 2019 and then increased to EUR 123.3 billion in 2020 under the pressure (obviously) of the pandemic and thus of the extraordinary assistance provided to Covid patients in the first year of the arrival of the virus: an increase of +5.4%. The breakdown between public hospital spending and non-hospital healthcare expenditure shows slight but constant growth over time: from 54.5%/45.5% in 2011 to 55.7%/44.3% in 2017, then 55.9%/44.1% in 2018 and 56.3%/43.7% in 2019 and finally, to 56.2%/43.8% in 2020;

Fig. 2 – Summary of the aggregates of the Italian hospital system: in-hospital days and total public healthcare spending (2020)



Source: *data processed by Ermeneia – Studi & Strategie di Sistema, 2022*

b) the amount of public health spending compared to GDP was 6.5% for Italy in 2017 and 2018, which then dropped to 6.4% in 2019 and rose to 7.4%, as indicated in Figure 2, driven up by the extraordinary needs of the pandemic: but the average of the G7 countries in 2020 was 10.5%, that of the OECD European countries was 8.0% and that of the total OECD countries was 8.4%. Furthermore, it should also be pointed out that Italy in the years considered, not only had lower public healthcare spending compared to GDP, but also witnessed a decrease in the absolute value of the GDP during the toughest years of the financial-economic crisis that began in 2008 and dragged on, with ups and downs, until 2015: thus suffering double downward pressure as the calculation of public health expenditure out of GDP was made with a more "restricted" GDP;
c) and it should also be remembered that the Update to the Economic and Financial Document of September 2022 (confirmed by the Council of Ministers on November 4, 2022) and the provisions of the 2023 Budget Law, with the GDP trend forecasts for 2025, assume that the ratio of public healthcare expenditure to the latter will be progressively reduced from the 7.4% in 2020: becoming 7.2% in 2021, 7.0% in 2022, 6.4% in 2023, 6.3% in 2024, and finally, 6.1% in 2025. This presents a serious problem in the face of the growing demand for services from an aging population, to which must be added the more than significant gap between Italy and the average of the OECD countries (referred to in the data cited in point b) above) as well as the additional current expenditure for the management of the new infrastructures envisaged by the National Recovery and Resilience Plan (PNRR) and for the related personnel requirements[1].

Figure 3, on the other hand, provides an overall picture of the human resources who carry out their activity within the mixed hospital system of public hospitals and accredited private hospitals. Unfortunately, the reference data proposed for making even local assessments are limited to 2013, as they are no longer updated by ISTAT due to the change in the methods used to collect information. The total number of employees at the time was 632,730 units, an increase of +0.5% compared to 2012. Some 19.7% of total personnel is accounted for by doctors (124,428 units), 42.3% by nursing staff

[1] AGENAS (National Agency for Regional Healthcare Services) estimates - upon full implementation of the new operational realities envisaged by the PNRR - (Community Homes, Territorial Operations Centers, Community Hospitals, Continuity Assistance Units and Home Assistance) an additional need for workers of between 19,450 and 26,850 units.

(268,170 units), and finally, 38.0% includes all other personnel (240,132 units). The greatest concentration of employees is found in hospitals in the North (52.1%), followed at a distance by employees in the South (27.4%) and then by those in Central Italy (20.5%).

We have thus also included Figure 3A which shows more updated data (for the year 2020), processed by the Ministry of Health, but which refer only to personnel employed on permanent contracts: this means that the internal distribution by type of employee drops to 17.1% for doctors (compared to 19.7%) and other staff to 37.8% (compared to 38.0%), while the amount of nursing staff increases to 45.1% (compared to 42.3% of the 2013 figure).

With reference to permanent employees, the number of those employed in public hospital facilities is 501,795 units (81.6% of the total), whereas those in accredited private hospital facilities is 113,085 (18.4% of the total).

Moreover, it is also known that between 2010 and 2019 the number of personnel significantly decreased due to the progressive retirement of operators, whose departure was due to having reached retirement age, to which however other causes have been added: hiring restriction measures adopted by the Regions under debt rescheduling plans and by the other Regions subject to specific spending limits; the introduction of the well-known "*Quota 100*" pension plan [Translator's note: Anticipated retirement scheme intended for at least 62 years old workers having accrued at least 38 years of social security contributions] from 2018 onwards, as well as the particularly demanding work conditions of doctors and nurses following the pandemic emergency. Add to this the hiring freeze, resulting from the spending review ten years ago, compensated - but only in part - by freelance and temporary employment, as well as by the use of recruitment from cooperatives and/or private companies which have made medical and nursing operators available to a public hospital system unable to hire new permanent staff.

Nonetheless, in 2020 the staff increased by +4.5% compared to 2019[2], as a consequence of the need to respond to the needs of Covid patients, as well as the difficult working conditions entailed by the emergency situation, especially that of the so-called "on-call workers", who were utilized to cover the growing shortages of public personnel.

A final note concerns the need to resolutely re-propose an active "wide-ranging" human resources policy, to simultaneously address:

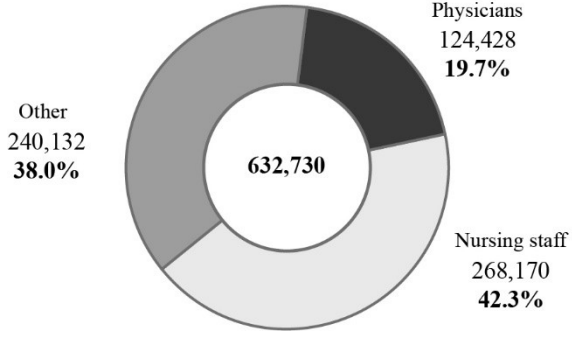
[2] See Part Four, Statistical indicators, Section 3.1. "Personnel trends over time".

- the emergency phase we are experiencing, with the intertwining pressures of "special needs" and "regular concerns" and the need to restore the system, recoup inpatient services that were suspended due to the pandemic for both non-Covid patients and for former Covid patients, all the while we will have to deal with the increasing retirements over the next 5 years by staff who will also have to be replaced[3];
- the medium-long term phase which requires planning the onboarding of new healthcare professionals (doctors, nurses, managers), integrating professional profiles in a manner consistent with changes in the demand for patient care, with the parallel evolution of medicine and health technologies as well as with the necessary reorganization of the healthcare "machine";
- and finally, a more evolved phase of the relationship between accredited private hospital facilities and public hospital facilities: the former must be able to assist and support the latter in order to ensure, in the (inevitably) long transformation phase of the National Health Service, the responses that patients need to overcome the many existing "bottlenecks" in order to be able to achieve a normally acceptable systemic balance of quantity and quality, to be distributed equally nationwide.

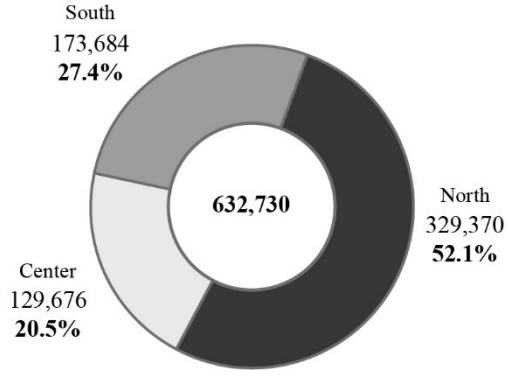
[3] Between 2022 and 2027 AGENAS (National Agency for Regional Healthcare Services) estimates that more than 50,000 personnel will leave due to retirement alone (29,331 doctors and 21,050 nurses).

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

Total number of the professionals in public and private hospital components of the NHS



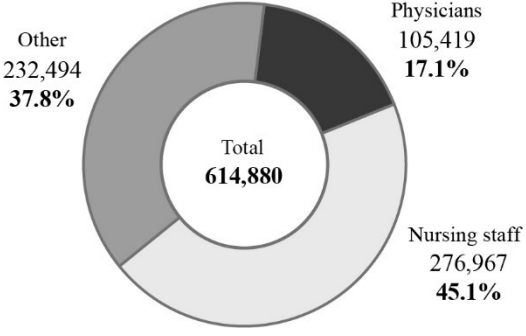
The distribution of total professionals, throughout the country



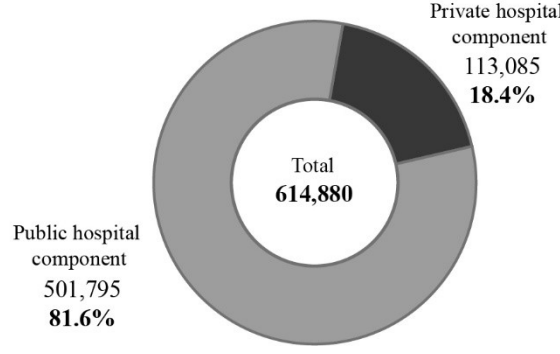
Source: *data processed by Ermeneia – Studi & Strategie di Sistema, 2022*

Fig. 3A – Summary of the aggregates of the Italian hospital system: total permanent employees (2020)

Total number of permanent employees in public and private hospital components of the NHS



The distribution of total permanent employees in public and private hospital components of the NHS



Source: *data processed by Ermeneia – Studi & Strategie di Sistema, 2022*

2.2. A constant increase in the average complexity of the services

From the outset, this Report has chosen to report on the evolution of the (average) complexity of the hospital services provided, first of all taking into account two indicators that measure the trend of this complexity, broken down Region by Region and for public hospitals, as well as for the private hospitals belonging to the AIOP.

The first indicator is that of the so-called average weight[4] which allows us to see the following (see Table 1):

a) for public institutions as well as for AIOP-accredited private institutions, the level of complexity of services continued to increase in the four-year period 2017-2020: although it should be pointed out how this first type of facility increased more slowly over time, going from 1.23 in 2017 to 1.26 in 2018, to 1.27 in 2019 and then experienced a leap to 1.35 in the problematic year 2020. Whereas for the second type of facility the average weight values were constantly higher and changed faster than public hospitals, given that this indicator was equal to 1.36 in 2017, rose to 1.37 in 2018 and then to 1.43 in 2019, slowing down a bit in 2020 to 1.42, but then picked up again greatly in the year 2021 (since the related data are available only for AIOP hospitals) to 1.47.

   It is worth mentioning the very particular situation of the year 2020, in which hospital facilities were urged to provide an enormous amount of emergency services for people infected with the Covid-19 virus and thus found themselves - especially in the areas most affected by the pandemic - having to postpone many services for ordinary patients: with fewer inpatient admissions than in 2019 and probably with a higher concentration

[4] 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:

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

where: ag = specific relative weight of each DRG
Ngh = number of discharged patients for the DRG in a single healthcare facility or in a group of facilities.

Table 1 – The quality of services measured by average weight Years 2017-2021[a]

Regions	*Public hospitals*				*AIOP accredited hospitals*				
	2017	*2018*	*2019*	*2020*	*2017*	*2018*	*2019*	*2020*	*2021*
– Piedmont	**1.33**	**1.35**	**1.36**	**1.45**	**1.70**	**1.72**	**1.87**	**1.84**	**1.86**
– Lombardy	1.22	1.23	1.25	1.34	**1.59**	**1.61**	**1.63**	**1.58**	**1.69**
– A.P. of Bolzano	1.08	1.08	1.10	1.13	0.82	0.84	0.88	0.90	1.10
– A.P. of Trento	1.23	1.24	1.25	1.29	1.09	1.14	1.12	1.36	1.38
– Veneto	**1.24**	**1.29**	**1.31**	**1.38**	**1.45**	**1.52**	**1.60**	**1.72**	**1.66**
– Friuli Venezia Giulia	**1.27**	**1.27**	**1.28**	1.33	1.28	1.27	1.29	1.32	1.34
– Liguria[b]	**1.27**	**1.29**	**1.29**	1.35	**2.87**	**3.08**	**3.12**	**2.74**	**3.39**
– Emilia Romagna	**1.25**	**1.27**	**1.28**	1.34	1.36	1.33	1.36	1.35	**1.67**
– Tuscany	**1.36**	**1.37**	**1.38**	**1.43**	**1.71**	**1.81**	**1.73**	**1.77**	**1.79**
– Umbria	**1.25**	1.25	1.24	1.31	**1.63**	**1.40**	1.38	**1.44**	1.37
– Marche	**1.29**	**1.31**	**1.32**	**1.42**	1.23	1.30	1.35	1.29	1.45
– Lazio	1.13	**1.31**	**1.31**	**1.40**	1.30	1.21	1.26	1.34	1.35
– Abruzzo	**1.24**	1.24	1.26	1.34	1.32	1.32	1.31	1.32	1.39
– Molise	1.12	1.14	1.12	1.24	**1.46**	**1.51**	**1.52**	**1.50**	**1,71**
– Campania	1.21	1.23	1.27	**1.38**	1.13	1.20	1.23	1.30	1.31
– Apulia	1.13	1.16	1.19	1.27	**1.45**	1.33	**1.49**	**1.69**	**1.59**
– Basilicata	1.22	1.23	1.24	1.28	-	-	-	-	-
– Calabria	1.14	1.16	1.20	1.27	**1.51**	1.24	**1.50**	**1.51**	**1.50**
– Sicily	1.19	1.20	1.22	1.29	1.05	1.34	**1.48**	1.36	1.41
– Sardinia	1.16	1.18	1.20	1.28	1.24	1.31	1.30	**1.44**	1.44
Italy	*1.23*	*1.26*	*1.27*	*1.35*	*1.36*	*1.37*	*1.43*	*1.42*	*1.47*

(a) 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.

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

(c) The values highlighted in gray are those that exceed the relative national average weight for each year.

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

of patients with serious/severe illnesses that were not easy to put off (thus it will take some time to "stabilize" these indicators);

b) subsequently the average weight indicators were examined Region by Region with reference to the year 2020, noting how the public hospital facilities that managed to rate above the relative national average (equal to 1.35) were mainly concentrated in the Center-North (5 Regions), and also only Campania in the South. To be more precise, the ranking in descending order is shown below:
   - Piedmont (1.45);
   - Tuscany (1.43);
   - Marche (1.42);
   - Lazio (1.40).
   - Veneto and Campania (1.38 for both Regions);
   - whereas the smaller average weight indicators were concentrated in the other Southern Regions as well as in the Autonomous Province of Bolzano and in the Autonomous Province of Trento.

   Similarly the average weight index for those exceeding the respective national average in the case of AIOP accredited hospitals (equal to 1.42 in 2020), included the following Regions, of which 6 are in the Center-North and 4 in the South, namely:
   - Liguria (2,74);
   - Piedmont (1.84);
   - Tuscany (1.77);
   - Veneto (1.72);
   - Apulia (1.69);
   - Lombardy (1.58);
   - Calabria (1.51);
   - Molise (1.50);
   - Umbria and Sicily (both 1.44);
   - reflecting a more balanced distribution between the Center-North and the South in the case of AIOP accredited hospitals compared to public hospitals.

   It should also be noted that in 2021, given the data available only for the AIOP facilities, there was a clear increase in the average weight for most of the Regions indicated both in the Center-North and in the South;

c) finally, a comparison of the average weight indicator, for the year 2020, between public hospitals and AIOP accredited private hospitals sees the latter occupying a better position with regards to the following Regions: Piedmont, Lombardy, the Autonomous Province of Trento, Veneto, Liguria, Emilia Romagna, Tuscany, Umbria for the Center-North as well as Molise, Apulia, Calabria, Sicily and Sardinia for the South.

Naturally, it should be reiterated that the extraordinary year 2020 contributed to modifying the pace of the previous performance of the indicators for many reasons: by placing a strain on the public and AIOP accredited facilities (which offered more than 10,000 beds for Covid patients and another 25,000 for non-Covid patients) and for the gradual, albeit slow, partial recovery of services for ordinary patients.

The level of complexity of the services can also be measured by means of a second indicator, the one known as the case-mix[5]. The relative values contained in Table 2 below allow us to make the following observations:

a) there was a stabilization of the value of this national average indicator as regards public hospitals: in fact, it remained essentially anchored at 0.98 from 2017 to 2020 inclusive, except for a very slight downward adjustment in 2019 (0.97); whereas for AIOP accredited hospitals, which showed a stably higher case-mix value than that of public hospitals, there was an increase during the year 2019 (1.11 compared to 1.08 in 2018 and 2017), as well as an (apparent) decrease to 1.07 for 2020: but also in this case, as with that of average weight, the completely extraordinary situation of the first year of the pandemic must be kept in mind, with the consequent need to stabilize the case-mix indicators over time (taking into account, among other things, the significant decrease in total inpatient admission flows which amounted to -20.1% between 2019 and 2020, to

[5] 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:

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

where: ag = specific relative weight of each DRG;
Ngh = number of discharged patients for the DRG in a single healthcare facility or in a group of facilities;
Ngr = 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.

-13.4% for urgent admissions, -25.3% for scheduled admissions and -28.3% for day hospitalizations, as shown in Table S/62 of Part Four);

b) given the fact that the average national case-mix indicator for AIOP accredited hospitals, for all the years shown in Table 2, was higher than that of public hospitals, we should point out the Regions that managed to exceed the average of the latter in the year 2020, of which there were 6:
   - Piedmont (1.05);
   - Tuscany (1.04);
   - Marche (1.03);
   - Lazio (1.01);
   - and Veneto together with Campania (both at 1.00).

   Remaining below the case-mix index compared to the national average (0.98), were 6 Central-Northern Regions (Lombardy, Autonomous Province of Bolzano, Autonomous Province of Trento, Friuli Venezia Giulia, Emilia Romagna and Umbria) and 7 Southern Regions (Abruzzo, Molise, Apulia, Basilicata, Calabria, Sicily and Sardinia).

   The same exercise, applied to AIOP accredited hospitals (again for the year 2020), shows how the case-mix index exceeding the national average (equal to 1.07) included the following 9 Regions:
   - Liguria (2,46);
   - Piedmont (1.35);
   - Tuscany (1.30);
   - Molise (1.24);
   - Lombardy (1.22);
   - Emilia Romagna (1.21);
   - Veneto (1.20);
   - Apulia (1.15);
   - Calabria (1.09);
   - while 6 Regions of the Center-North (Autonomous Province of Bolzano, Autonomous Province of Trento, Friuli Venezia Giulia, Umbria, Marche and Lazio) and 4 Regions in the South (Abruzzo, Campania, Sicily and Sardinia) fell below the average case-mix index;

c) finally a comparison between the case-mix index of public hospitals and that of AIOP accredited hospitals, for the year 2020, almost always sees the latter in a better position, except in the cases of the Autonomous Province of Bolzano, Lazio and Campania.

   Again in Table 2, 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.

Table 2 – Comparison of public hospitals and AIOP accredited hospitals, based on the "case-mix" of the services provided. Years 2017-2020[a]

Regions	*Public hospitals*				*AIOP accredited hospitals*			
	2017	*2018*	*2019*	*2020*	*2017*	*2018*	*2019*	*2020*
– Piedmont	**1.05**	**1.05**	**1.04**	**1.05**	**1.35**	**1.33**	**1.43**	**1.35**
– Lombardy	0.97	0.96	0.96	0.97	**1.27**	**1.27**	**1.27**	**1.22**
– A.P. of Bolzano	0.86	0.84	0.84	0.82	0.65	0.65	0.68	0.80
– A.P. of Trento	0.98	0.96	0.95	0.94	0.87	0.88	0.86	1.00
– Veneto	**0.99**	**1.00**	**1.00**	**1.00**	**1.15**	**1.18**	**1.24**	**1.20**
– Friuli Venezia Giulia	**1.01**	**0.99**	**0.98**	0.97	1.02	0.99	1.00	0.97
– Liguria [b]	**1.01**	**1.00**	**0.99**	0.98	**2.28**	**2.39**	**2.42**	**2.46**
– Emilia Romagna	**0.99**	0.98	**0.98**	0.97	**1.09**	1.08	1.09	**1.21**
– Tuscany	**1.08**	**1.06**	**1.05**	**1.04**	**1.36**	**1.40**	**1.35**	**1.30**
– Umbria	**0.99**	0.97	0.95	0.95	**1.30**	**1.29**	**1.29**	1.00
– Marche	**1.02**	**1.01**	**1.01**	**1.03**	1.00	1.01	1.05	1.05
– Lazio	0.90	**1.01**	**1.00**	**1.01**	1.03	0.97	0.98	0.98
– Abruzzo	0.98	0.96	0.97	0.97	**1.09**	1.08	1.09	1.05
– Molise	0.89	0.89	0.86	0.90	**1.16**	**1.17**	**1.18**	**1,24**
– Campania	0.96	0.96	0.97	**1.00**	0.92	0.93	0.95	0.95
– Apulia	0.90	0.90	0.91	0.92	**1.15**	1.06	**1.16**	**1.15**
– Basilicata	0.97	0.95	0.95	0.93	-	-	-	-
– Calabria	0.90	0.90	0.91	0.92	**1.20**	0.96	**1.29**	**1.09**
– Sicily	0.95	0.93	0.93	0.94	0.90	1.04	**1.13**	1.02
– Sardinia	0.92	0.92	0.92	0.93	0.99	1.02	1.02	1.05
Total	*0.98*	*0.98*	*0.97*	*0.98*	*1.08*	*1.08*	*1.11*	*1.07*

(a) 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.

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

(c) The values highlighted in gray are those that exceed the relative national average weight for each year.

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

Table 3 – The quality of hospital services of public hospitals and AIOP accredited hospitals measured by the amount of highly specialized DRGs (*) (a)

DRG	*Public hospitals (Incidence per 1,000 discharged patients)*			*Accredited hospitals associated with AIOP (Incidence per 1,000 discharged patients)*		
	2018	*2019*	*2020*	*2018*	*2019*	*2020*
104 Cardiac valve & oth major cardiothoracic proc w card cath	1.864	2.034	2.093	6.426	7.865	8.774
105 Cardiac valve & oth major cardiothoracic proc w/o card cath	1.744	1.861	1.851	1.794	2.139	2.113
106 Coronary bypass w PTCA	0.050	0.052	0.044	0.113	0.120	0.112
108 Other cardiothoracic procedures	0.551	0.650	0.743	0.702	0.859	0.841
110 Major cardiovascular procedures w CC	1.707	1.734	1.813	0.824	0.923	1.155
111 Major cardiovascular procedures w/o CC	1.694	1.784	1.735	2.027	2.605	2.679
515 Cardiac defibrillator implant w/o cardiac cath	1.618	1.681	1.763	2.011	2.257	2.399
535 Cardiac defib implant w cardiac cath w ami/hf/shock	0.395	0.394	0.497	0.867	1.020	1.467
536 Cardiac defib implant w cardiac cath w/o ami/hf/shock	0.429	0.437	0.466	0.510	0.601	0.787
547 Coronary bypass w cardiac cath w MCC	0.177	0.192	0.188	0.083	0.099	0.245
548 Coronary bypass w cardiac cath w/o MCC	0.401	0.403	0.372	1.188	1.296	1.205
549 Coronary bypass w/o cardiac cath w MCC	0.203	0.206	0.177	0.103	0.140	0.286
550 Coronary bypass w/o cardiac cath w/o MCC	0.726	0.778	0.678	1.433	1.360	1.188
551 Permanent cardiac pacemaker implant w MCC or defib. autom. (AICD) or generator procedures	1.647	1.690	1.926	1.211	1.404	2.319
552 Other permanent cardiac pacemaker implant w/o MCC	5.337	5.359	5.294	4.868	5.241	6.491
553 Other vascular procedures w MCC	0.307	0.326	0.311	0.122	0.135	0.129
Average incidence	*28.730*	*29.820*	*31.172*	*27.684*	*31.999*	*35.999*

(*) Inpatient admissions for acute cases.

(a) Values calculated with the new CMS DRG version 24.0 used by the Ministry of Health.

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

A further example of an indicator of the level of complexity of the services provided by the two types of hospitals is contained in Table 3 below. It reports, by way of example, 16 highly specialized DRGs, of which the corresponding incidence has been calculated per 1,000 discharged patients. Here we can see:

a) the average number of high specialty services in public hospitals appears to have grown in the three-year period 2018-2020, going from 28.7‰ to 31.2‰; the similar amount for hospitals accredited and associated with the AIOP moved similarly upwards in the three-year period, rising from 27.7‰ in 2018 to 36.0‰ in 2020 and, starting in 2019, regained the lead over public hospitals;
b) the comparison, no longer on the basis of the overall average incidence but rather that for individual DRG and again with reference to the year 2020, shows a higher level of complexity for the AIOP-accredited private facilities for as many as 14 services out of the 16 indicated in Table 3 (there were 10 out of 16 both in 2019 and 2018): while the high specialty services of public facilities are better for DRG 110 (Major cardiovascular procedures with CC) and for DRG 553 (Other vascular procedures with CC and with MCC).

We then measured hospital services, again comparing the incidence of high, medium and low complexity cases, using a further method referred to in the notes of Table 4 below: all with reference to the national average, to that of the territorial districts to which they belong and to the individual Regions as well as to the two types of hospitals, public and accredited private facilities. It should be noted, in the latter case, that we are referring to the private hospital component (accredited facilities), which includes Private polyclinics, IRCCS and Private foundations, Classified hospitals, USL facilities, Research facilities and finally Accredited hospitals.

The trend in service complexity levels over the years 2015 to 2020 showed the following:

a) the amount of highly complex services shows a continuous increase at the national average level over the six years considered (see the last line of Table 4, Part One and Two): and this applies both to the public hospital component, which rose gradually from 14.4% in 2015 to 16.1% in 2019 and then made a more substantial leap, equal to 19.6% for the year 2020, and for the private component, which went from 18.7% in 2015 to 23.8% in 2019, also making a significant leap forward in 2020, reaching 26.2%. These trends show a clear difference in favor of accredited private hospitals compared to public hospitals: in fact, the respective percentage incidence of highly complex services remains stably higher and grew faster for the first type of facilities.

The more pronounced increase in the incidence for the year 2020 deserves particular mention, and it concerns both public hospitals and accredited private hospitals, and may have been influenced:

- first of all by a greater relative presence of patients with serious illnesses that required urgent and non-delayable responses and, on the contrary, by a lower number of patients with less serious illnesses that could thus more easily be postponed;
- but also by a consequent decrease of the basis for calculating the percentage amounts, given the decrease in the number of inpatient admissions, due to the extraordinary healthcare effort in 2020 aimed at Covid patients compared to non-Covid patients, as well as by the choice of many patients not to be admitted to hospital, as they were fearful of catching the virus in the hospital environment;
- and thus the result was that in 2020 the number of total inpatient admissions dropped by 20.1% compared to 2019, with higher peaks for scheduled inpatient admissions and day hospitalizations (as previously mentioned);

b) the incidence of the average complexity of the services grew in parallel, albeit in a completely limited way: and this was true both for public facilities, which took 5 years to go from 34.0% in 2015 to 36.5% in 2020, and for the accredited facilities, which remained behind the public ones and went from 30.7% in 2015 to 32.9% in 2020. Conversely, low-complexity services decreased for both types of hospitals, but in a decidedly more pronounced way for accredited private ones: in fact, the latter dropped from 50.6% in 2015 to 40.9% in 2020, whereas for public hospitals they decreased, in the same period, from 51.7% to 44.0%;

c) the phenomenon of a structural disadvantage for the South compared to the Center-North becomes evident, if one breaks down the indicators geographically: with a lower incidence of highly complex services (especially in public facilities and with an evident recovery for accredited private facilities); and this advantage also has repercussions on fewer medium complexity services, while the incidence of low complexity services decreases over time also for the South and especially in accredited private hospitals compared to public ones;

d) the significant phenomenon of the increase in the percentage incidence of highly complex services in the North, Center and South is reiterated, probably as a result of what has already been mentioned in point a) above; while it is interesting to note how in the North all types of services (high, medium and low) increased in 2020 under the strain of the extraordinary emergency of a pandemic and the related consequences the projection of

Table 4 – Comparison of the percentage of High, Medium and Low complexity services provided to acute patients during in-hospital stays, between public hospitals and accredited private hospitals (as a whole), by Region – 2020

Regions	*Public hospital component*																	
	High complexity						*Medium complexity*						*Low complexity*					
	2015	*2016*	*2017*	*2018*	*2019*	*2020*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Piedmont	15.9	16.0	16.6	17.1	17.3	23.2	35.0	34.7	35.2	35.6	36.1	34.6	49.2	49.3	48.2	47.3	46.6	42.1
V. d'Aosta	15.5	16.3	15.8	15.8	15.9	19.5	34.2	34.9	35.2	36.0	36.6	37.0	50.2	48.8	49.0	48.1	47.6	43.5
Lombardy	14.0	14.2	14.5	14.7	15.5	19.3	31.1	31.2	31.5	31.7	32.9	34.3	54.9	54.6	54.0	53.5	51.7	46.4
Bolzano	12.8	13.5	13.3	13.3	13.7	14.8	28.1	28.9	28.6	29.2	29.0	30.1	59.1	57.6	58.1	57.5	57.3	55.1
Trento	14.5	14.4	15.4	15.9	16.1	18.2	36.0	35.8	36.2	37.4	37.9	37.2	49.5	49.8	48.4	46.7	46.0	44.5
Veneto	15.9	15.9	14.5	15.8	16.1	19.1	35.2	34.8	34.8	35.3	36.3	36.9	48.9	49.3	50.7	48.9	47.6	44.0
Friuli V.G.	15.5	15.4	15.6	15.1	15.4	17.5	34.7	35.3	35.1	35.5	35.8	37.2	49.7	49.3	49.3	49.4	48.8	45.3
Liguria	16.2	16.6	15.4	15.7	15.5	20.0	39.8	40.6	40.1	39.8	39.7	38.4	44.0	42.8	44.5	44.5	44.8	41.6
Emilia R.	14.2	14.3	15.2	15.7	15.9	18.7	35.8	35.9	36.6	36.7	37.2	38.0	50.1	49.8	48.2	47.6	46.9	43.3
Tuscany	17.1	17.5	17.7	18.1	18.3	21.4	39.4	39.8	39.8	40.2	40.5	39.5	43.4	42.7	42.5	41.7	41.2	39.1
Umbria	14.2	15.1	15.3	15.5	15.7	17.8	31.9	33.1	34.1	34.8	35.1	35.7	53.9	51.8	50.6	49.7	49.3	46.5
Marche	15.1	15.6	16.6	17.2	17.9	22.4	35.8	36.3	37.4	38.0	39.1	38.4	49.1	48.1	46.0	44.8	43.1	39.2
Lazio	16.1	17.0	15.9	18.3	18.9	22.2	33.4	34.0	30.4	35.4	35.8	36.7	50.5	49.0	53.7	46.3	45.2	41.1
Abruzzo	14.6	15.4	15.6	15.7	16.3	19.9	35.4	36.3	37.4	38.2	39.0	38.0	50.0	48.3	47.0	46.0	44.7	42.1
Molise	10.3	11.2	12.3	12.7	12.1	16.3	30.9	33.5	34.1	36.0	37.4	38.6	58.8	55.3	53.6	51.3	50.6	45.1
Campania	12.3	12.6	13.5	14.2	15.5	19.7	30.4	30.9	32.0	33.5	34.7	35.5	57.3	56.5	54.5	52.3	49.8	44.8
Apulia	10.7	11.3	11.9	12.8	13.7	17.3	31.9	32.9	34.2	35.3	36.4	36.3	57.4	55.8	53.9	51.9	49.9	46.4
Basilicata	14.0	13.8	13.7	14.4	14.0	16.4	37.2	37.6	38.1	37.6	39.4	38.5	48.8	48.6	48.2	48.0	46.5	45.2
Calabria	11.1	11.9	12.3	13.0	14.0	16.7	31.9	32.1	34.4	34.6	36.2	36.3	57.1	56.0	53.3	52.4	49.8	47.1
Sicily	14.4	15.0	15.6	15.7	16.3	19.1	34.6	34.9	34.9	35.0	35.9	35.7	51.0	50.1	49.5	49.3	47.8	45.2
Sardinia	11.6	12.3	12.3	13.0	13.6	16.2	32.3	32.9	33.9	34.8	35.7	36.7	56.1	54.8	53.8	52.2	50.8	47.1
North	14.9	15.0	15.1	15.5	15.9	23.2	34.0	34.1	34.4	34.7	35.5	42.7	51.1	50.9	50.5	49.7	48.6	52.8
Center	16.1	16.8	16.7	17.7	17.9	21.4	36.0	36.5	35.7	37.7	38.3	38.0	47.9	46.7	47.6	44.6	43.7	40.5
South	12.5	13.0	13.6	14.2	14.8	18.3	32.6	33.2	34.2	35.0	35.9	36.3	54.9	53.8	52.2	50.8	49.3	45.4
Italy	*14.4*	*14.7*	*14.9*	*15.5*	*16.1*	*19.6*	*34.0*	*34.3*	*34.6*	*35.4*	*36.2*	*36.5*	*51.7*	*51.0*	*50.5*	*49.1*	*47.8*	*44.0*

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(Continued) *Table 4 – Comparison of the percentage of High, Medium and Low complexity services provided to acute patients during in-hospital stays, between public hospitals and accredited private hospitals (as a whole), by Region – 2020*

Regions	*Private hospital component (accredited facilities)*																	
	High complexity						*Medium complexity*						*Low complexity*					
	2015	*2016*	*2017*	*2018*	*2019*	*2020*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
Piedmont	17.9	19.7	25.0	26.9	29.3	32.8	23.4	23.7	26.6	27.6	27.4	28.6	58.7	56.6	48.4	45.4	43.3	38.6
V. d'Aosta	28.8	31.9	37.1	39.3	45.2	32.3	7.9	9.3	17.6	17.0	12.9	34.3	63.2	58.8	45.3	43.8	41.9	33.4
Lombardy	22.6	24.1	25.3	25.9	27.6	29.0	31.0	31.7	31.2	31.1	32.0	34.1	46.4	44.2	43.5	43.0	40.4	37.0
Bolzano	-	-	-	-	0.2	14.4	23.4	24.0	27.0	23.9	28.3	29.7	76.6	76.0	73.0	76.1	71.5	56.0
Trento	15.5	19.8	22.0	24.2	25.5	38.0	28.3	27.0	31.0	24.8	22.0	23.0	56.2	53.2	47.0	51.0	52.5	38.9
Veneto	28.3	29.7	28.1	29.3	30.0	32.8	31.6	31.3	31.0	32.2	32.3	31.3	40.1	39.0	40.9	38.5	37.7	36.0
Friuli V.G.	22.6	21.3	22.5	22.5	25.0	25.8	24.1	23.2	22.0	20.5	20.4	19.3	53.3	55.5	55.5	57.0	54.6	54.9
Liguria	20.7	20.6	19.7	21.8	20.6	23.6	37.2	36.5	34.9	35.4	36.4	31.4	42.0	42.9	45.4	42.9	42.9	45.0
Emilia R.	18.1	18.0	22.1	24.5	27.5	30.5	28.1	27.6	26.1	27.0	28.0	29.8	53.8	54.4	51.8	48.5	44.5	39.7
Tuscany	33.5	36.2	38.1	42.4	42.1	46.8	24.9	24.8	24.4	24.0	25.7	24.5	41.6	39.0	37.5	33.6	32.2	28.6
Umbria	25.3	30.0	31.4	29.2	34.0	41.4	18.9	19.3	18.2	20.0	23.8	22.8	55.8	50.7	50.4	50.8	42.2	35.9
Marche	17.7	19.1	23.6	22.1	24.6	28.1	24.2	23.3	26.3	24.9	26.4	31.9	58.1	57.6	50.1	53.1	49.0	40.1
Lazio	15.7	16.7	16.5	17.7	18.4	21.2	33.5	33.8	32.7	34.9	35.1	34.6	50.9	49.5	50.8	47.4	46.5	44.2
Abruzzo	22.2	21.4	23.1	25.1	27.2	30.1	30.1	28.9	30.0	33.0	30.9	30.6	47.7	49.7	46.9	41.9	41.9	39.3
Molise	27.3	28.6	31.6	32.4	32.2	36.9	37.5	37.5	35.8	36.1	35.7	35.9	35.2	33.9	32.6	31.6	32.0	27.2
Campania	11.1	11.9	13.2	15.3	17.1	19.4	28.2	28.3	28.6	31.4	32.1	31.6	60.7	59.8	58.2	53.3	50.9	49.0
Apulia	16.0	17.1	18.0	19.1	19.1	23.8	34.6	35.7	36.1	36.1	36.6	36.6	49.4	47.2	45.9	44.9	44.3	39.7
Basilicata	31.4	35.1	-	-	-	-	32.0	23.3	-	-	-	-	36.6	41.6	-	-	-	-
Calabria	24.4	29.2	30.5	29.3	31.8	30.4	34.3	33.2	32.2	34.1	32.4	32.5	41.3	37.6	37.3	36.6	35.8	37.1
Sicily	16.9	18.9	19.8	18.1	22.1	23.5	33.5	34.2	33.9	30.5	34.5	35.8	49.6	46.9	46.3	51.4	43.3	40.7
Sardinia	13.1	14.3	15.6	16.6	18.6	22.7	16.8	18.0	17.7	18.0	19.4	21.8	70.0	67.7	66.7	65.4	62.0	55.5
North	22.0	23.2	24.8	26.0	27.7	33.0	29.9	30.2	30.0	30.3	30.9	35.5	48.2	46.6	45.2	43.8	41.3	42.2
Center	18.2	19.4	19.7	21.1	21.7	24.5	31.5	31.9	31.1	32.8	33.4	33.2	50.3	48.7	49.2	46.1	44.9	42.3
South	15.3	16.5	17.5	18.5	20.3	25.4	31.2	31.6	31.7	32.4	33.5	33.0	53.5	51.9	50.8	49.1	46.2	41.6
Italy	*18.7*	*19.9*	*21.2*	*22.3*	*23.8*	*26.2*	*30.7*	*31.1*	*30.8*	*31.6*	*32.4*	*32.9*	*50.6*	*49.0*	*48.0*	*46.1*	*43.8*	*40.9*

(*) 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 IRCCS and Private Foundations, Classified Hospitals, USL Facilities, Research Facilities, Accredited Hospitals.

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

this phenomenon had on both on public and on accredited private facilities;

e) finally, if we go from the geographical distribution to consider the percentage incidences that refer to the individual Regions, again in terms of the trend of highly complex services, evident differences emerge between the two types of hospitals considered, given that (see the last column of the first section of Table 4 and the last column of the second section of Table 4):
   - in public hospitals it ranges from a maximum of 23.2% in Piedmont, followed by 22.4% in the Marche and 22.2% in Lazio to a minimum of 16.2% in Sardinia followed by 16.3% in Molise, from 16.4% in Basilicata and to 16.7% in Calabria;
   - and in accredited hospitals, the highest indicator was achieved by Tuscany (46.8%), followed by Umbria (41.4%) and - more distantly - by the Autonomous Province of Trento (38.0%) and by 36.9% in Molise, while the lowest incidence was 14.4% in the Autonomous Province of Bolzano, followed by 19.4% in Campania.

2.3. The pandemic interruption in the positive trend of the results of the services provided

In addition to the Average Weight and Case-mix indicators, as well as those of the relative weight classes of the DRGs in terms of absorbed resources, it is necessary to report on the impact of the services on patients in terms of effectiveness, safety, efficiency of care, breaking down the assessment according to the legal status of the facilities and therefore distinguishing between public hospitals and private hospitals accredited by the National Health Service.

The AGENAS National Outcome Evaluation Program (PNE) now offers an essential cognitive tool for all professionals involved at various levels in healthcare. This tool is available at the various levels of the NHS and is useful for directing approaches/decisions of treatment and healthcare policies: planning used to select in the name and on behalf of citizen-patients the facilities that provide the best services at the lowest cost; management called upon to monitor the results of the facilities and possibly activate audits on the quality of the data and/or clinical-organizational audits; professionals called upon to measure themselves against the outcomes achieved by the respective operating units, collaborating with the activation of any improvement strategies.

Again this year, therefore, the update of the results of the AGENAS National Outcomes Evaluation Program (PNE) is reported with respect to a selection of core indicators, breaking down the data according to the legal status of the hospital facilities considered.

First, Table 5 reports the following for each of the 28 indicators analyzed:

- 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[6];
- 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 2019-2020 outcomes, which shows the difference between the averages of the outcomes in the two years being compared for both public hospitals and private hospitals.

The number of cases (and the relative percentages) provides a snapshot of the contribution of the private component within the NHS. Although the cohorts reported therein (see columns 2, 3, 4 and 5 of the aforementioned Table 5) do not coincide with the total volumes of services provided[7], they express a reasonable approximation of the composite nature of the Italian hospital system.

The evaluation shows that in 27 out of 28 outcome indicators measured, the private facilities of the NHS report an average performance that is better or no different than that of the public facilities (see columns 6 and 7 of Table 5.

The only indicator in which the overall level of public facilities is higher than the private facilities is the one measuring the use of surgical births.

[6] The total number of cases – the so-called cohort – does not correspond to specific service or condition volumes. Considering, for example, 30-day mortality after ischemic stroke, the "total number of cases" does not represent the volume of ischemic stroke cases admitted to the facilities, but the denominator of the outcome indicator, i.e. a selection of admissions identified on the basis of certain criteria of inclusion and exclusion, expressly reported in the calculation protocol. For example, all inpatient admissions for stroke with concomitant diagnosis of mental disorders (ICD-9-CM codes 290-319 in any diagnosis field) are excluded.

[7] Ibid.

Table 5 – Outcome indicators (with risk adjustment *values)*[1] *for 28 TREEMAP indicators, comparing the results of public and private hospitals*[2]

Indicators	*Total cases*	*Number of cases treated*				*Average results*		*Variation of outcomes 2019-2020*			
		Public hospitals		*Private hospitals*		*Public hospitals*[3]	*Private hospitals*[3]	*Public hospitals*		*Private hospitals*	
		No. of cases	*%*	*No. of cases*	*%*						
Valvuloplasty or replacement of heart valves: 30-day mortality	41,178	20,978	50.9	20,200	49.1	2.7	2.1	-0.03	-	-0.04	-
Aortocoronary by-pass: 30-day mortality	23,537	13,669	58.1	9,868	41.9	2.1	1.6	-0.17	↓	-0.56	↓
Aortocoronary by-pass: 30-day mortality (new variables)	23,537	13,669	58.1	9,868	41.9	2.0	1.7	*	*	*	*
Congestive heart failure: 30-day mortality	85,794	69,262	80.7	16,532	19.3	11.7	10.0	-1.34	↓	-1.63	↓
Ami: 30-day mortality	72,549	64,129	88.4	8,420	11.6	8.1	8.2	-0.75	↓	-1.41	↓
ST-segment elevation myocardial infarction: proportion treated with PTCA within 2 days	27,821	24,542	88.2	3,279	11.8	78.9	82.6	0.63	-	-0.56	-
ST-segment elevation myocardial infarction: proportion treated with PTCA within 90 minutes of hospitalization/service entry	27,821	24,542	88.2	3,279	11.8	52.6	58.5	*	*	*	*
Repair of unruptured aneurysm of the abdominal aorta: 30-day mortality	12,826	10,010	78.0	2,816	22.0	1.8	1.4	-0.14	↓	-0.66	↓
Ischemic stroke: 30-day mortality	44,482	40,204	90.4	4,278	9.6	11.2	9.2	-1.77	↓	-2.20	↓
Surgery intervention for cerebral tumor: 30-day mortality	29,135	21,934	75.3	7,201	24.7	2.9	2.1	-0.18	↓	-0.32	↓
Laparoscopic cholecystectomy: post-operative stay of less than or equal to 3 days	46,530	29,192	62.7	17,338	37.3	74.4	85.2	1.54	-	-0.36	-
Fracture of the neck of the femur in over 65: surgery within 2 days	71,326	62,819	88.1	8,507	11.9	63.8	70.8	3.17	↓	2.55	↓
Fracture of the neck of the femur in over 65: surgery within 48 hours	71,754	63,155	88.0	8,599	12.0	49.4	55.6	*	*	*	*
Proportion of births by primary cesarean section	306,822	244,544	79.7	62,278	20.3	21.0	29.0	0.10	-	-0.47	↓
Vaginal delivery: complications during childbirth and the puerperium	490,592	401,798	81.9	88,794	18.1	0.6	0.6	0.18	↑	0.22	↑
Cesarean delivery: complications during childbirth and the puerperium	241,984	179,666	74.2	62,318	25.8	0.9	0.8	0.31	↑	0.27	↑
Resection interventions within 120 days from conservative surgery for malignant breast cancer	31,810	23,086	72.6	8,724	27.4	6.5	5.2	0.09	-	-0.23	-
Reconstructive surgeries in the admission index for breast TM demolition surgery	11,159	8,024	71.9	3,135	28.1	52.8	59.2	0.22	-	2.20	↓
Exacerbated COPD: 30-day mortality	34,334	29,471	85.8	4,863	14.2	13.4	7.8	-3.32	↓	-2.23	↓
Surgery for lung tumor: 30-day mortality	25,470	18,859	74.0	6,611	26.0	1.1	1.1	0.39	-	-0.06	-
Surgery for stomach tumor: 30-day mortality	7,908	5,976	75.6	1,932	24.4	5.2	4.2	-0.20	-	-0.33	-
Surgery for colon tumor: 30-day mortality	37,074	29,764	80.3	7,310	19.7	4.3	3.8	-0.94	↓	0.29	-
Chronic renal failure: 30-day mortality after hospitalization	96,641	81,951	84.8	14,690	15.2	15.3	12.3	-2.78	↓	-3.44	↓

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(Continued) *Table 5 – Outcome indicators (with* risk adjustment *values)[1] for 28 TREEMAP indicators, comparing the results of public and private hospitals[2]*

Indicators	*Total cases*	*Number of cases treated*				*Average results*		*Variation of outcomes 2019-2020*			
		Public hospitals		*Private hospitals*		*Public hospitals[3]*	*Private hospitals[3]*	*Public hospitals[4]*		*Private hospitals[4]*	
		No. of cases	*%*	*No. of cases*	*%*						
Knee prosthesis: readmission after 30 days	43,682	7,115	16.3	36,567	83.7	1.7	1.7	-0.24	-	-0.54	↓
Knee prosthesis: revision within 2 years of surgery	58,513	16,203	27.7	42,310	72.3	2.4	2.7	0.21	-	0.14	-
Hip prosthesis: readmissions after 30 days	61,114	30,386	49.7	30,728	50.3	4.5	3.2	-0.40	↓	-0.35	↓
Hip prosthesis: revision within 2 years of surgery	77,727	43,202	55.6	34,525	44.4	1.8	1.9	-0.10	-	-0.06	-
Shoulder prosthesis: readmission after 30 days	12,352	3,937	31.9	8,415	68.1	1.9	1.5	0.70	↑	-0.48	↓

(1) The comparative evaluation of outcomes must take into account the possible differences existing in the population examined, which may include age, sex, and the severity 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) In the comparison between the public component and the private component, the average values that are significantly better are highlighted in gray. In the case there is no highlighting, the results of the two components are not significantly different from each other.

(4) ↓ = Worsening; ↑ = Improvement; - = No significant differences between public hospitals and private hospitals; * = New indicator of the year 2020, not present in the year 2019 and therefore not comparable.

Source: *AIOP processing of SDO data*

This is a result perfectly in line with what has already been documented in the *Report on the Quality of Clinical Outcomes in Italian Hospitals* prepared by AGENAS and AIOP[8] that - again comparing public to private - see greater compliance in the private component with the standards of quality, effectiveness, appropriateness and safety.

Considering the results of the summary assessment made using the TREEMAP method[9] within the scope of the National Outcome Program (see Table 6), the hospital facilities in which all of the clinical areas assessed had a high or very high level of compliance with hospital standards amounted to 10% of the public facilities, but numbered 24% of the accredited private facilities.

Conversely, low or very low quality facilities included 4% of the public ones and 10% of the private ones.

The remaining facilities, however, reported different quality levels among the various clinical areas: in other words, most of the providers cannot be considered as a whole, but rather it is necessary to assess the individual disciplines and, often, the different procedures or clinical conditions, each with its own distinct level of performance.

Overall, the variability of Outcomes appears to be a relevant and critical datum of the entire hospital healthcare system: there are differences among Regions, but also within the Regions themselves and within the individual facilities, depending on the discipline considered.

[8] The document makes a comparative evaluation of the hospital facilities on the basis of their respective level of compliance to the available quantitative and qualitative standards.

The basic approach aims at comparing the public facilities and private facilities of the National Health Service with regard to a selection of core indicators of the AGENAS National Outcome Evaluation Program (PNE).

[9] The PNE TREEMAP is a summary examination by clinical area, based on the selection of the most representative indicators of each of the disciplines considered, selected and weighted on the basis of their respective validity and robustness. It expresses the level of compliance of each hospital facility to qualitative and quantitative standards defined on the basis of scientific and regulatory references. The clinical areas considered in the TREEMAP are cardiocirculatory, nervous, respiratory, musculoskeletal, general surgery, oncological surgery, and pregnancy and childbirth areas.

Table 6 – Incidence on the two types of hospital facilities indicated below which present all clinical areas assessed with a high or very high level of compliance with hospital standards

Types of facilities	*Total number of facilities evaluated*	*Facilities with all areas of high + very high quality*		*Facilities with all areas of low + very low quality*	
		No.	*Incid. %*	*No.*	*Incid. %*
Public hospitals	534	55	10	24	4
Accredited private hospitals	303	72	24	29	10

Source: *AGENAS-AIOP "Report on the Quality of Clinical* Outcomes *in Italian Hospitals". Data from the 2021 National Outcome Evaluation Program*

Quantitative standards deserve a final reflection given that accredited private hospital facilities suffer from reduced volumes of activity compared to the minimum quantitative references (see Table 7): these smaller volumes are often completely independent of the supply potential that characterizes these facilities, as they are determined at the level of regional planning, which in turn is linked to spending budgets envisaged exclusively for accredited private hospital facilities.

However, one must be careful when reading the data relating to 2020, given the anomaly of the pandemic year and the inevitable impact on the provision of healthcare services[10].

This impact concerned not only the volumes of scheduled services and, to a lesser extent, urgent services, but also the quality of the level of the care provided by the hospital facilities.

As can be seen in columns 8 and 9 of Table 5, the changes in the estimates in the two-year period 2019-2020 show a general worsening of the overall services, which do not characterize solely the public facilities. In fact, for the effects of a more immediate perception of this worsening, it is enough to consider the direction of the arrows indicated (↓ = Worsening; ↑ = Improvement): the trend is mainly downwards for both hospital categories and the same happens for the only two changes that express upward indicators).

Contrary to what one would expect, given the greater involvement in the Covid emergency, the public component in many cases shows minor differences in indicators compared to the private component.

For certain types of hospitalization, the variation reported consists of a significant drop in the quality of the care provided: especially as regards mortality indicators, differences of 1 or 2 percentage points in the adjusted rates represent far from negligible deviations.

[10] The well-trained eye must necessarily also consider the aspect of reduced quality of coding in the hospital discharge forms, which make up the information flow of the PNE and which, in the context of the pandemic, have experienced widespread miscoding or lack of coding.

If we consider, by way of example, the 30-day mortality indicator after hospitalization for ischemic stroke, the average difference reported corresponds to an increase of 18% of public facilities and 30% of private facilities, respectively.

This is a figure that needs to be carefully assessed given that this qualitative decline will inevitably be accompanied by an increase in the complexity and clinical severity for all conditions that are not treated or treated late during the Covid-19 emergency (as has been mentioned several times in the assessments contained in this Report).

To this should be added that, from reading the results of the latest edition of the PNE (data updated to 2021), not only is there no expected recovery of the services lost during the pandemic phase, but - despite a recovery compared to 2019 - the volumes of activity have not returned to pre-pandemic levels either for scheduled or urgent services (see Part Four, Section 2.7 and, in particular, Table S/62).

Table 7 – Hospital facilities with reduced volumes of activity and relative incidence on the total number of facilities, with reference to public hospitals and accredited private hospitals

Indicators	*Total number of facilities*	*Public hospitals*			*Accredited private hospitals*		
		No. of facilities	*No. of facilities with low volumes of activity*	*Incidence %*	*No. of facilities*	*No. of facilities with low volumes of activity*	*Incidence %*
AMI: volumes	631	473	282	60	158	59	37
Isolated aortocoronary bypass: volumes	92	53	10	19	39	5	13
Proportions of PTCAs in AMI-Stemi on the total of PTCAs	407	322	142	44	85	14	16
Unruptured aneurysm of the abdominal aorta: volumes	190	130	35	27	60	9	15
Laparoscopic cholecystectomy: volumes	758	482	200	41	276	101	37
Breast TM Surgery: volumes	399	264	103	39	135	35	26
Surgical interventions for TM of the lung: volumes	134	98	38	39	36	14	39
Parts: volumes	417	348	270	78	69	59	86
Femoral neck fracture: volumes	599	438	363	83	161	67	42
Knee prosthesis: volumes	664	375	28	7	289	180	62

Source: *AGENAS-AIOP "Report on the Quality of Clinical* Outcomes *in Italian Hospitals". Data from the 2021 National Outcome Evaluation Program*

3. A gradual interweaving of the backlog of services yet to be provided for inpatient and former Covid patients

3.1. A rapid buildup of waiting lists by people who experienced the virus

A glance at the first part of Table 8 is enough to grasp the extreme upward spike of the demand for regular services coming from former Covid patients, accompanied by an opposite trend by individuals who never experienced infection.

Indeed, the total population sample, including those who were gradually infected by the virus, stating that they were already on or were to be included on one or more waiting lists in decreasing order from 2019 to 2022:

- fell from 15.0% in 2019 to 8.4% for serious illnesses and from 32.4% to 22.0% for less serious illnesses, in the case of local healthcare services;
- and, similarly, dropped from 10.4% to 9.9% for serious illnesses and from 17.4% to 11.9% for less serious illnesses, with regard to hospital admission services.

But the phenomenon of the slowdown in the demand for services by ordinary patients and at the same time the acceleration of the demand by infected patients becomes completely evident if the two sub-samples are specifically considered, from which it can be seen how:

- starting in 2020 (first year of the virus) the amount of the population without Covid experience on one or more waiting lists, for local healthcare services went from 9.9% to 6.0% in 2022[1] (due to serious illnesses), while the corresponding population with Covid experience reached 17.7% in 2020, remaining at 16.0% in 2022[1]: thus the number was much higher (1.8 to 2.7 times greater) than that for the population not affected by Covid;

[1] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

- and a similar situation can be seen on the waiting lists concerning less serious illnesses, which are positioned at 19.9%, 20.3% and 18.6% in the three years indicated for the sub-sample without Covid experience compared to 28.2%, 27.8% and 28.1% for the sub-sample that instead experienced one or more infections: therefore with a difference in the second case compared to the first ranging from 1.4-1.5 times more;
- and a similar situation occurs for waiting lists relating to hospital admissions: the incidence for the population without Covid experience remains, due to serious illnesses, around 7.0% while it is around 15.0 % (a multiplication factor of 2.0-2.2 times greater for former Covid patients); and so for less serious illnesses, whose percentage incidence is just over 9% for the first sub-sample of the population compared to 16.0%-17.0% for the second sub-sample (with a ratio of 1.7- 1.8 times more in favor of the latter).

If we then observe the data present in the following two groupings in Table 8 (which shows the presence on the waiting lists of some macro types of services) we can see how:

- the amount of the population without Covid experience had on average a greater demand for services than the population with Covid experience behind them (see the respective number of boxes) in 2021, which tends to increase in 2022[2], probably due to the interruptions/postponements of the services that accumulated between 2021 and 2022[2] (see first and second columns, as well as third and fourth columns of data of Table 8, Part Two);
- moreover, the individual percentage values of the presence on one or more waiting lists tended to increase in 2022[2] compared to 2021 for ordinary patients (except for treatment and surgery), while they tended mostly to decrease for former Covid patients (see the first and third columns, as well as the second and fourth columns of data in Table 8, Part Two).

The trend of the data cited therefore underlines:

- a buildup of the demand for services from non-Covid patients who experienced interruptions/postponements due to the efforts of healthcare facilities responding to the pandemic emergency (especially in 2020 and part of 2021), and who have shown a certain "resistance" to going to healthcare facilities, due to a fear of getting infected;
- the existence of a great demand for inpatient services from former Covid patients, certainly fueled by the consequences of the virus, but also

[2] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

by pre-existing conditions for which the healthcare facilities however postponed the services that had been requested back in 2019;

– thus there was a set of events that ended up creating build ups of demand for services in the phase following the dramatic moment of the first year of the pandemic, giving rise to a sort of "intertwining" (gradually increasing) of these with the demand of ordinary services, often unfulfilled, by patients not affected by Covid, and that became hard to distinguish from each other.

The uptick in the demand for ordinary services by former Covid patients can be better understood through the data contained in Table 9 below, which reports the responses provided by the sub-sample of the population with one or more infection experiences between 2020 and 2022[3].

The first phenomenon is that of the extension of such experiences to the same person. As is well known, the vaccine does not absolutely prevent infection, but rather it lessens its severity/lethality. Add to this that the vaccine may not have been administered in all the prescribed doses, and that it may have declined in effectiveness over the months, not to mention that the coverage may vary according to the age and above all the previous state of health of the individual (comorbidity, frailty, non-vaccination for health reasons, etc.).

The result is that 77.9% of the infected sample declared that they had only one experience in the three-year period, but a further 16.0% also had a second and finally, a further 6.1% even a third or even more.

The second phenomenon that emerges is that of a gradual average "decline" of the virus itself, except for the adding together of negative virus symptoms and above all of possible negative consequences (see the second and third group of data in Table 9). In this regard, it can be seen how:

the trend of the virus showed "Very + Extremely difficult" symptoms in a decreasing manner (from 63.2% to 36.2%, going from what was experienced in 2020 and in the first part of 2021 and then in the second part of 2021 and subsequently in 2022[3], having already had multiple vaccinations and/or with greater immunization from the virus; and, in a complementary way, how symptoms of the "Quite + Completely mild" type increase, going from 36.8% to 63.8% in the same period just mentioned;

[3] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

Table 8 – A demand for ordinary services that now sees individuals with no Covid experience "intertwined" and (increasingly more so) individuals with one or more Covid experiences[1] (value %)

Phenomena	*Data*			
	2019	*2020*	*2021*	*2022*[2]
– Percentage of the total population placed on one or more waiting lists, in the various years, for local healthcare services[3]:				
▪ Due to serious illnesses/operations	15.0	12.5	12.0	8.4
(in millions of units)	(7.6)	(6.3)	(6.0)	(4.2)
▪ Due to mild illnesses/operations	32.4	22.8	22.8	22.0
(in millions of units)	(16.4)	(11.6)	(11.4)	(11.0)
– Percentage of the total population placed on one or more waiting lists, in the various years, for hospital admissions[4]:				
▪ Due to serious illnesses/operations	10.4	10.1	9.5	9.9
(in millions of units)	(5.3)	(5.1)	(4.7)	(4.9)
▪ Due to mild illnesses/operations	17.4	11.5	12.2	11.9
(in millions of units)	(8.8)	(5.8)	(6.1)	(5.9)
– Percentage of the population with no Covid experience placed on one or more waiting lists, in the various years, for local healthcare services[3]:				
▪ Due to serious illnesses/operations	n.a.	9.9	9.5	6.0
▪ Due to mild illnesses/operations	n.a.	19.9	20.3	18.6
– Percentage of the population with no Covid experience placed on one or more waiting lists, in the various years, for hospital admissions[4]:				
▪ Due to serious illnesses/operations	n.a.	7.4	7.0	7.0
▪ Due to mild illnesses/operations	n.a.	9.3	9.5	9.4
– Percentage of the population with one or more Covid experience(s) placed on one or more waiting lists, in the various years, for local healthcare services[3]:				
▪ Due to serious illnesses/operations	n.a.	17.7 (1.8 x)	16.4 (1.7 x)	16.0 (2.7 x)
▪ Due to mild illnesses/operations	n.a.	28.2 (1.4 x)	27.8 (1.4 x)	28.1 (1.5 x)
– Percentage of the population with one or more Covid experience(s) placed on one or more waiting lists, in the various years, for hospital admissions[4]:				
▪ Due to serious illnesses/operations	n.a.	15.0 (2.0 x)	14.3 (2.0 x)	15.2 (2.2 x)
▪ Due to mild illnesses/operations	n.a.	15.6 (1.7 x)	17.4 (1.8 x)	16.6 (1.8 x)

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(Continued) *Table 8 – A demand for ordinary services that now sees individuals with no Covid experience "intertwined" and (increasingly more so) individuals with one or more Covid experiences*[1] *(value %)*

Phenomena	*Data*			
	2021		*2022*[2]	
	With no Covid exp.	*With Covid exp.*	*With no Covid exp.*	*With Covid exp.*
– Percentage of the population with or without Covid experiences, placed on one or more waiting lists for the services indicated below, due to serious illnesses/operations[5]:				
▪ Laboratory exams	29.6	17.3	23.8	19.9
▪ Diagnostic tests (such as X-rays, CT, MRI, etc.)	28.0	18.7	28.4	34.6
▪ Specialist visits	69.5	38.6	37.5	38.9
▪ Access to regular treatments/required check-ups	14.6	40.5	47.1	32.3
▪ For day service outpatient medical services	3.8	15.7	3.2	12.8
▪ For day service outpatient surgery services	29.4	12.1	32.3	12.2
▪ Admissions for treatment	8.4	4.2	9.0	2.6
▪ Hospitalization for scheduled surgery	13.1	7.3	15.6	6.4
▪ Other	5.9	8.3	3.1	7.3
– Percentage of the population with or without Covid experiences, placed on one or more waiting lists for the services indicated below, due to mild illnesses/operations[6]:				
▪ Laboratory exams	36.6	32.8	37.2	26.0
▪ Diagnostic tests (such as X-rays, CT, MRI, etc.)	34.0	32.4	32.1	29.1
▪ Specialist visits	47.6	45.8	47.0	46.4
▪ Access to regular treatments/required check-ups	12.2	16.7	19.7	13.1
▪ For day service outpatient medical services	6.0	19.2	19.6	17.5
▪ For day service outpatient surgery services	22.2	13.2	8.5	11.6
▪ Admissions for treatment	5.7	1.9	4.5	1.7
▪ Hospitalization for scheduled surgery	18.8	7.3	3.0	11.0
▪ Other	3.1	6.1	2.2	6.4

(1) The various population samples refer to people aged 18 and over.
(2) Until the second ten days of September when the survey made by questionnaire was completed.
(3) See Part Two, Table 1, p. 134.
(4) See Part Two, Table 2, p. 138.
(5) See Part Two, Table 6A, p. 148 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).
(6) See Part Two, Table 6B, p. 149 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table 9 – The continued demand for ordinary services by former Covid patients, often infected multiple times, albeit with an initial lightening of the impact and consequences of the virus (val. %)

Phenomena	*Data*		
	A single experience of the virus	*Two experiences of the virus*	*Three or more experiences of the virus*
– The emergence of a phenomenon of multiple experiences of Covid-19 virus during the three-year period 2020-2022 (% incidence on the total number of infected people)[1]	77.9	16.0	6.1
		Declarations in 2022	
	Declarations in 2021	*First experience of the virus*	*Second experience of the virus*
– The slow easing of the symptoms of the infection:			
▪ It was a "Very + Quite difficult" experience	63.2	44.0	36.2
▪ It was a "Quite mild + Mild" experience[2]	36.8	36.0	63.8
▪ It was a "Very long + Quite lengthy" experience[2]	65.6	48.5	36.8
▪ It was a "Very brief + Quite brief" experience[2]	34.4	51.5	63.2
▪ In addition to having had a "Very + Quite difficult" experience, it was simultaneously a "Very long + Quite lengthy" experience[3]	87.8	77.0	69.0
▪ And having had a "Quite mild and/or Mild" experience, at the same time it was a "Very long + Quite lengthy" experience[3]	27.6	26.1	18.5
– The emergence of lingering significant post-Covid consequences:			
▪ There were "Very + Quite serious" lasting consequences[4]	18.9	13.1	13.7
▪ There were "Mild + Very mild" lasting consequences[4]	37.3	25.0	31.5
▪ There were "Very long + Quite lengthy" lasting consequences[4]	80.7	69.3	60.1
▪ There were "Brief + Quite brief" lasting consequences[4]	19.3	30.7	39.9
▪ In addition to having had "Very + Quite serious" lasting consequences, the latter also turned out to be "Very long + Quite lengthy"[5]	97.2	93.7	68.2
▪ And having instead had "Fairly + Very mild" lasting consequences, the latter turned out to have been "Very long + Quite lengthy"[5]	72.4	56.5	56.6
– Constant use of one or more ordinary services following the post-Covid consequences in the 2022 declarations of the population, with one or more experiences of the virus, including[6]:		*First experience of the virus*	*Second experience of the virus*
▪ For local healthcare services		46.2	76.4
▪ Services including hospitalization		31.5	67.9

(1) See Part Three/Table 3, p. 204.
(2) See Part Three/Table 5, p. 206.
(3) See Part Three/Table 5A, p. 208.
(4) See Part Three/Table 7, p. 212.
(5) See Part Three/Table 7A, p. 213.
(6) See Part Three/Table 8, p. 215.

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

– but there may nevertheless be the possibility that the experience of Covid-19 may still have been "Very long + Quite lengthy" or "Quite brief + Very brief" and also in this case a certain "lightening" emerged: it does in fact go down from 65.6% to 36.8% in the first case, while on the contrary it rises from 34.4% to 63.2% in the second case;
– and again it is necessary to take into account the fact that more or less negative or partially negative symptoms of the virus may be co-present in terms of difficulty, on the one hand, and length, on the other: just to give an example, 87.8% of those who, in 2021, had a "Very + Quite difficult" experience simultaneously had a "Very long + Quite lengthy" experience: but even in this case there is a gradual lightening in the 2022 declarations[4] (77.0% in the case of a first experience and 69.0% in the case of a second experience); and moreover, despite having had a "Quite mild + Completely mild" experience, it was nevertheless possible to have a "Very long + Quite lengthy" duration, which is reflected in 27.6% of infected people in 2021, which dropped to 26.1% in the 2022 declarations[4] in the case of a first experience and 18.5% in the case of a second experience.

The third phenomenon (see the third group of data in Table 9) concerns the post-Covid consequences (those that are commonly defined as Long Covid), which in turn have different symptoms but all reflect a progressive "lightening", according to the statements collected in 2021 and then in 2022[4] by individuals who had one or more experiences in this sense. In fact:
– there were "Very + Fairly serious" consequences in 18.9% of cases in 2021, which then dropped to around 13% in 2022 declarations[4] (whether for the first or the second experience of the virus), whereas "Quite + Very light" consequences were experienced in 37.3% of cases according to the declarations of 2021, which decreased in 2022[4] to 25.0% in the first experience of infection, going back up to 31.5% in the second experience of the virus;
– in parallel, "Very long + Quite lengthy" consequences were reported in 80.7% of cases, given the 2021 declarations, which became 69.3% in the 2022 declarations[4](first experience) and 60.1% again in 2022[4] (second experience); in parallel, the consequences of the "Brief + Quite brief" type increased, equal to 19.3% only in the 2021 declarations, but becoming, in 2022[4], 30.7% in the first experience and 39.9% in the second experience;

[4] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

– but it is also necessary to take into account that more or less negative or partially negative symptoms may emerge following some aggravating circumstances: for example, having had, in 2021, "Very + Quite serious" consequences in 18.9% of cases, it was verified that 97.2% of the latter also experienced "Very long + Quite lengthy" consequences at the same time; but this 97.2% decreased slightly in 2022[5], to 93.7% in the first experience and above all to 68.2% in the second experience; and, another example, despite having had "Very + Fairly mild" consequences in 37.3% of the cases, 72.4% of the latter turned out to be "Very long + Fairly long" in any case, albeit with a decline in the statements of 2022[5] (i.e. just over 56% both after the first and second experience of the virus).

Finally, the fourth phenomenon has to do with the demand for inpatient services following *Long Covid* (see the last dataset of Table 9). As can be seen, the demand for services on the occasion of the first experience of the virus was 46.2% for local healthcare services and 31.5% for hospitalization services. But, in the event of a second experience of the virus, the demand tended to double, going from 46.2% to 76.4% for local healthcare services and from 31.5% to 67.9% for hospitalization services.

3.2. A pronounced (and prolonged) number of interrupted/postponed regular services for both categories of patients

The second part of Table 8 above described the presence on the various waiting lists of both individuals without any Covid experience and individuals with one or more past Covid experiences, with reference to the years 2021 and 2022[5]: the related data showed a particularly pronounced concentration precisely for non-Covid patients compared to the others.

But being placed on waiting lists did not automatically mean obtaining the relevant services and receiving them at the appropriate times: and this was true even before the arrival of the pandemic, but it has become all the more problematic over the last three years.

Just to give an example of the trend of unfulfilled services at the specialist outpatient level, consider the data shown in Table 10A, which give an idea of the interruptions/postponements, starting from the objective data provided

[5] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

by AGENAS - National Agency for Regional Health Services, as regards the decline from one six-month period to the next in the year 2019. As can be seen, there was:

- an initial wave of services unprovided between 2019 and 2020: with reductions that largely exceed 30% and sometimes 40% or more, affecting all Regions including those of the South, in which, moreover, the virus had been only slightly felt…;
- a second wave of services not provided between 2019 and 2021: with smaller though still substantial reductions compared to the earlier ones, attesting to the difficulties of recovering postponed services and responding to new requests;
- finally, there was a third wave of services not provided between 2019 and 2022 which is smaller in number but which - and it should be pointed out - should be considered net of recourse to paid services by patients (who may have used professionals or private centers as well as *intramoenia* services at public hospitals), any postponements and/or forgoing of treatment with conceivable consequences in terms of worsening of the patients' state of health, due to services being delayed over time.

A similar situation can be witnessed for the trend of hospital admissions. In this regard, Table 10B shows the reduction in the number of the latter between 2019 and 2020 and between 2019 and 2021.

Please note that total hospitalizations[6] decreased from 8.5 million units in 2019 to 6.8 million in 2020 (-1.7 million, equal to -20.1%), to then go back up to 7.3 million in 2021 (-1.2 million units compared to 2019, equal to -14.3%)[7].

Looking only at the trend of the decreases expressed in percentage values compared to the year 2019:

- urgent inpatient admissions remained around -13% both in 2020 (-13.4%) and in 2021 (-13.2%), despite having decreased by around 450,000 units in 2020 and 2021 compared to 3.4 million in 2019: but with a drop in the South of -18.8% in 2020 (almost without pandemic impact) and -19.1% in 2021;

[6] Total hospitalizations for the year 2021 included:
- 2,957,440 units of urgent inpatient admissions;
- 2,452,015 units of scheduled inpatient admissions;
- and 1,505,682 units of day hospital admissions;
- for a total of 7,318,874 total units.

[7] See Table S/62 Section 2.7 of Part Four.

– scheduled inpatient admissions fell to -25.3% in 2020 and -16.2% in 2021 again compared to 2019, having decreased by around 740,000 units in 2020 and by a further 473,000 units in 2021 compared to 2019: with a corresponding drop in the South equal to -24.5% and -11.3% in the two years considered;
– and finally, day hospital admissions decreased by -28.3% and -15.7% in 2020 and 2021, respectively, compared to 2019, having dropped by 505,000 units in 2020 and 279,000 units in 2021: and again with a more pronounced decrease in the South (-32.0% in 2020 and -18.6% in 2021).

Thus we can see that hospital admissions remained below the 2019 levels, also including the increase of infected patients who used hospital care. And so, significant backlogs have also accumulated in terms of unprovided hospitalization services, with a partial recovery between 2020 and 2021.

Table 10A – Percentage change in specialist outpatient services in the first half of 2020, 2021 and 2022 compared to 2019

Regions	*First half of 2020 compared to 2019*	*First half of 2021 compared to 2019*	*First half of 2022 compared to 2019*
NORTH			
– A.P. of Bolzano	-49.4	-45.8	-46.0
– Valle d'Aosta	-44.8	-32.7	-27.5
– Lombardy	-41.3	-16.9	-11.1
– Liguria	-39.2	-24.3	-16.1
– Emilia Romagna	-36.0	-17.6	-12.3
– Veneto	-35.6	-23.0	-13.1
– Piedmont	-32.3	-23.5	-17.7
– A.P. of Trento	-31.7	-14.8	-10.0
– Friuli Venezia Giulia	-30.1	-17.7	-25.3
CENTER			
– Marche	-42.1	-31.0	-19.3
– Lazio	-37.1	-19.4	-10.9
– Umbria	-35.1	-24.4	-16.3
– Tuscany	-29.5	-3.9	1.5
SOUTH and ISLANDS			
– Basilicata	-63.9	-70.1	-1.3
– Calabria	-44.4	-33.1	-22.5
– Sicily	-38.2	-19.6	-19.1
– Sardinia	-37.6	-17.0	-18.3
– Molise	-35.0	-43.0	-27.2
– Abruzzo	-34.7	-24.1	-12.9
– Apulia	-30.1	-14.2	-8.2
– Campania	-21.0	0.5	-9.2

Source: *AGENAS – National Agency for Regional Health Services*

Table 10B – Percentage changes in hospital admissions between 2019 and 2020 as well as between 2019 and 2021

Regions	*Urgent inpatient admissions*[1]		*Scheduled inpatient admissions*[1]		*Day hospital admissions*[1]		*Total admissions*	
	2020 vs 2019	*2021 vs 2019*	*2020 vs 2019*	*2021 vs 2019*	*2020 vs 2019*	*2021 vs 2019*	*2020 vs 2019*	*2021 vs 2019*
NORTH	*-10.8*	*-11.1*	*-27.5*	*-19.8*	*-29.6*	*-15.8*	*-20.2*	*-15.0*
– Piedmont	-10.0	-8.4	-27.5	-16.5	-28.8	-18.0	-20.2	-13.6
– Valle d'Aosta	-12.2	-11.8	-27.8	-17.2	-44.1	-22.6	-23.1	-14.2
– Lombardy	-9.1	-12.4	-33.2	-23.9	-36.7	-18.3	-23.6	-17.9
– Autonomous Province of Bolzano	-16.8	-16.5	-17.1	-9.5	-27.5	-15.2	-17.5	-13.0
– Autonomous Province of Trento	-10.9	-9.8	-27.1	-17.0	-23.5	-15.5	-19.0	-13.5
– Veneto	-11.4	-11.9	-19.2	-16.4	-20.3	-12.6	-15.2	-13.1
– Friuli Venezia Giulia	-12.0	-11.8	-19.4	-23.9	-22.8	-17.9	-16.6	-16.9
– Liguria	-16.6	-16.0	-32.2	-20.8	-27.8	-10.6	-23.0	-15.2
– Emilia Romagna	-10.6	-7.4	-24.0	-17.0	-27.4	-13.2	-18.3	-11.9
CENTER	*-10.4*	*-8.4*	*-20.4*	*-13.2*	*-21.4*	*-11.8*	*-16.0*	*-10.5*
– Tuscany	-12.8	-9.5	-23.4	-16.4	-24.5	-16.1	-18.5	-13.0
– Umbria	-14.7	-9.9	-25.1	-21.1	-33.5	-21.0	-21.1	-15.4
– Marche	-15.9	-14.8	-19.4	-16.2	-27.4	-20.1	-19.4	-16.3
– Lazio	-6.1	-5.4	-18.2	-9.3	-17.1	-6.8	-12.6	-6.6
SOUTH and ISLANDS	*-18.8*	*-19.1*	*-24.5*	*-11.3*	*-32.0*	*-18.6*	*-22.9*	*-15.7*
– Abruzzo	-11.2	-10.7	-19.3	-12.6	-30.7	-18.8	-17.9	-11.5
– Molise	-18.7	-21.2	-21.3	-11.1	-33.4	-24.5	-23.2	-18.5
– Campania	-19.6	-22.6	-25.1	-7.2	-34.2	-20.0	-25.3	-16.5
– Apulia	-21.3	-19.9	-26.2	-16.7	-33.3	-22.9	-23.0	-18.1
– Basilicata	-21.8	-21.4	-36.3	-22.7	-33.3	-16.6	-26.7	-19.8
– Calabria	-24.3	-23.9	-33.4	-22.9	-37.2	-17.8	-29.6	-21.3
– Sicily	-15.3	-15.3	-21.5	-8.7	-29.5	-17.3	-19.2	-12.5
– Sardinia	-19.4	-18.2	-18.6	-1.8	-24.5	-13.0	-20.2	-12.6
ITALY	*-13.4*	*-13.2*	*-25.3*	*-16.2*	*-28.3*	*-15.7*	*-20.1*	*-14.3*

(1) *Urgent admissions*: with hospitalization regime "1" (Inpatient) and "2" (Urgent); *Scheduled inpatient*: with hospitalization regime "1" (Inpatient) and admission type "1" (Scheduled); *Day hospital admissions*: with hospitalization regime "2" (Day hospital).

Source: *AIOP processing of SDO data, 2021*

At this point the data in Table 10C show the percentage incidence of the experiences as they were declared by both types of patients surveyed as regards the phenomenon of interruptions/postponements of regular services, calculated on the underlying absolute values of the corresponding percentages indicated in the second part of Table 8 above.

With this in mind, it can be noted that:

a) in the year 2021 the interruptions/postponements, albeit large in number and sometimes extremely numerous for the sub-sample of the population with no Covid experience, were definitely exceeded by those relating to the sub-sample with one or more Covid experiences (the largest percentage values have been marked by a special box graph in order to facilitate the overall reading of the phenomenon): which suggests that infected individuals were given absolute priority treatment for Covid, postponing the ordinary services requested before the infection, while in parallel the same suspension/postponement procedure for regular non-Covid patients due to the overload that the staff and facilities experienced when dealing with the pandemic emergency;
b) in the year 2022[8] the number of interruptions/postponements, on the other hand, seems to be equally distributed between the first and second sub-samples both in terms of the number of types of interrupted/postponed services and in terms of the incidence of the relative percentages, which tend to be high for the non-infected as well as for the infected: and this happened presumably thanks to two mechanisms, that of ordinary patients who suffered from a buildup of interruptions/postponements from 2020 to 2021 and that of former Covid patients who ended up adding to the demand for the backlog of services accumulated before the infection and those arising as a result of the latter, prompted by Long Covid.

If we then consider the duration of the interruptions/postponements (see Table 10C, Part Two), again keeping in mind the boxed percentages, it can be seen that:

a) the duration of the suspension of services of up to 2 months was a response provided by healthcare facilities mainly to non-Covid patients compared to ex-Covid patients in 2021 as in 2022[8];

[8] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

Table 10C – Percentage incidence of the population without any Covid experience and of the population with one or more Covid experiences who, having been placed on one or more waiting lists, experienced interruptions/postponements of the specific services indicated, with a variable duration from 1- 2 months up to more than 8 months (val. %)

Phenomena	*Data*			
	2021		*2022*	
	With no Covid exp.	*With Covid exp.*	*With no Covid exp.*	*With Covid exp.*
– Incidence of interruptions/postponements by *service* related to serious illnesses/operations[1]:				
▪ Laboratory exams	42.6	70.9	51.0	36.4
▪ Diagnostic tests (such as X-rays, CT, MRI, etc.)	59.0	78.0	72.8	65.8
▪ Specialist visits	79.9	91.7	65.7	70.9
▪ Access to regular treatments/required check-ups	57.4	95.5	89.4	96.7
▪ For day service outpatient medical services	44.5	91.4	61.5	96.0
▪ For day service outpatient surgery services	95.1	89.6	97.7	93.2
▪ Admissions for treatment	80.2	91.8	85.5	81.0
▪ Hospitalization for scheduled surgery	17.4	70.4	35.9	83.9
▪ Other	62.9	100.0	-	7.4
– Incidence of interruptions/postponements by *service* related to mild illnesses/operations[2]:				
▪ Laboratory exams	41.4	34.6	34.5	25.8
▪ Diagnostic tests (such as X-rays, CT, MRI, etc.)	56.5	51.3	50.7	47.4
▪ Specialist visits	59.3	62.0	49.2	63.0
▪ Access to regular treatments/required check-ups	71.6	89.4	60.5	89.0
▪ For day service outpatient medical services	56.9	71.5	81.6	72.1
▪ For day service outpatient surgery services	81.9	83.6	59.9	85.6
▪ Admissions for treatment	85.5	86.9	80.3	80.0
▪ Hospitalization for scheduled surgery	84.7	50.9	42.5	47.8
▪ Other	59.1	79.8	24.6	17.1

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(Continued) *Table 10C – Percentage incidence of the population without any Covid experience and of the population with one or more Covid experiences who, having been placed on one or more waiting lists, experienced interruptions/postponements of the specific services indicated, with a variable duration from 1- 2 months up to more than 8 months (val. %)*

Phenomena	*Data*															
	2021								*2022*							
	1-2 months		*3-4 months*		*5-8 months*		*8 months and more*		*1-2 months*		*3-4 months*		*5-8 months*		*8 months and more*	
	No inf.	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*
– *Duration in months of interruptions/postponements of services related to serious illnesses*[3]:																
▪ Laboratory exams	17.2	19.7	10.6	8.5	10.7	29.0	4.0	13.8	35.8	8.0	6.9	7.8	7.5	13.6	0.7	7.1
▪ Diagnostic tests (such as X-rays, CT, MRI, etc.)	16.6	36.7	26.6	6.1	9.9	22.5	6.0	12.7	43.3	15.8	9.2	6.1	11.6	24.8	8.7	19.0
▪ Specialist visits	24.4	7.8	8.7	15.8	42.1	58.4	4.7	9.7	26.6	13.5	11.0	14.6	12.6	24.1	15.6	18.8
▪ Access to regular treatments/required check-ups	16.1	2.0	5.4	15.1	16.0	74.8	19.9	3.6	15.4	6.6	6.4	6.3	5.6	78.2	62.0	5.6
▪ For day service outpatient medical services	-	2.2	14.1	7.8	13.1	61.1	17.3	20.3	-	6.4	12.6	17.4	35.0	68.4	14.0	3.8
▪ For day service outpatient surgery services	2.0	11.4	0.9	23.0	89.8	47.2	2.4	8.0	1.3	5.1	1.7	28.7	94.0	49.6	0.7	9.8
▪ Admissions for treatment	75.6	65.2	-	-	1.8	14.8	2.8	11.8	72.2	6.3	-	-	8.2	52.6	5.1	22.1
▪ Hospitalization for scheduled surgery	8.1	23.9	2.7	13.8	5.6	12.6	0.9	20.0	1.2	3.1	9.6	9.6	20.5	12.2	4.6	59.0
▪ Other	-	-	1.0	-	61.9	100.0	-	-	-	-	-	4.4	-	3.1	-	-
– *Duration in months of interruptions/postponements of services related to mild illnesses*[4]:																
▪ Laboratory exams	27.3	15.3	3.6	5.8	8.6	8.5	1.8	5.0	19.8	6.7	1.8	3.3	21.6	10.0	4.0	3.8
▪ Diagnostic tests (such as X-rays, CT, MRI, etc.)	17.9	17.0	18.7	7.5	15.3	21.7	4.5	5.2	15.7	11.2	12.9	5.6	28.6	16.8	3.5	5.1
▪ Specialist visits	30.9	13.1	7.0	12.1	16.4	25.8	5.0	10.9	14.7	5.4	5.8	7.3	20.5	12.7	8.1	4.6
▪ Access to regular treatments/required check-ups	14.6	7.7	27.6	9.8	13.1	58.6	16.3	13.3	16.3	1.1	18.4	2.3	34.7	3.4	0.9	8.1
▪ For day service outpatient medical services	16.1	2.0	13.7	16.9	20.2	45.2	6.8	7.5	0.9	-	0.3	9.1	1.2	9.1	2.6	3.3
▪ For day service outpatient surgery services	7.4	5.2	2.1	14.5	59.4	58.2	13.0	5.7	6.7	10.5	3.7	3.5	10.4	14.0	4.0	3.2
▪ Admissions for treatment	55.2	35.1	-	9.5	6.7	11.9	23.6	30.4	66.6	8.1	1.4	22.1	68.0	30.2	-	-
▪ Hospitalization for scheduled surgery	13.4	20.9	67.6	14.0	3.0	6.0	0.7	10.1	7.7	2.3	1.8	2.9	9.5	5.2	1.5	1.0
▪ Other	8.0	5.3	-	5.5	36.6	68.4	14.5	0.6	-	-	4.5	-	4.5	-	1.3	-

(1) See Part Two, Table 6E, p. 156 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).
(2) See Part Two, Table 6F, p. 157 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).
(3) See Part Two, Table 6I, p. 160 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).
(4) See Part Two, Table 6L, p. 161 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

b) conversely, the longer waits in the year 2021 (from 5 months onwards) are decidedly greater for infected than for non-infected individuals, the former group beginning to represent a two-fold demand for ordinary services, pre-pandemic and post-contagion as already mentioned in point a) above;
c) while in 2022[9] waits of 3-4 months and longer tend to be more shared between the two types of patients, as it presumably became more complicated to simultaneously "unblock" the backlog of the two types of patients under the strain of an intertwined demand for regular services coming from both.

3.3. The (somewhat complicit) choices to interrupt/postpone services and the different reaction capacities of the healthcare facilities

The phenomenon of the interruptions/postponements of services referred to in Section 2.2 above certainly did not arise with the pandemic emergency, at least as regards the postponements. In fact, the lengthening of waiting times was a problem that was evident well before the arrival of Covid-19, so much so that it fueled, on the part of patients, the search for alternatives in terms of interregional health mobility, on the one hand, and the use of private and/or in *intramoenia* services, which actually increased the out-of-pocket healthcare expenses of Italian families.

But certainly the arrival of the pandemic not only ended up further increasing postponements of services, but also completely interrupting them, at least during the most critical moments of the virus.

Changes over time in the decisions to postpone regular services are shown in the first group of data in Table 11, from which it can be seen that:
a) in 2020, 33.0% of the people surveyed who had no past Covid experience were affected by the decisions made by the regional health authorities (a number which, however, decreased in the following two years to stabilize at around 17.0%), whereas the decision of the individual healthcare facilities is even greater: 43.5% in 2020, which dropped to 36.9% in 2021 and then gained strength again in 2022[9] (59.6%), in line with the reorganization of the healthcare services in the individual local healthcare facilities and also with the alternating trend of "waves" of the pandemic.

[9] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

However, the decision to suspend/postpone services also depended on the fear of individual people of being infected by going to healthcare facilities: this orientation was declared by 5.9% of the sub-sample with no Covid experience in the year 2020, but increased as much as 30.6% in 2021, to then fall to 3.8% in 2022[10], downstream of the by-then extensive vaccination campaign, as well as a certain "socialization" to the pandemic among individuals. Finally, there is a variable number between 15.5% and 19.5% of the respondents who acknowledge that the decision-making process was in part both personal and institutional;

b) even the sample of the population with one or more infection experiences over the last three years attributed - as in the case referred to in point a) above - the origin of the decisions regarding the interruptions/postponements to the regional Authorities (decreasing from 34.4% in 2021 to approximately 21% in the following two years) or to individual healthcare facilities (with a trend that is 50.6% in 2020 and remains at 50.4% in 2022[10], except for an intermediate drop to 39.0% in 2021); while the role of the fear of being infected when entering healthcare facilities grew over the three-year period (8.1% of those surveyed in 2020 were of this opinion, but became 24.1% in 2021 and stood at 22.0% in 2022[10]); another opinion holds that the origin of the decisions resulted from a set of factors, to which 6.9% of the respondents with one or more experiences of infection in 2020 agreed, which rose to 15.5% in 2021 and then became 6.3% in 2022[10] (also because in the meantime many became infected and many were vaccinated and therefore this fear gradually decreased).

In any case, downstream of the request for ordinary services and any interruptions/postponements experienced as well as the origin of the decisions to postpone the services over time, it was decided to collect the assessments of the respondents of the two sub-samples, asking both, with reference to the years 2021 and 2022[10]:

- on the one hand, what the reaction capacity of the healthcare facilities of the home Region (or Autonomous Province) was with regard to the needs of Covid patients;
- and on the other, what the capacity of healthcare facilities was to begin providing regular services again to non-Covid patients.

[10] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

Table 11 – The origin of the decisions regarding any interruptions/postponements of regular services as well as the opinion of the respondents on the capacity of the healthcare facilities of their home Region (or Autonomous Province) to reactivate them for both non-Covid patients and Covid patients (value %)

Phenomena	*Data*					
	2020		*2021*		*2022*	
The reasons for the interruptions/postponements in the opinions of individuals with no Covid experience and the opinions of individuals with one or more Covid experiences[1]:	*No exp.*	*With exp.*	*No exp.*	*With exp.*	*No exp.*	*With exp.*
– It mainly depended on the decision of the regional health authorities	33.0	34.4	17.0	21.4	17.1	21.3
– It depended on the individual healthcare facility, in agreement with the regional health authorities	43.5	50.6	36.9	39.0	59.6	50.4
– It was also due to my fear of being infected	5.9	8.1	30.6	24.1	3.8	22.0
– It was due to all of the above reasons	17.6	6.9	15.5	15.5	19.5	6.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
	2021				*2022*	
The assessment of the respondents on the capacity to resume provision of ordinary services with respect to the needs of individuals with one or more Covid experiences (Promptly "They Reacted Quickly + Quite Promptly"; Slowly. "They reacted quite slowly + Very slowly")[2]:	*Promptly*		*Slowly*		*Promptly*		*Slowly*	
	No exp.	*With exp.*	*No exp.*	*With exp.*	*No exp.*	*With exp.*	*No exp.*	*With exp.*
– Family doctor	69.4	64.3	30.6	35.7	73.4	67.8	26.6	32.2
– Local health authority facilities (ASL)	54.2	49.0	45.8	51.0	62.4	55.6	37.6	44.4
– Public hospital facilities	52.6	47.6	47.4	52.4	66.6	52.3	33.4	47.7
– Accredited hospital facilities	60.0	49.0	40.0	51.0	61.6	54.0	38.4	46.0
– Private clinics	63.4	53.4	36.6	46.6	72.7	55.1	27.3	44.9
	2021				*2022*			
The assessment of the respondents on the capacity to resume provision of ordinary services with respect to the needs of individuals with no Covid experience (Promptly "They Reacted Quickly + Quite Promptly"; Slowly. "They reacted quite slowly + Very slowly")[3]:	*Promptly*		*Slowly*		*Promptly*		*Slowly*	
	No exp.	*With exp.*	*No exp.*	*With exp.*	*No exp.*	*With exp.*	*No exp.*	*With exp.*
– Family doctor	72.5	63.1	27.5	36.9	71.5	66.0	28.5	34.0
– Local health authority facilities (ASL)	54.9	46.5	45.1	53.5	57.8	50.1	42.2	49.9
– Public hospital facilities	52.4	45.2	47.6	54.8	57.3	47.0	42.7	53.0
– Accredited hospital facilities	61.3	48.1	38.7	51.9	62.8	51.0	37.2	49.0
– Private clinics	70.3	54.5	29.7	45.5	69.0	54.4	31.0	45.6

(1) See Part Two, Table 7, p. 163.
(2) See Part Two, Table 12, p. 182-183 (the percentages relating to the respondents' assessments were calculated net of non-responses).
(3) See Part Two, Table 11, p. 176-177 (the percentages relating to the respondents' assessments were calculated net of non-responses).
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

The answers obtained were placed in the second and third group of data in Table 11, and show that[11]:

a) the reaction of healthcare facilities to the needs of *Covid patients* was assessed positively ("They reacted promptly + Quite promptly"):
   - with opinions that in 2021 exceeded 50.0% and even 60.0%, up to 69.4% for family doctors, in the case of the subsample of uninfected individuals: but the opinions provided by the other subsample are less positive, yet still show the greatest agreement for family doctors (64.3%) and with two minimums for ASL facilities (49.0%) and for public hospitals (47.6%); for the rest, the critical opinions expressed ("They reacted Fairly slowly + Very slowly") ranged from a minimum of 30.6% for the family doctor up to 47.4% for public hospitals among the non-infected, which correspond respectively to 35.7% for family doctors and 52.4% for public hospitals, according to the opinion of the sub-sample of infected individuals);
   - and opinions in 2022[12] showed a general improvement compared to the already positive ones of 2021, with particularly substantial increases in the case of the opinions from non-infected respondents, for the territorial facilities (going from 54.2% to 62.4%), for public hospital facilities (increasing from 52.6% to 66.6%), and for private clinics (which went from 63.4% to 72.7%); and this was also true for respondents who had past infection experiences with regards to the facilities just mentioned, to which are also added the accredited hospitals for which positive opinions rose from 49.0% to 54.0%.

If we then move on to the respondents' assessment of the capacity of healthcare facilities to resume provision of ordinary services with respect to the needs of individuals with no Covid experience (see last group of data in Table 11), we see that:

a) the positive assessments of healthcare facilities ("They reacted promptly + Quite promptly") for the year 2021, are slightly higher among respondents with no virus experience compared to the corresponding column of the second group of data (relating instead to the prompt reaction of the facilities to Covid patients); whereas individuals with one or more experiences of the virus again expressed positive opinions, albeit slightly lower than the corresponding column of the second group of data; finally

[11] Please note that the percentages have been calculated net of non-responses.

[12] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

they responded in an substantially complementary manner to offer critical opinions ("They reacted Fairly slowly + Very slowly");

b) the positive opinions regarding healthcare facilities in the year 2022[13], vary slightly and were mainly positive as regards the reactions "They reacted promptly + Quite promptly" and consequently the critical opinions tended to decrease slightly both for individuals with no Covid experience and for individuals with one or more Covid experiences; if we then compare the positive ratings for 2022[13] with the positive ones from the same year, but referring to the responses from Covid patients (referred to in the second group of data in Table 11), there is a set of responses that tend to be less positive precisely from the sample of the individuals who had no infection experience, but on the other hand experienced from the beginning interruptions/postponements of the services for which they had been placed on the specific waiting lists they selected: leading them, in the wake of the pandemic, to have to deal with not only brief but also extremely lengthy waits for responses from healthcare providers.

3.4. Renewed "reactive behavior" by the public

The difficulty of accessing regular healthcare services due to their interruption/postponement, or the decision not to access healthcare facilities for fear of becoming infected led the population to seek alternative solutions or perhaps to postpone or forgo services altogether (it is pointed out that each non-infected respondent chose on average between 1.5 and 1.7 of the behaviors indicated compared to 1.4-1.5 among those infected).

More precisely (see the first group of data of Table 12):

a) recourse to a general practitioner almost always involved 1/4 of the uninfected, both for serious and mild illnesses in both years considered: whereas infected individuals chose to visit the doctor to a lesser extent, between 12.0% and 15%.0% (see the first row of data in Table 12);

b) attempts to book services again without success due to the facilities not yet being ready to respond affected infected individuals more (between 22.9% and 29.7%) than non-infected individuals (between 9.9% and 13.2%, except for 49.8% for serious illnesses, in 2022[13]) as shown by the

[13] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

data in the second row of Table 12; moreover, it must be pointed out that, with a lower percentage incidence, respondents (infected and not) were called by the healthcare facilities: in about 5% and 7% of the cases, except in the year 2022[14] for uninfected individuals, perhaps due to the waning of the virus and the awareness of the backlog that has accrued in many of the mild illnesses inevitably overlooked during the pandemic (see the second and third rows of data in Table 12);

c) the decision to resort to paid professionals/facilities/private clinics involved infected individuals (in 20% to 28% of cases) more than uninfected individuals over the two years taken into consideration, except for 43.9 % of the latter in the case of mild illnesses, evidently not receiving good treatment during 2021 (see the fourth row of data in Table 12); access to paid *intramoenia* services in public hospitals significantly involved non-infected individuals with serious illnesses in 2021 (51.3%) and mild illnesses in 2022[14] (29.7%): but the infected also reacted, making use of private healthcare services in 41.0% of cases in 2021 and 31.0% in 2022[14], again for serious illnesses as well as - with a lower incidence - for mild illnesses and this occurred in 28.5% of cases in 2021 and in 24.0% of cases in 2022[14] (see the fifth row of data in Table 12);
d) use of the Emergency Room was a significant choice especially by the non-infected (with an incidence of around 50% for serious illnesses), but also in 28.6% of cases for mild illnesses: evidently the interruptions/postponements of ordinary services caused people with greater fragility and/or risk to attempt the (not easy) path of accessing the Emergency Room (see the sixth and seventh row of data in Table 12);
e) finally, the decision to postpone services (see the eighth row of Table 12) affected the infected more (between 15% and 19%) than the non-infected (between 8% and 16%); while the complete forgoing of services tends to converge for both categories of respondents, mainly involving around 4%-5% of cases (see the ninth row of data in Table 12).

[14] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

Table 12 – Reactions of the population with respect to the difficulty of accessing ordinary healthcare services following any interruptions/postponements and the assessment of one's state of health after such interruptions/postponements (val. %)

Phenomena	*Data*							
	in 2021				*in 2022 (to present)*			
Behaviors among individuals with no Covid experience and among individuals with one or more Covid experiences who were unable (or unwilling) to access requested ordinary health services[1]:	*Serious illnesses/medical needs*		*Mild illnesses/medical needs*		*Serious illnesses/medical needs*		*Mild illnesses/medical needs*	
	No inf.	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*	*No inf.*	*Inf.*
– I contacted my family doctor	25.3	12.6	27.6	12.0	13.6	15.2	28.4	15.2
– I tried to book services again by contacting the healthcare facilities but they weren't ready to provide services	9.9	29.7	13.2	22.9	49.8	21.3	13.2	29.4
– I was called back by the healthcare facilities which independently contacted me	5.4	4.9	7.1	9.1	2.8	9.4	31.3	9.9
– I contacted private (paid) professionals/facilities/clinics	7.8	20.5	43.9	26.5	12.7	28.0	14.2	21.7
– I contacted professionals/hospital facilities asking to pay for services at the public facilities (paid *intramoenia* services)	51.3	41.0	13.8	28.5	8.6	31.0	29.7	24.0
– I went to the Emergency Room	49.1	11.8	5.6	9.7	50.8	7.1	28.6	9.3
– I decided not to go to the Emergency Room for fear of possible infection	1.7	8.1	21.5	5.0	0.4	9.7	4.2	9.4
– I postponed the service	8.8	15.3	16.6	18.9	6.1	17.0	10.6	15.2
– I forwent the service	4.8	5.3	4.7	3.8	4.6	3.9	3.6	1.8
Stability/Worsening, at the end of the year, of the state of health of the respondents who experienced interruptions/postponements of one or more ordinary services[2]:								
– Those who had no illnesses/surgeries	15.8	11.8	8.8	11.2	10.7	5.6	8.1	4.2
– **Those who had illnesses/operations and experienced interruptions/postponements of services and whose:**	**84.2**	**88.2**	**91.2**	**88.8**	**89.3**	**94.4**	**91.9**	**95.8**
– State of health remained more or less stable[3]	36,6	49,1	78,0	59,4	39,6	55,2	64,0	58,8
– State of health was somewhat and/or much worse[4]	47.6	39.1	13.2	29.4	49,7	39,2	27,9	37,0

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(Continued) *Table 12 – Reactions of the population with respect to the difficulty of accessing ordinary healthcare services following any interruptions/postponements and the assessment of one's state of health after such interruptions/postponements (val. %)*

Phenomena	*Data*				
Renewed healthcare mobility among the population as a whole[5]:	*2010*	*2014*	*2018*	*2019*	*2020*
– Number of hospitalizations in other regions (thousands)	810	735	726	713	500
– % of other region hospitalizations out of total hospitalizations	7.6	8.2	8.8	8.8	7.8
– Number of total hospitalizations in Italy (thousands)	10,715	9,015	8,205	8,057	6,386
– Δ % decrease in hospitalizations	-	-15.9	-9.0	-1.8	-20.7
The renewed direct financial burden of Italian families:	*2018*	*2019*	*2020*		*2021*
– Trend of co-payment charges for *intramoenia*[6] services:					
▪ In millions of euros (at current prices)	1,121.0	1,152.1	804.8		1,022.3
▪ I.N.: 2018 = 100.0	100.0	102.8	71.8		91.2
– Trend of out-of-pocket healthcare spending by Italian families[7]:					
▪ In millions of euros (at current prices)	37,925.1	38,440.8	35,998.2		38,530.5
▪ I.N.: 2018 = 100.0	100.0	101.4	94.9		101.6
– Trend of total household consumption expenditure by Italian families[7]:					
▪ In millions of euros (at current prices)	1,077.8	1,087.4	965.5		1,033.1
▪ I.N.: 2018 = 100.0	100.0	100.9	89.6		95.9
– Trend of total public healthcare spending[8]:					
▪ In millions of euros (at current prices)	114,423.0	115,661.0	122,721.0		127,834.0
▪ I.N.: 2018 = 100.0	100.0	101.1	107.3		111.7

(1) See Part Two, Table 9A, p. 169 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).
(2) See Part Two, Table 10, p. 173 (the boxed percentages visually indicate the higher amounts between the population without Covid experiences and the population with one or more Covid experiences).
(3) Summary of the following items: "It remained more or less stable and I then proceeded to request services which, however, were not immediate" + "It remained more or less stable and I subsequently requested services which were reactivated within a reasonable time" + "It remained more or less stable and I hope to be able to take care of it soon".
(4) Summary of the following items: "It got a bit worse and so I took action on it" + "It got a bit worse and so I will have to take action on it" + "It got much worse and so I already took urgent action on it" + "It got much worse and so I will have to take urgent action on it".
(5) See SDO [Hospital Discharge Forms] Report, Ministry of Health, 2020.
(6) Ministry of Health, regional economic-financial data from 2014 to 2020 and data from the Financial Statements of Hospital Centers, Health authorities and Local health and social service authorities (Lombardy) for the year 2021.
(7) ISTAT, Main yearly national accounts aggregates.
(8) Court of Auditors Estimate - Public Finance Coordination Report.

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

But following the experiences with the interruptions/postponements of services, the use of paid treatment pathways and postponements and/or forgoing of treatment, what was the actual state of health declared by the respondents at the end of 2021 and at the end of 2022[15]?

As can be seen from the fourth group of data in Table 12:

- a more or less stable situation affects infected individuals who had to deal with serious illnesses in each of the two years taken into consideration (49.1% and 55.2% compared to 36.6% and 39.6% % of those not infected); while this stable health situation is declared with a much greater incidence among non-infected individuals with reference to mild illnesses (78.0% and 64.0% compared to 59.4% and 58.8% for infected individuals);
- on the contrary, a worsening health situation affected 47.0% and 49.7% of uninfected individuals in 2021 and 2022[15] due to serious illnesses, values followed by 39.1% and 39.2% among infected respondents; while the percentage incidences were less for mild illnesses, but with a worse state of health for infected respondents compared to the non-infected ones.

A further indicator of patient "reactive behavior" in addition to seeking alternative treatment channels has to do with interregional healthcare mobility, a phenomenon certainly not linked only to the pandemic, given that it continues to be an important choice for patients over time: between 2010 and 2019 (pre-pandemic year) the percentage incidence of hospitalizations outside the region on the total national hospitalizations rose from 7.6% to 8.8% (see the third group of data in Table 12). In the same period, total hospitalizations decreased progressively: -15.9% between 2010 and 2014, -9.0% in 2018, -1.8% in 2019 and -20.7% in 2020, the first year of the pandemic. Furthermore, it should be remembered that it is the Southern Regions that significantly fuel the flow of mobility, which in 2019 amounted to 307,000 units out of a total of 713,000 (43.0%).

Certainly the first year of the pandemic (2020), following the lockdown, and the patients' fear of being infected, witnessed a drastic reduction in the healthcare mobility of the latter from 713,000 units in 2019 to 500,000 units in 2020, with a decrease also in the ratio between the number of extra-regional hospitalizations and the national total of hospitalizations which was 8.8% in 2019 and 7.8% in 2020.

[15] Taken from the data collected in the second ten days of September, upon completion of the specific survey by questionnaire.

As regards the year 2021, data on hospitalizations is not yet available, but we can refer to the income statements of healthcare mobility for the individual Regions, which give an indirect idea of the size of active/passive patient flows) (see Chart 1). As can be seen, Emilia Romagna and Lombardy followed by Veneto represent the most attractive centers for patients, these are followed by five other Regions, albeit with much smaller positive income statement figures. Behind these are the rest of the Regions with negative balances, starting from the more modest ones of the four Special Autonomous provinces (Autonomous Provinces of Trento and Bolzano, Friuli Venezia Giulia and Valle d'Aosta) and then by two Central Regions (Umbria and Marche) and finally, the Southern Regions (in addition to Liguria).

Furthermore, to get a further idea of the trend of active and passive mobility for 2021, the trends of the income statements can always be taken into consideration (which reflect not only the numbers of patient transfers but also the complexity of the services provided), with reference this time to six significant Regions: two in the North, two in the Center and two in the South. As can be immediately seen in Chart 2, active mobility (represented by the solid line) in Lombardy and Emilia Romagna, two attractive regions for patients, dropped sharply in 2020 and then rose again just as sharply in 2021, while remaining below the pre-pandemic trend. And passive mobility (represented by the dotted line), albeit with lower values and dynamics, also featured the dual phenomenon of decrease/recovery.

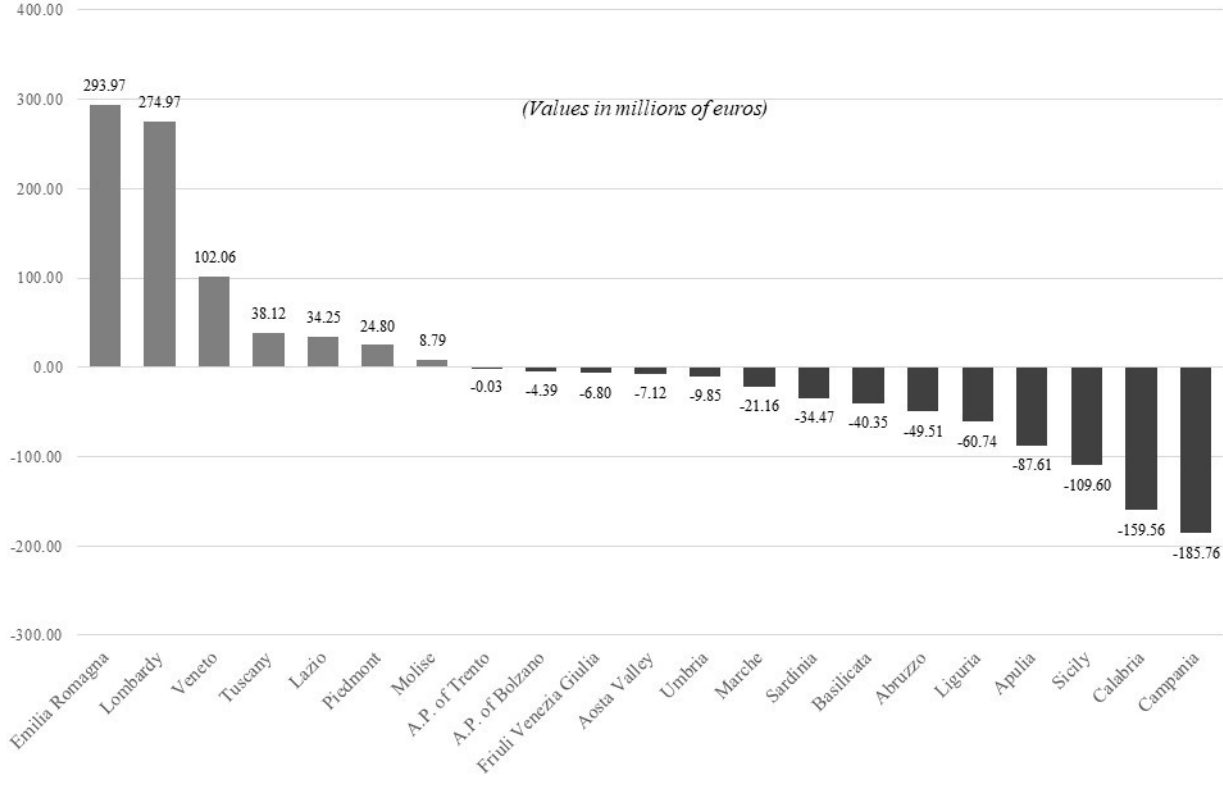
And this was also true, in a more limited manner, for Tuscany and Lazio, even if the latter between 2019 and 2020 showed a greater decline in passive healthcare mobility, with more space instead given to active mobility.

On the contrary, Calabria and Sicily are two examples of greater stable passive mobility, but again show a decrease in the key year 2020 and a subsequent recovery in 2021: faster for Calabria and slower for Sicily. Active mobility for both Regions remained at decidedly more modest levels.

The "reactive behavior" path consisting of the use of paid treatments and inter-regional healthcare mobility significantly affected people who took the survey and so it is obvious that there will be some feedback and also some macro data relating to the renewed direct financial burden of Italian families in the context of providing for the healthcare needs of their family members (see the fourth group of data in Table 12), which shows how:

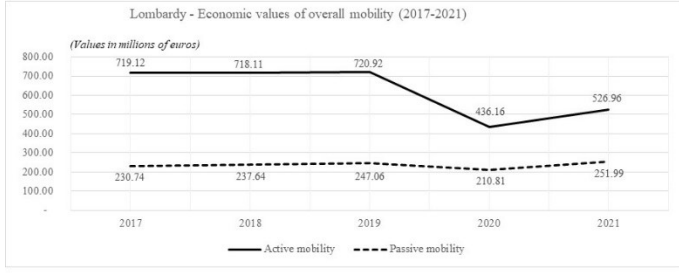
– there was a renewed increase in the revenues of the National Health Service from the collection of co-payments for *intramoenia* healthcare services, following the 2020 drop in the wake of the lockdown, but also of the extraordinary efforts made by the healthcare facilities for Covid patients: in terms of absolute values, it went from 1,152.1 million euros in

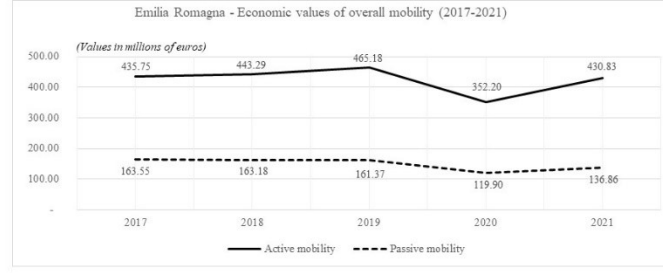
Chart 1 – Income statements on overall healthcare mobility (2021)

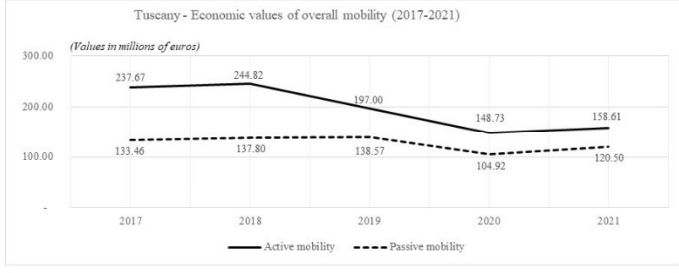


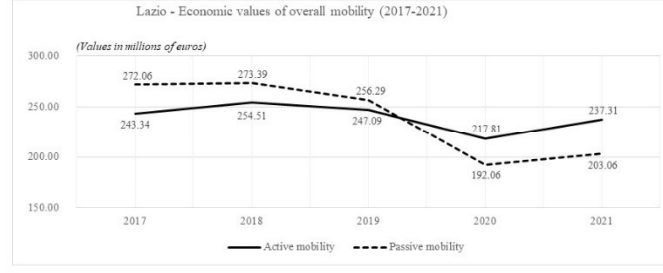
Source: *processing of AGENAS data – National Agency for Regional Health Services*

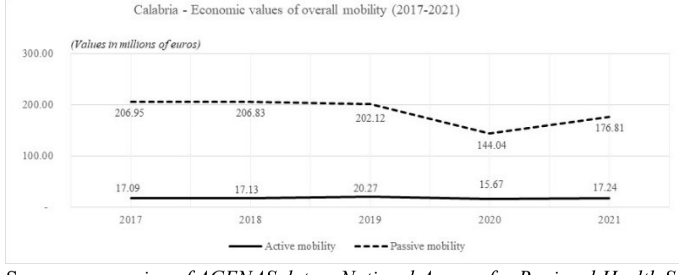
Chart 2 – Trend of the phenomenon of interregional healthcare mobility in 6 Regions, as attested to by the economic values of the services provided or received

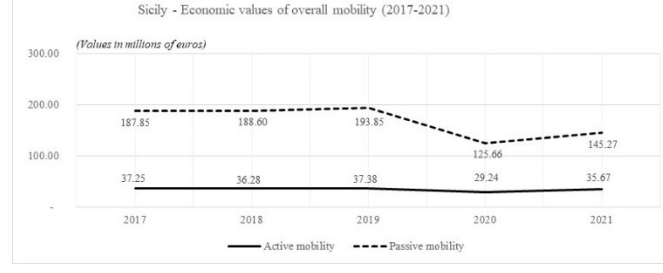












Source: *processing of AGENAS data – National Agency for Regional Health Services*

2019 to 804.8 million euros in 2020, to then go back up to 1,022.3 million euros in 2021 (in terms of Index Numbers from 100.0 to 91.2, higher than in 2020 but lower than in 2018 and 2019);

- in parallel, there was an increase, in broader terms, of the out-of-pocket healthcare spending of Italian households, which had risen in 2019, reaching 38.4 billion euros and then decreased to 35.9 billion euros in 2020 and then climbed back up to 38.5 billion euros in 2021 (in terms of Index Numbers therefore it went from 100.0 in 2018 to 101.4 in 2019, fell to 94.9 in 2020 and then rose to 101.6 in 2021); and this occurred while the trend of the total household consumption expenditure of Italian families was experiencing a more severe downturn process and a more limited uptick compared to out-of-pocket healthcare spending: in fact, it went from 1,087.4 billion euros in 2019 to 965.5 billion euros in 2020 and then reached 1,033.1 billion euros in 2021 (in terms of Index Numbers from 100.9 to 89.6, and then reached 95.9);
- while parallel to this the trend of public health expenditure increased slightly between 2018 and 2019, rising from 114.4 to 115.7 billion euros (from 100.0 to 101.1 in terms of Index Numbers) but then leapt forward thanks to the extraordinary resources used to deal with the arrival of the pandemic, which brought spending to 122.7 billion euros in 2020 and 127.8 billion euros in 2021 (in terms of Index Numbers from 107.3 to 111.7, respectively).

Finally, another aspect of people's "reactive" behavior manifested itself in the form of a progressive and (fairly) widespread "socialization" with respect to the virus and the related problems it generated.

In fact, the positive opinions ("Very much + Somewhat agree") contained in Table 13 are in fact almost all above 60.0%, with some peaks even exceeding 70%, except for the still relatively delicate issue of vaccination (such as the need for a possible fourth dose or even a fourth dose together with the flu vaccine). And this applies to both the total population sample and the two subsamples, individuals with no and with Covid experiences, respectively.

As regards the respondents who were not affected by the virus, it should be pointed out that the level of agreement differs slightly (more or less) from that of the total population, while the respondents with one or more Covid experiences show a bit more agreement than the former group, especially as regards the need to reduce attention and precautions compared to the early days of the pandemic (71.2% agree compared to 64.0%) and less especially as regards precisely the fourth dose and/or the flu vaccine (49.6% compared to 53.5% and 45.6% compared to 48.0%, respectively), to which is added, however, also the lesser sensitivity towards the problem of postponed regular

services and to be recouped (66.0% compared to 69.5%, and 68.9% compared to 71.0%).

Besides this, it is also worth pointing out that it is respondents from the South who express an overall level of agreement above the average of the reference sample, whether among the total population, the sub-sample of the population with no past Covid experience or the sub-sample with one or more experiences (to be precise, this greater agreement, in the case of non-infected individuals, is true for the entire Center-South and not only for the South). Furthermore, it is more mature individuals (55 years and up) compared to the other age groups who most agree with the opinion statements.

Finally, the contrary opinions ("Slightly + Strongly disagree") appear to be held above all by the sub-sample of respondents who experienced Covid, who consistently distance themselves from those who have not had any experience with infection (see *Tables A14.1, A14.2 and A14.3 of Chapter 3 of the Appendices*).

Table 13 – A fairly widespread awareness of the need to address the intertwining of "regular concerns" and "special needs", with particular attention to recouping unprovided services ("Very much + Somewhat agree" and "Slightly + Do not agree" opinions) (value %)

Phenomena	*Data*					
	Total population		*Individuals with no Covid-19 experience*		*Individuals with Covid-19 experience*	
The difficulty of managing behaviors	***Very + Somewhat agree***	*Slightly + Do not agree*	***Very + Somewhat agree***	*Slightly + Do not agree*	***Very + Somewhat agree***	*Slightly + Do not agree*
– Living with the Covid-19 virus for almost three years now has contributed to reducing attention and precautions compared to the early days	**66.5**	20.3	**64.0**	19.8	**71.2**	21.1
– There is some confusion about what behaviors to adopt (for example wearing masks: on the plane No, on fast trains Yes; at school, for now, preventive measures suspended except for the frail; etc.)	**72.9**	15.3	**72.8**	12.9	**73.0**	19.9
A progressive socialization to the pandemic						
– It is not clear whether or not the Covid-19 virus has passed the most critical phase	**59.4**	27.6	**59.1**	25.9	**60.0**	30.7
– In reality, we are somewhat used to living with the Covid-19 virus	**72.3**	15.6	**72.2**	14.0	**72.6**	18.5
– However, if necessary, I would take a fourth dose	**52.2**	31.4	**53.5**	28.1	**49.6**	37.7
– If necessary, I will take the fourth dose of the Covid vaccine together with the flu vaccine	**47.2**	35.3	**48.0**	32.2	**45.6**	41.1
The importance of recouping ordinary services						
– The most serious problem is actually that of ordinary services which have been postponed and still need to be provided in whole or in part	**68.4**	16.9	**69.5**	14.1	**66.0**	22.3
– We need to invest adequate public resources in order to be able to offer the postponed services, making the best use of all the available facilities and in particular accredited (often called "affiliated") facilities, meaning those that are not public but which are an integral part of the National Health Service	**70.3**	16.1	**71.0**	13.4	**68.9**	21.3

(1) See Part Two, Table 14 pp. 192-193.
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

4. A unified strategy to restore services in both public facilities and private facilities

4.1. The need to address the issue of a medium-term investment in healthcare and the mixed hospital system

The third year of the pandemic ended in 2022. This brought about (and continues to contribute to) a dual phenomenon in terms of the financial flows destined for public health spending.

The first phenomenon is certainly represented by a significant increase in resources compared to the continual downward trend of past years: in fact, it went from EUR 115.7 billion in 2019, the pre-pandemic year, to EUR 122.7 billion in 2020, while public spending increased from 6.4% to 7.4% of GDP (see Chart 1).

It is clear that the sudden emergence of the "extraordinary" pandemic acted as a booster, as indeed happened in other countries, although Italy still lags well behind the latter, as can be seen from the data in Table 14 below which shows us that this ratio in 2020 was equal to 8.4% for OECD countries and 10.5% for G7 countries.

Thus, the increase in financial resources actually occurred in 2020, but - and this is the second phenomenon - it seems that an opposing trend of a new decrease in spending had already begun, considering that the forecasts in the Supplementary Note to the Economic and Finance Document (of September 2022, approved by the new Government in the following month of November 2022) and the provisions of the 2023-2025 Budget Law lean - on the basis of current GDP forecast estimates - towards a figure of 7.2% for 2021 and then 7.0% for 2022, 6.4% for 2023, 6.3% for 2024, to end up at 6.1% in 2025: with a final ratio of public health expenditure to GDP even below the 6.4% figure in 2019 which, moreover, was already the result of a progressive decrease over the previous years.

This would seem to indicate a steady under-financing of the National Health Service rather than an uptick in the investment of resources as is indeed demanded by the conditions among the general public and patients that have been evolving for some time now, including a well-known acceleration of ageing, the continuous improvement of medical techniques and technologies to support care and an increasingly informed and exacting demand. To all this must be added the need to recoup a quite sizable backlog of ordinary services that have not yet been provided, with the inevitable consequences for users, including resorting to paid private services, a clear returning to healthcare mobility in 2021 and, not infrequently, even the forgoing of treatment.

But speaking of the importance (and indeed the need) of a medium-term re-investment process in health requires, on the contrary, acknowledging an underlying tendency towards the substantial de-financing of health care expenditure compared to our neighboring countries.

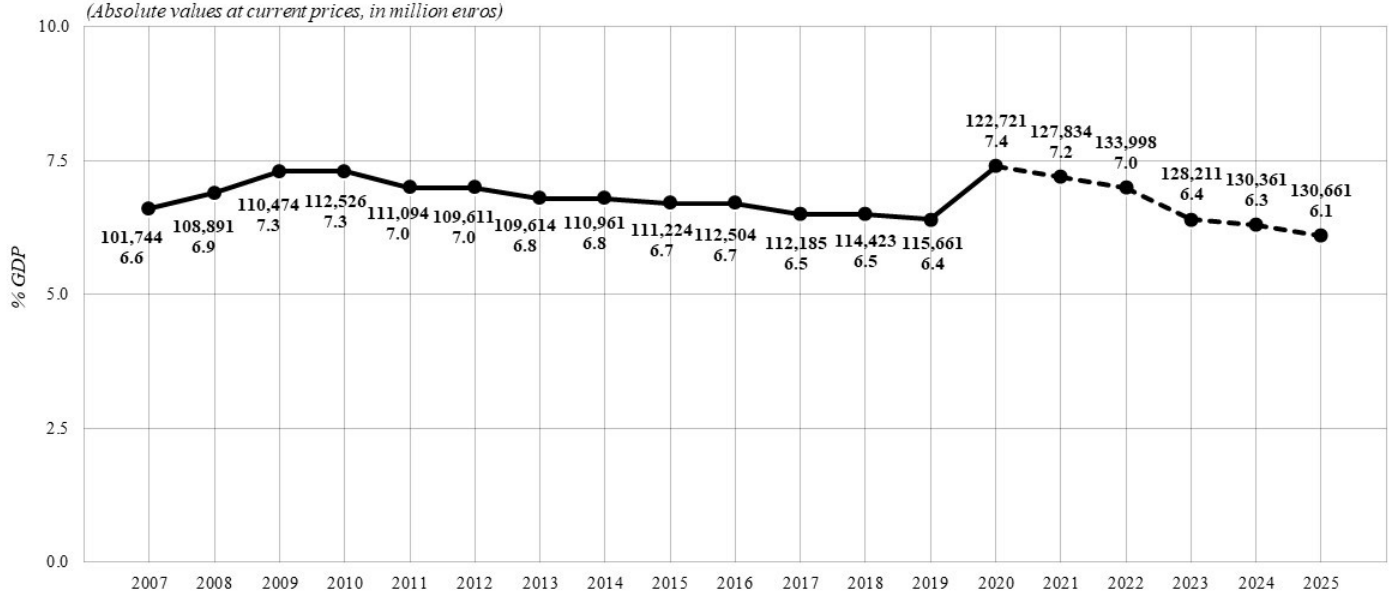
The latest comparable data dates back to 2020 and comes from the latest *OECD Health Data 2022* Report, which shows that:

a) the ratio between public health expenditure and Italy's GDP was still (and was steadily) undersized and in decline up until 2019, given that it was 6.7% in 2016, and then fell to 6.5% in 2017, remained the same in 2018, and dropped to 6.4% in 2019, rising to 7.4% in 2020 due to the pressure of the pandemic (see Table 14); in this regard, it should be pointed out that in the last three years the ratio between public health expenditure and GDP for the average of OECD European countries was 7.1% in 2018, then 7.2% in 2019 and 8.0% in 2020, respectively, but the average of the G7 countries shows an even more marked difference for Italy: 9.1% in 2018, 9.1% in 2019 and 10.5% in 2020 (with Germany ranking even higher as it rose from 9.6% in 2018 to 9.8% in 2019, to end up at 10.9% in 2020).

   Moreover, Italy trailed behind not only in the data just cited, but also in an additional negative factor, one linked to the value of the national Gross Domestic Product which suffered throughout the financial and then economic crisis between 2008 and 2013, not to mention the first year of the pandemic 2020: meaning that the same percentage incidence on GDP ranks even worse if the basis of calculation is decreasing or is struggling to recover;

b) total healthcare spending out of GDP for Italy remained anchored at 8.7% in 2018 and 2019 (though it was also the same in 2016 and 2017), whereas the average of the G7 countries was 11.3% and 11.4%, respectively, in the two years mentioned (Germany was at 11.5% and 11.7%

Chart 1 – Public healthcare spending (A.V. and % of GDP). 2007-2025



Source: *MEF, Documents on Economics and Finance (Analysis and trends in Public Finance, 2009-2022); NADEF November 2022 and Budget Law 2023*

and France at 11.2% and 11.1%), and in any case the disadvantage remains true for Italy even if we observe the values linked to the average of the European OECD countries (9.2% and 9.3% in the same years); of course, in the year 2020 all countries had to make an extraordinary investment due to the pandemic, and Italy, too, rose to 9.6% of GDP, still lower in comparison to the average of the G7 countries which was 12.8% and an average of European OECD countries that hit 10.1% (Germany went up to 12.8% and France up to 12.2%);

c) a separate case is represented by the United States which, given its heavily private-oriented healthcare system, achieved much greater amounts of resources compared to GDP, hitting more than 16% in 2018 and 2019 and even reaching 18.8% in 2020; however, as far as Italy is concerned, it should be pointed out that the additional resources invested by families in for health expenditure increased from EUR 35.8 billion in 2015 to EUR 38.4 billion in 2019, undergoing a subsequent decline in the first year of the pandemic to 36.0 billion and then immediately recovering in 2021, amounting to EUR 38.5 billion[1].

Table 14 – Total healthcare and public healthcare expenditure compared to GDP

% Values	*Total healthcare expenditure*			*Public healthcare expenditure*		
	2018	*2019*	*2020*	*2018*	*2019*	*2020*
United States	16.6	16.7	18.8	13.8	13.8	15.9
Japan	10.7	11.0	11.1	9.0	9.2	9.3
Germany	11.5	11.7	12.8	9.6	9.8	10.9
France	11.2	11.1	12.2	9.3	9.3	10.3
Italy	**8.7**	**8.7**	**9.6**	**6.5**	**6.4**	**7.4**
United Kingdom	9.7	9.9	12.0	7.7	7.8	9.9
Canada	10.8	11.0	12.9	7.6	7.6	9.7
Average of G7 countries (*)	11.3	11.4	12.8	9.1	9.1	10.5
Average of European OECD Countries (*)	9.2	9.3	10.1	7.1	7.2	8.0
Average of all OECD countries (*)	9.7	9.8	10.7	7.5	7.6	8.4

(*) Averages are calculated as unweighted arithmetic means.
Source: *Ermeneia processing of "OECD Health Data 2022", OECD, Paris, November 2022*

If we then move on to consider Table 15 below, concerning the public and accredited hospital expenditure in relation to the total public health expenditure and therefore in relation to the GDP (again starting from the *OECD Health Data 2022* Report mentioned above) we can see:

a) Italy shows a higher amount of public and accredited hospital expenditure out of total public health expenditure: with 56.4% in 2018 (but it was above 57% from 2015 to 2017), which then rose slightly in 2019 to 56.9% and then fell back down to 56.6% in the first year of the pandemic wave,

[1] See Part One/Table 5, pp. 48-49.

despite having suffered the impact of costs specifically dedicated to the assistance of Covid patients. It should also be considered that we have experienced a slow but continuous process of progressive dehospitalization of care without however having adequate and convincing compensatory responses in terms of local healthcare. In any case, a comparison with the average of the G7 countries still shows a clear gap, much smaller than in Italy, in the three-year period shown in Table 15: 42.3%, 42.3%, 41.1% (these amounts rise, as an average of the OECD European countries, up to 45.6%, 45.8% and 46.1%), attesting to a different balance between hospital-based healthcare and community healthcare services: and this is even more evident in the case of Germany which was around 32% in 2018-2020, almost 25 percentage points less than Italy;

b) the ratio between public and accredited hospital expenditure to GDP sees Italy standing steadily at 3.6% in 2018 and 2019, with an increase, for the reasons already mentioned, to 4.2% in 2020 (but consider that this amount was 3.8% in 2015, then dropped to 3.7% in 2016 and 2017). In any case, public and accredited hospital expenditure out of GDP remained stably higher than the average of OECD European countries (3.2% in 2018 and 2019 and 3.7% in 2020), while this incidence is slightly higher in case of the average of the G7 countries (3.7%, 3.8% and 4.3%, respectively).

Table 15 – Public and accredited private hospital expenditure compared to total public health spending and GDP

% Values	*Public and accredited private hospital expenditure/Total public healthcare spending*			*Public and accredited private hospital expenditure/GDP*		
	2018	*2019*	*2020*	*2018*	*2019*	*2020*
United States	35.8	36.4	34.6	4.9	5.0	5.5
Japan	43.5	44.0	-	3.9	4.0	-
Germany	31.7	32.3	32.9	3.1	3.2	3.6
France	43.5	43.4	44.2	4.1	4.0	4.6
Italy	**56.4**	**56.9**	**56.6**	**3.6**	**3.6**	**4.2**
United Kingdom	48.7	47.5	47.2	3.7	3.7	4.7
Canada	36.6	36.1	31.1	2.8	2.8	3.0
Average of G7 countries (*)	42.3	42.3	41.1	3.7	3.8	4.3
Average of European OECD Countries (*)	45.6	45.8	46.1	3.2	3.2	3.7
Average of all OECD countries (*)	44.7	44.9	44.9	3.3	3.3	3.7

(*) Averages are calculated as unweighted arithmetic means.
Source: *Ermeneia processing of "OECD Health Data 2022", OECD, Paris, November 2022*

In addition to the subject of the "return to explicit de-financing" there is also the added risk of "correlated de-financing" originating in fact from the special funds of the PNRR (if they are actually used).

In this regard, the resources allocated to health care amount to more than EUR 20.3 billion, of which 1 billion is intended for the creation of the so-called Community hospitals, with the aim of strengthening intermediate healthcare providers and their facilities.

More precisely, what might occur implies that:

- it will be necessary to put to budget the operating costs of the many new healthcare facilities envisaged by the PNRR investments (Community Homes, Family and Community Nurses, USCA - Special Non-Stop Assistance Service Units, Local Healthcare Operations Centers, Home Assistance services, including specifically Community Hospitals, Hospice care, Palliative Care Networks, IT Systems, Telemedicine, etc.);
- consequently it will be necessary to prepare for the training and employment of a significant number of operators (doctors and nurses, *primarily*) which, moreover, are already difficult to find today in order to be able to replace those who have already retired or are about to retire, as well as bear the brunt of the related costs that will be projected over time;
- and finally, it will be necessary to take into account the risk of fueling the growth of new healthcare facilities near to the existing ones, which already present serious problems in transforming due to the existence of the many regulatory, management and organizational culture limits, with the risk therefore of investing additional public resources for the recruitment of large numbers of personnel who will be placed within an organization that is already struggling to adapt to the changing needs of patients and the resulting revisions of services, as indeed has been mentioned several times within the pages of the *Health & Hospitals* Report.

Moreover, the funding allocated for the "second-tier" hospital component of the National Health Service, that of the accredited private facilities, also figures in as a further problem relating to the underfinancing of the public facilities, which are accompanied by regulatory constraints and operational constraints that prevent them from using their full potential.

It is therefore appropriate, in addition to making comparisons between Italy's position vis-à-vis other similar countries, to look at the internal Italian situation, precisely with reference to the trend and composition of hospital and non-hospital public health expenditure in recent years and the different methods for financing the two types of facilities. In this regard, Tables 16 and 17 show the following:

a) spending for public hospital facilities at current prices (see Table 16) shows an increase of 12.9% in the five-year period 2015-2020, given that (in terms of Index Numbers: 2015 = 100.0) the figure of 101.3 in 2016, went to 102.6 in 2017, 104.7 in 2018, 106.4 in 2019 and ended up at 112.9

in 2020, under the effect of the pandemic: but if we look at the same expenditure, but valued at constant prices (see Table 17), the increase is lower, going only to 100.2 in 2016 compared to 2015, then to 100.7 in 2017, 101.7 in 2018, 102.4 in 2019, and finishing at 106.9 in 2020;

b) in turn, hospital spending for the accredited facilities as a whole seems to substantially stabilize over time except for very slight increases, considering that it went, in terms of Index Numbers (2015 = 100.0) from 100.2 in 2016 to 99.4 in 2017, then to 100.3 in 2018, 101.1 in 2019, and ended up at 100.9 in 2020 (see Table 16): but if the results at constant prices are taken into consideration instead of current prices (see Table 17), the situation is clearly that of a progressive decrease, since between 2015 and 2020 there is a year-over-year decline in terms of Index Numbers, from 100.0 in 2015 to 95.5 in 2020; and this also happens for the sub-category of hospitals classified by the Ministry as Accredited private healthcare facilities, which starting from 100.0 in 2015 progressively decrease in the intervening years, to reach 95.8 in 2020.

In conclusion, public hospital facilities strictly speaking saw an increase in spending (at constant prices) of 6.9% in the period 2015-2020, whereas accredited hospital facilities as a whole were financed by 4.5 percentage points less and those classified as "Accredited private healthcare facilities" by 4.2 percentage points less.

Yet the final result is that the accredited private sector provided 28.3% of the in-hospital days with only 12.3% of the total public hospital expenditure: which evidently implies a good level of efficiency, especially since the amount of high complexity services was greater (and growing faster) for accredited hospitals than for public hospitals.

But let us now consider, with reference to the accredited private hospital facilities, some "hot spots" that are inevitably connected to each other as they create not only problems for the aforementioned facilities but also and more importantly contribute to limiting the number of services requested by the patients: suffice it to mention, in particular, the waiting lists, the spending "caps", the pricing system and the price of energy increases.

In the Part Two and Part Three of this Report, we have dealt extensively with the subject of waiting lists that had already built up in the pre-pandemic phase and were then supplemented by those of the pandemic years, following the extensive interruptions/postponements of regular services. And this occurred above all in the year 2020, which was characterized by slow recoveries that were projected and further strengthened in the following two years: also because the backlog of requests for services from non-Covid patients were added to those (even more pronounced) of former Covid patients, due

Table 16 – Current healthcare spending: 2015-2020 (in billions of euros) and I.N. (2015 = 100.0)

	2015		2016		2017		2018		2019		2020	
	A.V.	*I.N.*	*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	60.808	112.9
Accredited hospital component (as a whole)	8.466	100.0	8.484	100.2	8.419	99.4	8.493	100.3	8.559	101.1	8.538	100.9
of which: accredited hospitals[1]	*4.335*	*100.0*	*4.351*	*100.4*	*4.321*	*99.7*	*4.359*	*100.6*	*4.387*	*101.2*	*4.384*	*101.1*
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	69.346	111.3
Other expenditure features	50.354	100.0	50.681	100.6	50.694	100.7	50.842	101.0	51.070	101.4	53.949	107.1
Total public healthcare expenditure	*112.667*	*100.0*	*113.731*	*100.9*	*114.339*	*101.5*	*115.713*	*102.7*	*116.928*	*103.8*	*123.295*	*109.4*

(1) Code 5.1 Institutes (Accredited private healthcare facilities) as per the ministerial classification.
Source: *processing by Ermeneia of data contained in the "Report on the Coordination of Public Finance" 2016, 2017, 2018, 2019, 2020, 2021 and 2022 of the Court of Auditors, in the Agenas Report on the monitoring of healthcare spending of the Regions 2018-2019 and in the MEF Report on healthcare expenditure monitoring 2022*

Table 17 – Healthcare spending at constant prices(*)*. 2015-2020 (in billions of euros) and I.N. (2015 = 100.0)*

	2015		2016		2017		2018		2019		2020	
	A.V.	*I.N.*	*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	57.583	106.9
Accredited hospital component (as a whole)	8.466	100.0	8.389	99.1	8.265	97.6	8.249	97.4	8.238	97.3	8.085	95.5
of which: accredited hospitals[1]	*4.335*	*100.0*	*4.302*	*99.2*	*4.242*	*97.9*	*4.234*	*97.7*	*4.222*	*97.4*	*4.151*	*95.8*
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	65.668	105.4
Other expenditure features	50.354	100.0	50.113	99.5	49.764	98.8	49.382	98.1	49.153	97.6	51.088	101.5
Total public healthcare expenditure	*112.667*	*100.0*	*112.455*	*99.8*	*112.241*	*99.6*	*112.390*	*99.8*	*112.540*	*99.9*	*116.756*	*103.6*

(*) GDP deflator calculated on the basis of the new ISTAT series in a chained series with reference to 2015, November 2022.
(1) Code 5.1 Institutes (Accredited private healthcare facilities) as per the ministerial classification.
Source: *processing by Ermeneia of data contained in the "Report on the Coordination of Public Finance" 2016, 2017, 2018, 2019, 2020, 2021 and 2022 of the Court of Auditors, in the Agenas Report on the monitoring of healthcare spending of the Regions 2018-2019 and in the MEF Report on healthcare expenditure monitoring 2022*

in this case both to needs that had emerged in the pre-infection phase and to needs that arose from the latter, often resulting in Long Covid.

All of this has generated a backlog that has not yet been dealt with, and which has made two difficulties evident at the same time: an "extraordinary" one linked precisely to the non-provision of services, caused directly or indirectly by Covid and one that might be defined as "ordinary", meaning that it is structural in nature, as the services have, over time, shown that they are no longer capable, given the existing organization, of responding to the continuously growing needs of a population that is aging rapidly and needs to obtain responses in a reasonable amount of time, with an acceptable quality level and with a range of available services on par with those offered in other territories throughout Italy. This is also needed in order to limit the phenomena of interregional health mobility, to mitigate the use of substitute services for a fee (whether private or from *intramoenia*) services, and finally, to prevent the postponing or forgoing of treatment.

With regard to the "extraordinary" difficulty just mentioned, it should be noted that the accredited private facilities (and above all those associated with the AIOP) made more than 10,000 Covid patient beds available in 2020 for acute, post-acute and sub-intensive and intensive care as well as 25,100 patient beds for non-Covid patients. The data contained in Table 18 below only confirms, through the testimony of the AIOP regional Presidents, this involvement, which continued in a slightly reduced manner also in 2021 and 2022.

And the situation of the waiting lists shows, again according to the AIOP Regional Presidents, a sharply worsening trend in 2020 compared to 2019, especially for diagnostics and tests compared to hospitalizations, with a certain abatement at the end of 2022, but still with a more pronounced problem for diagnostics and tests (see Table 19).

Naturally, the problem arising from the "spending caps", a mechanism reserved for accredited private facilities, constitutes a constraint which certainly does not favor - to put it mildly - the ability of the system as a whole to provide responses to patients in a reasonable amount of time, even regardless of extraordinary situations such as the pandemic, which has obviously accentuated the process of the backlog of ordinary services not provided, as has already been mentioned.

Just to get an idea of the restrictions imposed by the "spending caps" (and of any related issues) let us consider the data in Table 20 below.

As can be seen, the aforementioned restrictions were in use consistently and constantly over the years, from a maximum of 100% to a minimum which in any case exceeds the average of 80% (and was 87% in 2022, which,

Table 18 – Engagement of the AIOP facilities by Region (or Autonomous Province) in terms of the supply of patient beds for Covid patients (for acute and sub-acute and for intensive care) as well as patient beds for acute cases, intended for non-Covid patients, in order to deal with the pandemic emergency during the years 2020, 2021 and 2022 (val. %)

Circumstance	*2020*	*2021*	*2022*
Level of engagement			
– Yes, they were extremely engaged	46.7	33.3	21.4
– Yes, they were quite engaged	33.3	40.1	21.4
– Yes, they were somewhat engaged	13.3	13.3	21.4
– No, they were not engaged at all	6.7	13.3	35.8
Total	100.0	100.0	100.0
A.V.	15	15	14
Areas of engagement, if any	*2020*	*2021*	*2022*
– For access to ASL services (Outpatient clinics, diagnostics, laboratories, visits, etc.)			
• Yes, they were engaged through specific agreements	83.3	85.7	71.4
• Yes, they were engaged in actual fact, without formal agreements	-	14.3	-
• No, they weren't engaged at all	16.7	-	28.6
Total	100.0	100.0	100.0
A.V.	6	14	7
– For hospitalizations			
• Yes, they were engaged through specific agreements	71.4	37.5	50.0
• Yes, they were engaged in actual fact, without formal agreements	14.3	12.5	16.7
• No, they weren't engaged at all	14.3	50.0	33.3
Total	100.0	100.0	100.0
A.V.	14	8	12
– In the event of engagement, receipt or lack of "compensation payments" for the interrupting of ordinary activities due to the pandemic emergency or for making hospital facilities available to Covid patients even if not used in 2021			*2021*
• Yes, they were received			40.0
• Yes, they are still being negotiated			20.0
• No, they were not received			26.7
• No facilities were made available by the AIOP in the Region (or Autonomous Province)			13.3
Total			100.0
A.V.			15

Source: *survey by Ermeneia - Studi & Strategie di Sistema, 2022 (based on a specific survey carried out among the AIOP Regional Presidents during the months of October-November 2022)*

Table 19 – Possible worsening/improvement of the situation of the waiting lists for regular services provided by the local healthcare authorities (ASL) and for hospital admissions, by Region (or Autonomous Province), with reference to the years 2020, 2021 and 2022 compared to previous year (value %)

Level of worsening/improvement	*Situation at the end of 2020 compared to the end of 2019*		*Situation at the end of 2021 compared to the end of 2020*		*Situation at the end of 2022 compared to the end of 2021*	
	For ASL services	*For hospitalizations*	*For ASL services*	*For hospitalizations*	*For ASL services*	*For hospitalizations*
– It was/is much worse	53.3	21.4	57.1	-	20.0	-
– It was/is pretty bad	26.7	80.0 35.8	57.2 28.6	85.7 26.7	26.7 40.0	60.0 21.4	21.4
– It remained more or less the same as before (but remained problematic)	13.3	28.6	14.3	46.7	20.0	57.2
– It remained more or less the same as before (but wasn't/isn't a serious problem)	6.7	7.1	-	13.3	13.3	7.1
– It improved slightly	-	7.1	-	13.3	6.7	14.3
– It was/is much better	-	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0
A.V.	15	14	14	15	15	14

Source: survey by Ermeneia - Studi & Strategie di Sistema, 2022 (based on a specific survey carried out among the AIOP Regional Presidents during the months of October-November 2022)

Table 20 – Changes in the ways compensation is allocated and relative payment is made for the services provided by the AIOP accredited private hospital facilities (% of the total of the cases examined) [a]

Mechanisms	*% of total cases examined*							
	2022	*2019*	*2017*	*2015*	*2013*	*2011*	*2009*	*2007*
– The system of "caps" has been applied to services in the past twelve months	87% [b]	95% [b]	90%	83%	100%	94%	84%	100%
– A rate regression was applied in the event of exceeding the "caps"	43%	37%	32%	32%	50%	50%	56%	70%
– Average regression applied compared to the full price	20%	41%	42%	44%	43%	35%	45%	52%
– Payments for bills are delayed	40%	35%	39%	50%	61%	72%	79%	90%
– Average delay in months	6.5 months	5.1 months	4.6 months	4.7 months	12.5 months	6.9 months	11.6 months	7.3 months
– A monthly payment is made on the invoices of private hospitals (accredited healthcare facilities)	64% [c]	58% [c]	78%	70%	75%	78%	83%	70%
– Average size of the payment compared to the invoice	78%	85%	87%	84%	79%	79%	75%	77%
– A factoring system was applied to ensure payments and due dates	13% [d]	16% [d]	21%	30%	40%	17%	11%	26%

(a) As with every year, a special survey of privileged witnesses was conducted at the level of the individual Italian Regions. This panel is composed of the AIOP Regional Presidents, who annually respond to a detailed quantitative/qualitative questionnaire.
(b) In reality, in the last year, the "cap" system was applied by 93% in the case of hospitalization services and by 80% in the case of outpatient services.
(c) The advance is paid, but not regularly, for 40% of cases in 2007, 39% of cases in 2009, 44.5% of cases in 2011, 25% of cases in 2013, 25% in 2015, 27.8% in 2017, 11% in 2019, and 35% in 2021.
(d) But 13% also say that there is no longer a *factoring* system, which had, however, previously been introduced.
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

however, became 93% for inpatient services and 80% for outpatient services). And, in the event the "caps" were exceeded, it appears that, again in 2022, an average rate regression of 43% was applied by all the Regions taken into consideration, with an average reduction of 20% compared to the full price (a decrease which, however, was higher in previous years). It should also be added that the payment conditions appear to have gradually improved over the years.

The spending "caps" mechanism, which has been used for a long time by the Regions, found in Decree Law 95, Art. 15, paragraph 14 (in a provision of 2012 called the spending review) a way to permanently codify price freezes to accredited private hospital facilities. And this happened, despite the fact that the National Health Fund has increased in size over the years without, however, having produced a parallel effect on the purchases of services, by the Regions, with respect to the aforementioned facilities. Compensation for pharmaceutical spending has turned out to be quite different, and the increases in the National Health Fund have translated into an increase in the related spending "caps".

The end result is that the aforementioned provision prevents the Regions from exercising their planning capacity, thereby not allowing the private component of the National Health Service to fully express its potential. In this regard, it should be noted that the amount of this component that remains unexpressed can be estimated at between 40% and 60% for inpatient admissions and between 45% and 90% for outpatient services, with all that this entails in terms of services missed out on by the patients themselves.

The inadequacy of the legal restriction referred to is indirectly confirmed by the behavior of the Government itself which has been forced to act outside of the norm several times, having adopted as many as three separate legal provisions in this regard. After all, the slowdown or even interruption of potential healthcare services constitutes a mechanism that surreptitiously introduces a sort of de facto rationing, a phenomenon which has increased over the last few years and which has already been examined in previous Reports.

Naturally, the topic of spending "caps" also evokes the broader issue of the necessary updating of prices, which should be periodically reviewed, through the application of explicit and shared criteria, so as to take into account the real production costs of individual services: otherwise the possibility of ensuring appropriate diagnoses and care for patients would be jeopardized. Furthermore, assessing the new basic levels of assistance by means of reducing the prices for the most widely-used services (as would seem to emerge from the recent proposals to modify the Pricing for outpatient specialist services) ends up once again opting for the decrease of healthcare

spending in first place rather than that (necessary and inevitable) of a qualification of the basic levels of assistance themselves, which should ideally respond more appropriately to the constantly evolving qualitative demand from patients.

Lastly, still on the subject of asymmetries in the compensation of accredited private hospitals, it is appropriate to point out the issue of energy which has become particularly topical.

In this regard, Art. 5 of the Aid Decree Law-*ter*, envisaged urgent support measures for the hospital sector of the National Health Service, heavily penalized by the energy price increases that emerged all too clearly from the general rise in bill costs.

As regards the private component of the NHS, a specific survey carried out among AIOP members on over 200 facilities located throughout Italy, shows (Chart 2) a substantial invariance in the average consumption of electricity and gas between 2020 and 2022, yet show how the respective average costs obviously jump upwards starting from 2021, reaching an increase in 2022 that turns out to be about 3 times for electricity and 4.7 times for gas compared to the year 2020.

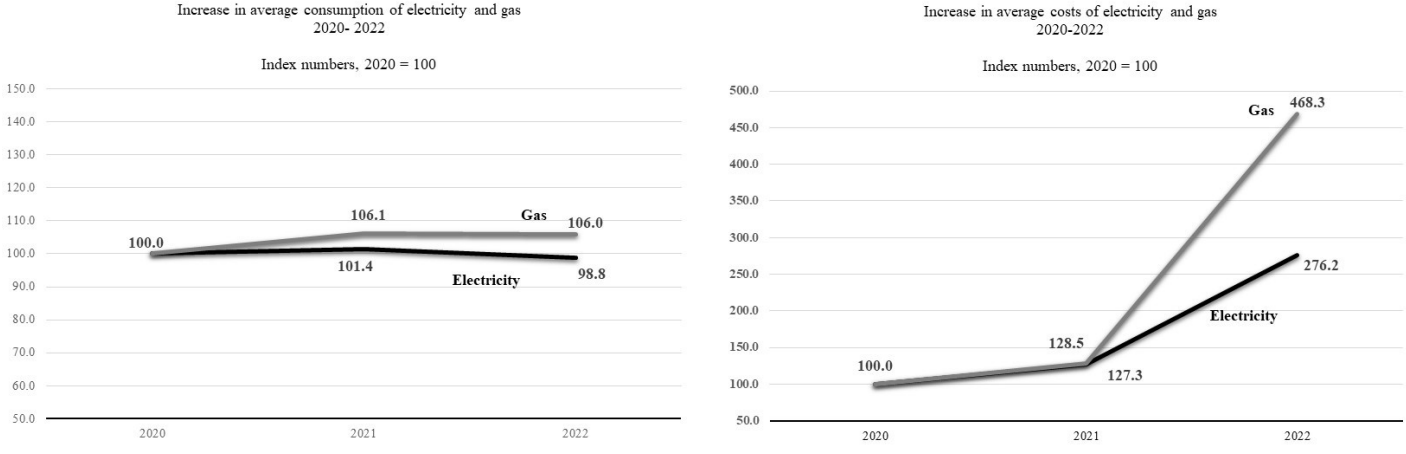
What happened from a regulatory point of view, however, is that a limit of 0.8% (referring to the spending cap assigned to each facility for 2022) was set to the one-off allowance that the Regions and the autonomous Provinces can disburse, using the resources allocated by the Aid Decree*ter,* to address energy shortages.

In reality, it would be necessary to eliminate this limit and endow the Regions with adequate planning autonomy that would allow for the distribution of the resources allocated to both types of hospital facilities, regardless of their different legal nature and by applying fair and proportional mechanisms with respect to consumption.

The considerations above make the evident echoes between the various problems mentioned of the accredited hospital facilities explicit enough to be able to trace the responses (or lack of responses) to a substantial "logic of limiting expenditure" rather than to a "logic of unifying the efforts" of both types of facilities in order to respond in the best possible way in terms of the most appropriate services possible for patients: in terms of quantity, quality and fair distribution of the same throughout the country.

In other words, a chain of reasoning prevails that still appears too "caught up in" by what was at the time defined in this Report as "Financial Healthcare" (aimed at placing spending at the center) to the detriment of "Real Healthcare" (which seeks to place patients, families, operators and citizens at the center). This inevitably leads to two consequences:

Chart 2 – Consumption and costs of electricity and gas in accredited hospitals. 2020-2022



Source: *AIOP - Survey on consumption and costs of electricity and gas in associated hospital centers, 2020-2022. October 2022*

– that of an implicit (and progressive) de facto rationing of the services offered to users as has already been particularly described in the 14th *Health & Hospitals/2016* Report;
– and that of a pressure to limit the spending for accredited private hospitals, given the difficulty of improving the efficiency of the expenditure on public hospitals for a variety of now well-known reasons (regulatory constraints, organizational rigidities, regulations relating to public employees, etc.), but also given the presence of a structural ambiguity in terms of the governance of the entire system: that of performing – as the National Health Service – the role of player and at the same time the role of referee, with the ensuing consequences.

It is therefore a chain of reasoning that runs the risk of recreating rather than remedying the discomforts of patients, who express (and will express) an increasingly broader and more evolved demand for services but with an obvious difficulty in responding by the National Health Service, while there remains an unexpressed potential for the provision of services which could be supplied by the accredited facilities and in particular by those that are members of the AIOP (an extremely strong potential, as mentioned previously).

It would thus be opportune to open a new season, based on a transformation of the traditional reasoning chain, which would require:

a) starting from the real situation of patients' needs which inevitably are and will continue to be expanding on account of the reasons already mentioned (progressive aging of the population, ongoing introduction of medical innovations and technological innovations, increase in information and the level of education, continuous increase of expectations, etc.), with the consequent need to acknowledge that both the logic of an impossible pursuit of needs "with no change to the organization of the system" and the logic of de facto (improper and unfair) rationing of services are failing;
b) recognizing that there is a robust "second tier" of accredited private facilities (which already at present provides a significant portion of in-hospital days), which are not fully utilized, despite being fully integrated into the National Health Service and despite having achieved increasingly better average levels of performance, including those relating to high complexity services, as well as growing treatment outcomes precisely in high and medium-high quality clinical areas (and these accredited facilities often have better results than the same public facilities);
c) choosing the path of a new Purpose-driven Alliance between public facilities and accredited facilities, starting precisely with the recouping of

ordinary services as yet not provided for both non-Covid patients and for former Covid patients, and this is true even more if we consider the positive balance of the collaboration provided to public hospitals by accredited hospitals during the first year of the pandemic: but it would be even more interesting to gradually transform the aforementioned Purpose-driven Alliance into a Structural Alliance that would not risk creating (very probable) new backlogs of services, by avoiding the failing approaches hitherto taken;

d) simultaneously acknowledging that there are qualitative differences in the performance and outcomes of care not only between public facilities and accredited facilities but also within the former as well as the latter. This would suggest creating a common evaluation system in three areas:
   - that of the trend in the level of complexity of hospital services (already encouraged by this Report);
   - that of the trend of the effective level of efficacy of the treatments (already activated and in development);
   - and that of the economic-managerial efficiency trend, operationally accompanying the public facilities towards the transparency and comparability of their Financial Statements up to their certifiability and certification (as legislation has already envisaged for some time).

   All of this would help to establish a truly "Competitive Alliance" system, acting to improve the overall National Health Service from its present condition and above all to help improve the services provided to patients;
e) finally, addressing the issue of sustainability and indeed of the medium-long term development of the economic-financial coverage of the universal and inclusive National Health Service that we enjoy and which serves all citizens without distinction, which now requires updated (and adequate) compensation schemes that are inspired by an inevitable, greater fairness and stability, namely:
   - to a necessary additional offsetting in terms of balancing tax revenues, considering that today the per capita health expenditure for each citizen is equal to approximately EUR 2,250 per year, while 49.2% of taxpayers do not declare any income and in compensation only 13% of taxpayers who receive an income of EUR 35,000 or more pay 70% of the personal income tax (Irpef)[2];

[2] See Cida and Itinerari Previdenziali which presented the Observatory dedicated to tax revenues and the financing of the social protection system on Dec. 1, 2022.

– and to an equally necessary offsetting in terms of balancing the provision of healthcare services, saving the more important ones and perhaps reducing the less important ones, as indeed already indicated by 77.1% of caregivers (as part of a survey specifically conducted again in the 13th *Health & Hospitals/2015* Report), when they declared that they "Very much + Quite agree" with the statement "It is important to preserve the health system we have today, even knowing that it will not be possible to give everything to everyone (because needs are increasing, because the population is getting old, because patient expectations are increasing, while public resources certainly do not expand accordingly)"; but also to agree equally in 70.5% of the cases with the fact that "It is important to explicitly promote a new welfare system that envisages public coverage, individual private insurance coverage, and collective corporate, professional or local insurance coverage, in order to create a more balanced situation between the growing needs of people and the possibility of giving fair and supportive responses as a whole".

In other words, the necessary rebalancing will have to identify the most appropriate and realistic "combination" of the two counterparts in order to rebalance a larger contribution, in terms of income tax, by those who at present do not pay a single euro or pay an unbelievably modest amount, on the one hand, and the definition of a new Health Pact which guarantees coverage of the most serious illnesses, but opens up (and indeed promotes) greater responsibility by people in finding, at least in part, supplementary insurance coverage for second-tier illnesses, on the other.

4.2. The effects of the intertwining of the "special needs" and "regular concerns" on the Income Statements of public Hospital Centers as seen through the usual annual monitoring

Assessing the trends in the Income Statements has been the practice since the *Health & Hospitals/2009* Report when what was then defined as the "implicit inefficiency rate" began to be measured and calculated in an aggregate manner at the level of the individual Regions. Then a more micro-approach was employed: this involved scrutinizing the trend of the Final Income Statements of the individual public Hospital Centers by making a comparison - year by year and from one year to the next - of the figures for Hospitalizations, on the one hand, and those of Revenues, Costs and Operating Results, on the other.

The purpose of this operation was, and is, to monitor the potential areas of inefficiency present in the Hospital Centers, which can subsequently be projected - through appropriate estimates - also on the directly managed public hospitals, which present different (and less stringent) methods for preparing their Financial Statements given that they fall within the broader framework of the reporting of their Local Health Authorities.

It should be pointed out that the need to achieve greater transparency and comparability of the Financial Statements is a topic widely recognized as fundamental, so much so that it has been regulated several times (in a particularly detailed manner through Legislative Decree 2011/118 and consequent provisions[3]). However, this need is still far from having been satisfied concretely and extensively within public healthcare facilities and achieving the certifiability and subsequent certification of their Financial Statements as envisaged by the legislation just mentioned.

With regard to the examination of the Income Statements, it should be borne in mind that the arrival of the pandemic required that extraordinary financial resources be allocated to cover local medical assistance needs and, in particular, hospital assistance with reference to Covid patients, acute and post-acute case as well as in sub-intensive and intensive care: and this happened in 2020 and, subsequently, in 2021 with specific DRGs also being defined. But alongside of the Covid patients and their needs, an "induced" consequence emerged that concerns non-Covid patients, who experienced the interruption/postponement of regular healthcare services (even for seri-

[3] For a more detailed examination of the subject see the *Health & Hospitals/2016* Report, Part One, Section 2.2, p. 93 et seq.

ous illnesses and urgent screenings), which prompted the Government to introduce additional funding in the amount of EUR 500 million in the 2022 Budget Law, earmarking these funds for the recouping of services not yet provided (resources which, moreover, it has not been possible to use satisfactorily for a complex series of reasons).

Added to all this are the well-known issues with the loss of medical and nursing personnel who, in the meantime, placed under stress, took the opportunity to retire on a normal and/or early basis. To these figures were also added a number of personnel opposed to the vaccine who were suspended from duty. All this forced the system to have to deal with new costs, including the hiring of temporary staff to deal with emergencies not only relating to Covid patients but also to non-Covid patients as well as the backing up of the Emergency Room.

To date, therefore, we have been faced with the need to respond to an (unfulfilled) demand for postponed and/or not yet fully recouped healthcare services, to which we have gradually added - starting from 2021 as well as continuing in 2022 - those of infected patients who have found themselves experiencing Long Covid, and therefore requiring additional ordinary services which, not infrequently, have simply multiplied those that were previously suspended in order to deal with the pandemic as a priority.

Furthermore, two issues closely linked to the flows of economic resources cannot be overlooked.

First of all, the topic of the (necessary) functional re-financing of the National Health Service should be recalled, after years of de-financing in various forms, starting from the years of the spending review. In fact, Italian public health spending decreased from 6.7% to 6.5% of GDP in 2017, remained unchanged in 2018, and then dropped to 6.4% in 2019, a year in which, moreover, the average of the G7 countries was 9.1% (and even 9.3% for France and 9.8% for Germany). And when the pandemic arrived (in 2020) it is true that Italy also jumped to 7.4% of GDP, but in the meantime the G7 countries went to 10.5% (France in particular 10.3% % and Germany 10.9%). In 2021, public health spending exceptionally reached EUR 127.8 billion, precisely due to the pandemic, an amount which, moreover, would reach as high as EUR 134.0 billion in 2022. But these resources are destined to gradually decrease in the years to come, down to EUR 130.7 billion in 2025, as envisaged by the 2023-2025 Budget Law. This will bring the ratio between public health expenditure and GDP back to 6.1% in three years, i.e. even below the 2019 level when this ratio was precisely 6.4%.

The second issue concerns the investments in health care of the PNRR, which would provide for the construction of a series of infrastructures (Com-

munity Homes, Family and Community Nurses, USCA - Special Non-Stop Assistance Service Units, Local Healthcare Operations Centers, Home Assistance services, Community Hospitals, Hospice care, Palliative Care Networks, IT Systems, Telemedicine, etc.). But all of this will entail – assuming that the aforementioned infrastructures are built – the hiring of a significant number of medical and nursing operators who, moreover, are already lacking today and who must therefore be replaced regardless of the new facilities envisaged by the PNRR itself. Hence some doubts, linked to the fact that the growth of new public facilities fails to adopt convincing management formulas that are actually capable of overcoming the inadequacies and levels of implicit inefficiency that they run the risk of replicating. The result could be that of a further subtraction of resources, aimed at fueling a growth - in any event difficult, given the scarce supply on the market - of public operators who would then be placed inside of a type of "add-on" apparatus, without being able to find the key to the organizational, procedural, and regulatory streamlining capable of making up for inefficiencies and delivering quality services to users.

All of this makes it all the more important to encourage a reorganization of the reporting system and the related transparency for the reasons that have often been mentioned here, such as:

- being able to assess how much the public hospital service really costs (because we are talking about this in particular), by carefully examining all the legitimate cost components, in relation to the services actually provided and their quality;
- being able to make the overall level of efficiency/inefficiency of the management of public hospitals clearer and more open so as to be able to compare the quality of the same with that of non-public facilities, since the average local data are misleading and end up underestimating the differences upwards (those to be commended) and downwards (those that need working on to improve their level);
- being able to intervene ex-ante and not always and only ex-post, when the effects of inefficient management (often built up over time) are actually seen, eventually making it necessary to place the entity under compulsory administration;
- being able to "free up" potential financial resources that a present remain locked within an inefficient *modus operandi*, whereas these resources should be better used to reorganize and equip the hospital facilities with respect to the needs that gradually emerge (even seeing to the regular maintenance and upkeep as well as repair of buildings and equipment);

– being able to apply a unitary logic to the compensation of hospital facilities, whether they are public or accredited private facilities, for the same services provided, given that today the latter are paid exclusively on the basis of the DRGs and have to cover not only their operating costs but also those of investment; whereas the former, in addition to covering operating costs, receive contributions to the capital account as well as contributions for contract renewals along with many other implicit forms of support (which often end up taking the form of actual ex-post balance sheet settlements, as has been described several 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.

Having thus defined the general reference framework this year as well, it is appropriate to mention what has been done operationally in terms of the assessment.

Once again, the Income Statements of 33 public Hospital Centers were taken into consideration, the distribution of which is as follows:
– 12 for the North (6 in Piedmont, 2 in Veneto and 4 in Emilia Romagna);
– 7 in the Center (2 in the 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 hospitals 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 9 fiscal years ranging from 2013 to 2021. Starting from these data Tables 21 and 22 show the decreases/increases with reference to three 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.
– and the one between 2020 and 2021, in order to measure the dynamics between the first and second year of the pandemic.

As regards first of all the Admissions, the following considerations can be put forward, starting from Table 21 (see the first three columns) which show:

a) the presence of a dual phenomenon is clear: that of a decrease in the number of Inpatient admissions in the years 2013-2019 and above all in the two-year period 2019-2020 (although for different reasons) and that of an upswing between 2020 and 2021.

   More precisely, in the first period (see the first column of Table 21) there was a decrease of -6.6% of the national average which, moreover, is the result:

   – of an average increase of 4.0% in Admissions in Hospital Centers in the North, especially bolstered by a couple of facilities in Piedmont, both of those present in the Veneto region and one in Emilia Romagna;
   – an average decrease of -12.1% in the Hospital Centers of Central Italy, with an almost generalized trend, but with Lazio reaching -18.0%;
   – and an equally significant average decrease in the South of -15.2% which was -30.7% for Apulia, -11.6% for Sicily and (only) -5.9% for Calabria.

   The trend towards a decrease in the number of Admissions in the first seven years indicated is the result of the de-hospitalization trend that has been witnessed throughout Italy for more than a decade as well as a process of negative health mobility that has particularly affected the Southern Regions due to decisions by the patients, arising from the long waits and above all from the search for services considered to be better in the hospital facilities of the North and Center.

   The accentuation of the negative trend in the number of Admissions between 2019 and 2020, amounting to -18.5% in just one year, as a national average (see the second column of Table 21), instead testifies to the initial impact of the pandemic, due to the extraordinary efforts made by the facilities for Covid patients, in the presence of still modest local healthcare responses and the lack of an anti-virus vaccine, but also (and above all) due to the interruption/postponement of services for non-Covid patients due to lack of staff and fear of spreading the infection (a fear which, in turn, affected the same non-Covid patients who often avoided accessing services within public facilities).

   The drop in the number of Admissions in one year, that between 2019 and 2020, affected all the Hospital Centers without distinction and manifested percentage incidences that are often much higher than in the 2013-2020 period (compare the second column with the first column of Table 21). Suffice it to consider that:

- the Northern Hospital Centers show a -13.7% drop in the number of inpatient Admissions in 2020 (but only -9.1% in the Veneto region), compared to an increase of +4.0% in the previous seven years;
- the Hospital Centers of Central Italy dropped to -23.2% compared to -12.1% in the 2013-2019 period;
- and finally, the Hospital Centers of Southern Italy show a decrease in Admissions equal to -22.2% in just one year compared to the -15.2% built up over the previous seven years.

The overall dynamic is therefore particularly pronounced, with an average decrease of -18.5% between 2019 and 2020 compared to -6.6% in 2013-2019: attesting to the effects of the impact of the emergency pandemic in the first 12 months, which caused an overload of assistance efforts aimed at Covid patients and at the same time an interruption/postponement of services intended for non-Covid patients.

Finally, if one considers the trend in the number of Inpatient admissions for the following year 2021 compared to 2019 (see the third column of Table 21), it is possible to see a national average increase equal to +6.5%, which was:

- +7.1% for Hospital Centers in North Italy;
- +5.9% for Hospital Centers in Central Italy;
- and +5.8% for Hospital Centers of the South.

The positive sign of a first, slow recovery of Inpatient admissions should be evaluated as an (at least partial) reabsorption of the previous demand for postponed ordinary services for non-Covid patients (even if linked to urgent hospitalizations and/or essential screening services for serious illnesses/operations) and also in part by the Covid patients.

A final consideration of the absolute values of the number of Hospitalizations deserves mention: these totaled 7,555,410 units in 2019, they fell by approximately 630,000 units in 2020, and then increased by approximately 483,000 units in 2021, still remaining below the 2019 level (see *Table App. 1 of Chapter 1 of the Appendices*, which shows the absolute values of the number of Admissions);

b) it is possible to identify an evident counter-trend when comparing the trends of Revenues with respect to Admissions, this is already evident in Table 21, last row, which shows a -6.6% drop in Admissions in the period 2013-2019 compared to a +15.1% drop in Revenues from health and social care services, a decrease of -18.5% in the number of Admissions between 2019 and 2020 compared to a decrease of the Revenues of -8.3% and yet an increase in the number of Admissions equal to 6.5% in 2021 compared to 2020, with a fairly consistent increase in Revenues this time, i.e. equal to 7.0%.

It should be noted that the Revenues from health and social care services represent on average 70% of the Total Revenues and therefore it is an item that "weighs" in a decisive manner on the Income Statements of the Hospital Centers and therefore it would be logical to detect a certain coherence between the dynamics of Admissions and the dynamics of Revenues.

Assuming an (obviously theoretical) logic of an ideal automatic convergence between the trend of Admissions and the trend of Revenues, the following explanatory Table 21A was constructed. It compares the three periods (2013-2019, 2019-2020 and 2020-2021), thus calculating the differences, more or less "unbalanced", between the dynamics of the latter compared to the dynamics of the former.

The situation, in the case of the first period, shows a sort of imbalance equal to 21.7 percentage points more for Revenues, acknowledged for public Hospital Centers, compared to the actual trend of Admissions, with some local differences which show (see the third column of Table 21A):

- the Northern Hospital Centers, which would have a theoretical benefit of 11.5 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 would thus paint a picture more virtuous for the Hospital Centers of the North (which show a more than virtuous case of the Veneto Region which even reverses the ratio: with an 18.8% increase in the number of Admissions compared to an increase only of 16.3% of Revenues), a slightly less virtuous picture for the Hospital Centers of the Center (23.5 percentage points more for Revenues than Admissions) and a particularly non-virtuous picture for the Hospital Centers of the South (with 32.0 percentage points more for Revenues compared to the trend of Admissions).

A similar exercise, applied this time to the two-year period 2019-2020, under the impact of the pandemic emergency, shows almost the entire trend of Admissions characterized by the "-" sign and the same is true for Revenues. But the difference, in terms of relative advantage for the Hospital Centers is less than in the previous seven years: in fact, the imbalance in favor of Revenues stands as a national average of 10.2 percentage points compared to 21.7 percentage points for the period 2013- 2019. Furthermore, these differences tend to see the trend between Revenues and Admissions come closer together, given that:

– the Hospital Centers of the North would show an imbalance of 8.3 percentage points compared to the 11.5 points in 2013-2019;
– the Hospital Centers of the Center would show an imbalance of 11.5 percentage points compared to the 23.5 points in 2013-2019;
– and the Hospital Centers of the South would show an imbalance of 11.4 percentage points compared to the 32.0 points in the previous seven years.

This situation reaffirms the presence of an adjustment of the dynamic between Revenues and Admissions, with a clear decrease in the latter, but with a consistent compensatory mechanism with respect to the sharply downward trend of Admissions. This was already widely evident also for the period 2013-2019 (compare the sixth column with the third column of Table 21A), without accounting for the fact that increase in Revenues relating to 2020 refers to only 1 year while those of the previous period refer to 7 years.

A similar exercise was also prepared for 2021 compared to 2020 (see the last three columns of Table 21A), showing how:

– the trend of Admission went to the positive for all the Hospital Centers (whereas in the previous case it had been marked almost solely by negative signs) and the same happens with the trend of Revenues, totally positive compared to the negative ones of 2019-2020;
– this means a +7.0% for Revenues from health and social care services compared to a 6.5% increase in Admissions, and thus with values very close (or slightly unbalanced) compared to previous cases in which the imbalance was much more pronounced: in the specific case it is 0.5 percentage points on average, at a national level (see the last column of Table 21A) compared to 0.2 percentage points for the Hospital Centers of the North, 0.6 points for the Hospital Centers of the Center and 1.0 percentage points for the Hospital Centers of the South;
– and that added to this are the three particularly "virtuous" situations concerning Emilia Romagna (with a more pronounced difference in Admissions compared to Revenues of 3.9 percentage points), Lazio (with a difference of 1.7 percentage points) and Calabria (with a gap of 6.6 percentage points).

Naturally, we must not forget that the more limited imbalances of 2021 regarding the trend of Revenues compared to the trend of Admissions are added to those which were instead very significant in 2020 (even if the additional costs that the facilities had to bear to address the extraordinary assistance needs of Covid patients must be taken into account) and in the period 2013-2019;

c) other types of "imbalances" also become evident if an exercise similar to that of point b) above is carried out, this time taking into account the second item of importance for Revenues, those for "by-function activities" which, in 2021, represented 29.0% of total Revenues. Table 21 (see the second page of the Table) shows how, at a national level, the aforementioned Revenues increased slightly in the period 2013-2019 (+2.0%), but exploded between 2019 and 2020 (+39.4%), to then decrease slightly between 2020 and 2021 (-5.7%).

A selection of data by Region and a comparison between the trend of "by-function activities" Revenues and the trend of the corresponding number of Admissions allows us to see how in 2013-2019 (see Table 21B):

- compared to a national average decrease of -6.6% in the number of Admissions, "by-function activities" Revenues increased by 2.0%, with peaks reaching 17.5% for the Hospital Centers of the North and a decrease for those of the Center (-3.6%) and the South (-9.2%);
- the number of Admissions increased to the extent of +4.0% for the Hospital Centers in the North, and instead decreased for the Hospital Centers in the Center (-12.1%) and for those in the South (-15.2%);
- the result, in terms of theoretical imbalance between the trend of Revenues from "by-function activities" and the trend of the number of Admissions (see the third column of Table 21B) is 8.2 percentage points as a national average, which however becomes 13.5 points for the Hospital Centers of the North, drops to 8.5 points for the Hospital Centers of the Center and 6.0 points for the Hospital Centers of the South (with three Regions expressing a "virtuous" trend compared to the others: that of the Veneto, the Marche and Calabria, for which the trend of Revenues for "by-function activities" is lower than the trend of Admissions).

If we then move on to the 2019-2020 period, we see an extraordinary expansion of Revenues for "by-function activities", equal to +39.4% on a national average (which evidently follows the impact of the virus) compared to a massive generalized decrease in the number of Admissions, equal to an average -18.5% (see the fourth and fifth column of Table 21B).

Table 21 – Increases/Decreases in Hospitalizations and Revenues of public Hospital Centers between 2013 and 2019, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)

Hospital Centers by Region	*INPATIENT AND DAY HOSP. ADMISSIONS*			*REVENUES FROM HEALTHCARE SERVICES AND HEALTH-RELATED SOCIAL HEALTH SERVICES AS PER THE IS (Cod. A0320)*			*REVENUES FROM CO-PAYMENT CHARGES FOR EXTERNAL SPECIALIST SERVICES AS PER THE IS (Code A0940)*			*REVENUES FROM FSR TRANSFER FOR "BY-FUNCTION" ACTIVITIES REPORTED ON THE IS (Code AA0030)*			*OTHER REVENUES AS PER THE IS*			*TOTAL REVENUES*		
	% Var. 13-19	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*
H.C. 1	-11.3	-4.1	8.4	16.6	-11.7	11.6	- 15.8	-41.4	-1.0	17.2	43.8	-2.1	0.9	20.2	125.2	15.4	2.8	12.7
H.C. 2	17.3	-11.0	-1.3	26.1	-14.9	14.9	- 6.8	-43.3	23.5	56.1	23.4	-8.2	8.9	-108.5	2,913.8	31.9	-7.5	15.0
H.C. 3	-1.2	-14.9	9.4	12.3	-14.1	15.7	2.2	-41.3	-0.1	16.5	36.0	-10.0	- 22.7	40.9	57.4	11.7	-2.7	9.3
H.C. 4	16.6	-19.3	7.0	20.1	-10.6	8.3	1.9	-37.5	13.6	20.0	28.7	2.8	- 8.0	8.2	90.7	18.8	0.5	8.9
H.C. 5	1.1	-16.6	14.4	6.2	-0.5	7.4	- 11.3	-42.2	7.8	28.5	28.1	-5.6	- 78.9	112.7	142.5	6.9	7.1	5.7
H.C. 6	-7.5	-17.4	8.9	7.2	-10.6	9.7	- 15.0	-44.4	4.3	-17.6	54.8	-6.6	10.1	-27.1	64.8	- 2.0	7.6	5.8
Total Piedmont	***-0.2***	***-15.3***	***7.6***	***12.8***	***-10.9***	***11.0***	***- 9.1***	***-42.5***	***8.1***	***1.4***	***42.1***	***-5.7***	***0.5***	***-24.2***	***106.4***	***8.3***	***2.7***	***8.4***
H.C. 7	13.6	1.2	0.7	8.6	12.6	3.7	28.5	-17.9	4.7	17.4	2.0	20.2	3.2	-1.2	8.5	10.0	9.2	6.7
H.C. 8	24.1	-18.8	4.6	24.5	-8.1	4.7	58.7	-28.6	4.9	9.8	11.4	2.4	48.2	87.7	46.0	22.9	-1.6	7.2
Total Veneto	***18.8***	***-9.1***	***2.5***	***16.3***	***1.9***	***4.2***	***41.5***	***-23.0***	***4.8***	***13.5***	***6.6***	***11.0***	***15.3***	***29.4***	***27.2***	***16.1***	***3.8***	***6.9***
H.C. 9	-9.1	-13.8	3.2	5.7	-10.0	11.1	- 5.9	-43.8	-2.2	53.3	41.9	-3.7	- 29.0	1,266.5	-80.5	8.9	62.0	-29.6
H.C. 10	40.1	-10.3	22.4	59.5	-1.4	-0.2	69.4	-41.7	38.9	88.6	44.2	2.7	57.8	84.8	19.5	63.2	11.4	3.1
H.C. 11	-11.8	-21.1	8.7	9.8	-4.0	8.8	- 11.9	-28.3	20.8	55.5	36.9	6.5	25.1	44.1	-9.4	17.0	7.5	6.2
H.C. 12	0.9	-10.2	2.2	10.0	-3.1	2.2	- 41.3	-30.4	18.9	117.1	15.0	-6.4	- 60.6	37.4	-24.1	7.3	4.1	-2.6
Total Emilia	***0.6***	***-14.7***	***9.8***	***17.9***	***-4.6***	***5.9***	***-7.0***	***-36.3***	***18.7***	***72.3***	***34.2***	***0.7***	***-14.4***	***236.1***	***-50.1***	***21.1***	***20.1***	***-6.8***
TOTAL NORTH	***4.0***	***-13.7***	***7.1***	***15.5***	***-5.4***	***7.3***	***1.8***	***-35.3***	***10.0***	***17.5***	***33.3***	***-1.4***	***-3.9***	***94.8***	***-16.4***	***14.3***	***8.9***	***2.3***
H.C. 13	15.6	-26.6	6.2	18.9	-13.2	10.1	15.4	-42.9	12.0	-21.2	36.5	-14.0	36.3	111.7	-17.7	9.2	1.7	1.3
H.C. 14	-3.3	-20.4	3.8	7.9	-11.3	10.3	6.8	-38.2	11.5	6.2	48.2	-1.4	62.6	67.6	-19.9	9.7	4.4	4.3
Total Marche	***3.3***	***-22.8***	***4.7***	***11.8***	***-12.0***	***10.2***	***10.4***	***-40.3***	***11.7***	***-5.7***	***43.9***	***-5.8***	***52.8***	***82.3***	***-19.1***	***9.5***	***3.4***	***3.2***
H.C. 15	-21.7	-8.7	0.4	- 3.2	-5.8	4.7	-36.7	-28.3	-20.2	-8.5	18.2	5.8	-42.9	7.0	61.7	- 7.7	-1.2	7.5
H.C. 16	14.1	-15.6	7.8	27.9	-4.1	-2.4	-14.8	-50.7	16.2	4.7	33.8	40.0	-19.9	27.0	5.3	18.8	1.8	4.8
H.C. 17	-21.3	-36.5	10.8	5.7	-16.0	5.3	-31.3	-52.8	-13.0	-11.1	51.1	-13.6	-21.0	12.6	36.6	- 0.6	-2.5	1.7
H.C. 18	-16.2	-21.7	4.9	22.6	-9.2	5.6	-3.0	-42.8	19.4	-2.0	82.5	16.9	7.2	13.3	-36.6	17.6	0.6	3.4
H.C. 19	-31.4	-30.2	11.0	24.7	-18.3	9.9	-30.7	-53.1	17.7	31.0	41.2	-19.4	-6.9	54.3	140.8	22.9	-7.5	9.2
Total Lazio	***-18.0***	***-23.4***	***6.5***	***11.8***	***-11.5***	***4.8***	***-26.2***	***-46.4***	***0.3***	***-2.4***	***42.0***	***-2.2***	***-20.2***	***18.3***	***30.9***	***6.2***	***-2.1***	***4.9***
Total CENTER	***-12.1***	***-23.2***	***5.9***	***11.8***	***-11.7***	***6.5***	***-19.1***	***-44.8***	***3.6***	***-3.6***	***42.7***	***-3.5***	***-6.3***	***38.2***	***10.4***	***7.2***	***-0.4***	***4.4***

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(Continued) *Table 21 – Increases/Decreases in Hospitalizations and Revenues of public Hospital Centers between 2013 and 2019, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)*

Hospital Centers by Region	*INPATIENT AND DAY HOSP. ADMISSIONS*			*REVENUES FROM HEALTHCARE SERVICES AND HEALTH-RELATED SOCIAL HEALTH SERVICES AS PER THE IS (Cod. A0320)*			*REVENUES FROM CO-PAYMENT CHARGES FOR EXTERNAL SPECIALIST SERVICES AS PER THE IS (Cod. A0940)*			*REVENUES FROM FSR TRANSFER FOR "BY-FUNCTION" ACTIVITIES REPORTED ON THE IS (Code AA0030)*			*OTHER REVENUES AS PER THE IS*			*TOTAL REVENUES*		
	% Var. 13-19	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*
H.C. 20	-36.0	-24.3	10.3	-2.5	-20.1	18.6	-10.8	-23.4	37.2	-4.3	19.3	-12.7	354.5	-25.3	161.0	1.7	-7.8	12.9
H.C. 21	-21.0	-23.4	10.3	2.9	-14.3	18.9	6.3	-43.0	27.3	-4.3	39.4	-16.2	184.1	-20.8	440.2	3.3	0.8	17.9
Total Apulia	***-30.7***	***-23.9***	***10.3***	***-0.6***	***-18.0***	***18.7***	***-5.3***	***-30.5***	***34.3***	***-4.3***	***25.9***	***-14.0***	***293.9***	***-24.1***	***235.7***	***2.2***	***-4.8***	***14.7***
H.C. 22	-11.9	-14.0	6.0	27.4	6.4	-17.1	-5.1	-56.6	12.6	-31.6	7.8	25.4	320.6	-52.8	100.2	4.4	3.0	-0.9
H.C. 23	2.7	-15.8	4.5	40.4	-0.1	4.5	0.7	-32.6	20.7	-41.1	12.2	57.8	79.3	-37.4	-2.0	8.2	0.6	17.4
H.C. 24	-1.5	-12.8	6.0	96.5	-1.0	8.0	0.7	-39.1	36.5	49.6	-11.5	60.0	-85.4	63.1	-123.2	47.7	-2.9	15.0
H.C. 25	-10.0	-15.3	10.5	46.7	-7.2	10.8	-7.3	-46.7	9.2	-18.4	-3.2	38.2	82.9	127.0	-126.9	21.8	-1.0	5.0
Total Calabria	***-5.9***	***-14.8***	***6.8***	***44.5***	***-0.6***	***0.6***	***-2.4***	***-42.7***	***21.0***	***-25.5***	***3.0***	***41.1***	***17.4***	***10.9***	***-71.2***	***15.2***	***0.3***	***8.0***
H.C. 26	-16.1	-17.0	13.2	15.3	-9.8	6.5	-6.9	-42.5	0.4	-11.1	55.1	-7.9	97.7	-76.8	379.6	8.9	3.9	5.4
H.C. 27	-14.0	-20.5	-1.1	17.3	-17.3	0.5	-1.7	-41.2	6.8	1.6	64.0	6.7	69.6	-56.5	100.9	14.3	2.1	5.5
H.C. 28	-13.4	-21.0	18.9	17.7	-8.4	15.0	-24.2	-53.9	15.3	0.9	47.5	-6.9	48.3	11.8	20.6	13.4	10.9	6.3
H.C. 29	-18.8	-34.3	10.0	1.3	-8.0	18.1	-23.8	-38.1	28.7	-27.7	34.7	-5.0	141.4	-100.8	5,522.4	- 7.9	-0.2	10.5
H.C. 30	28.0	-46.8	7.9	34.3	-16.3	12.6	-9.8	-46.2	9.0	15.0	124.4	-18.5	164.9	-70.0	315.8	32.2	17.9	1.9
H.C. 31	-24.0	-22.6	-1.4	10.1	-7.0	2.6	-13.2	-44.0	0.5	0.7	42.1	-10.5	40.6	-97.4	3,359.2	7.6	5.6	1.1
H.C. 32	-21.9	-15.4	5.7	6.6	-10.8	-21.5	-27.6	-37.2	121.5	-30.4	80.5	-71.5	-44.0	-41.6	-39.9	- 13.4	20.0	-48.1
H.C. 33	-4.2	-17.1	-25.4	26.2	-17.6	13.4	-13.5	-56.4	23.3	32.0	59.1	-6.9	-19.4	-40.4	181.4	24.4	6.4	7.8
Total Sicily	***-11.6***	***-24.4***	***3.8***	***16.1***	***-11.9***	***5.5***	***-15.7***	***-46.1***	***23.6***	***-5.7***	***61.5***	***-18.1***	***34.0***	***-47.3***	***99.9***	***8.7***	***9.0***	***-2.7***
Total SOUTH and ISLANDS	***-15.2***	***-22.2***	***5.8***	***16.8***	***-10.8***	***6.8***	***-10.0***	***-41.1***	***26.3***	***-9.2***	***44.8***	***-10.8***	***50.1***	***-35.0***	***91.1***	***8.4***	***4.5***	***2.5***
TOTAL ITALY	**-6.6**	**-18.5**	**6.5**	**15.1**	**-8.3**	**7.0**	**-6.5**	**-38.8**	**12.2**	**2.0**	**39.4**	**-5.7**	**8.1**	**43.1**	**3.8**	**10.9**	**5.7**	**2.8**

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table 21A – Comparison between the % of Revenues from Healthcare services and the % of Hospitalizations of public Hospital Centers by Region between 2013 and 2019, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)

	2013-2019			*2019-2020*			*2020-2021*		
Hospital Centers by Region	*Δ % Revenues from Healthcare services and Health-related social health services*	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Revenues from Healthcare services and Health-related social health services Δ Admissions*	*Δ % Revenues from Healthcare services and Health-related social health services*	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Revenues from Healthcare services and Health-related social health services Δ Admissions*	*Δ % Revenues from Healthcare services and Health-related social health services*	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Revenues from Healthcare services and Health-related social health services Δ Admissions*
Total Piedmont	12.8	-0.2	**13.0**	-10.9	-15.3	**4.4**	11.0	7.6	**3.4**
Total Veneto	16.3	18.8	**-2.5**	1.9	-9.1	**11.0**	4.2	2.5	**1.7**
Total Emilia Romagna	17.9	0.6	**17.3**	-4.6	-14.7	**19.3**	5.9	9.8	**-3.9**
TOTAL NORTH	**15.5**	**4.0**	**11.5**	**-5.4**	**-13.7**	**8.3**	**7.3**	**7.1**	**0.2**
Total Marche	11.8	3.3	**8.5**	-12.0	-22.8	**10.8**	10.2	4.7	**5.5**
Total Lazio	11.8	-18.0	**29.8**	-11.5	-23.4	**11.9**	4.8	6.5	**-1.7**
Total CENTER	**11.8**	**-12.1**	**23.5**	**-11.7**	**-23.2**	**11.5**	**6.5**	**5.9**	**0.6**
Total Apulia	- 0.6	-30.7	**30.1**	-18.0	-23.9	**5.9**	18.7	10.3	**8.4**
Total Calabria	44.5	-5.9	**50.4**	-0.6	-14.8	**14.2**	0.6	6.8	**-6.6**
Total Sicily	16.1	-11.6	**27.7**	-11.9	-24.4	**12.5**	5.5	3.8	**1.7**
Total SOUTH and ISLANDS	**16.8**	**-15.2**	**32.0**	**-10.8**	**-22.2**	**11.4**	**6.8**	**5.8**	**1.0**
TOTAL ITALY	***15.1***	***-6.6***	***21.7***	***-8.3***	***-18.5***	***10.2***	***7.0***	***6.5***	***0.5***

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

Table 21B – 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, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)

Hospital Centers by Region	*2013-2019*			*2019-2020*			*2020-2021*		
	Δ % Revenues from "by-function activities"	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Revenues from "by-function activities" and Δ Hospitalizations*	*Δ % Revenues from "by-function activities"*	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Revenues from "by-function activities" and Δ Hospitalizations*	*Δ % Revenues from "by-function activities"*	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Revenues from "by-function activities" and Δ Hospitalizations*
Total Piedmont	1.4	-0.2	**1.6**	42.1	-15.3	**57.4**	-5.7	7.6	**-13.3**
Total Veneto	13.5	18.8	**-5.3**	6.6	-9.1	**15.7**	11.0	2.5	**8.5**
Total Emilia Romagna	72.3	0.6	**71.7**	34.2	-14.7	**48.9**	0.7	9.8	**-9.1**
TOTAL NORTH	**17.5**	**4.0**	**13.5**	**33.3**	**-13.7**	**47.0**	**-1.4**	**7.1**	**-8.5**
Total Marche	-5.7	3.3	**-9.0**	43.9	-22.8	**66.7**	-5.8	4.7	**-10.5**
Total Lazio	-2.4	-18.0	**15.6**	42.0	-23.4	**65.4**	-2.2	6.5	**-8.7**
Total CENTER	**-3.6**	**-12.1**	**8.5**	**42.7**	**-23.2**	**65.9**	**-3.5**	**5.9**	**-9.4**
Total Apulia	-4.3	-30.7	**26.4**	25.9	-23.9	**49.8**	-14.0	10.3	**-24.7**
Total Calabria	-25.5	-5.9	**-19.6**	3.0	-14.8	**17.8**	41.1	6.8	**34.3**
Total Sicily	-5.7	-11.6	**5.9**	61.5	-24.4	**85.9**	-18.1	3.8	**-21.9**
Total SOUTH and ISLANDS	**-9.2**	**-15.2**	**6.0**	**44.8**	**-22.2**	**67.0**	**-10.8**	**5.8**	**-16.6**
TOTAL ITALY	***2.0***	***-6.6***	***8.2***	**39.4**	***-18.5***	***57.9***	***-5.7***	***6.5***	**-12.2**

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

And so it is evident that extraordinary funding granted to the Hospital Centers helped to respond, on the one hand to the needs of Covid patients and on the other, to the balancing of their Income Statements.
More precisely:

- the trend of Revenues for "by-function activities" compared to the overall average of +39.4%, dropped to +33.3% for the Hospital Centers of the North (but rose to 42.1% for Piedmont), it ranks at +42.7% for the Hospital Centers of the Center and at +44.8% for the Hospital Centers of the South, respectively (see the fourth column of Table 21B);
- while the trend in the number of Hospitalizations, which is equal to the -18.5% national average, decreased to -13.7% for the Hospital Centers in the North, rose to 23.2% for the Hospital Centers in the Center and to 22.2% for the Hospital Centers of Southern Italy (see the fifth column of Table 21B);
- consequently the theoretical imbalance between the trend of Revenues and the trend of Hospitalizations rises to the extraordinary level of 57.9 national average points which decreases to 47.0 for the Hospital Centers of the North (but is 57.4 for Piedmont), rises significantly to 65.9 percentage points for Hospital Centers in central Italy and 67.0 points for Hospital Centers in the South (albeit 85.9 points for Sicily), as shown in the sixth column of Table 21B.

Finally, there is the examination of the two-year period 2020-2021 which saw - as has already been shown in Table 21A - a return to the positive trend of Admissions, equal to +6.5% national average, which was +7.1% for the Hospital Centers of the North, +5.9% for the Hospital Centers of Central Italy and +5.8% for the Hospital Centers of the South (see the penultimate column of Table 21B).
Yet correspondingly, Revenues for "by-function activities" dropped to the extent of -5.7% on a national average, with more limited decreases for the Northern (-1.4%) and Central (-3.5%) Regions and with a more pronounced decrease for the Southern Regions (-10.8%), except for a particularly high positive increase in Revenues for Calabria (+41.1%!), as can be seen in the seventh column of Table 21B.
The theoretical imbalance between the trend of Revenues for "by-function activities" compared to that of Admissions (see the last column of Table 21B) has opposite characteristics compared to what occurred between 2019 and 2020 (see the sixth column of Table 21B): in the latter case due to large funding compared to a massive decrease in Admissions, while with a rebalancing in the opposite direction in the year 2021 (with

-12.2 percentage points for the national average result). Evidently the hospital impact of Covid patients played a significant role in 2020, the first year of the pandemic, while in 2021 there was a reversal of assistance largely on local medicine, thanks also to the protection offered by the wide-scale administration of the vaccine which drastically reduced the serious consequences of the infection on patients and therefore also inpatient admissions.

The intensity of the aforementioned rebalancing in the opposite direction was evident, compared to the national average of -12.2 percentage points, in particular for the Hospital Centers of the South with -16.6 percentage points (which also reach -24.7 points and -21.9 points for two Hospital Centers), with the exception of Calabria which instead saw the extraordinary increase of the imbalance for "by-function activities" to the extent of 34.3 percentage points. While the Hospital Centers of Central Italy show a rebalancing of -9.4 percentage points and those of the North -8.5 points (see the last column of Table 21B).

Therefore, the use made of Revenues for "by-function activities" is quite intuitive, indeed to bear up under the impact of the extraordinary expenses arising from the care of Covid patients, but also as an easy and immediate tool for any rebalancing of the Income Statements of the public Hospital Centers, especially in the South. In fact, the increase in Revenues for "by-function activities" in absolute values (see *Table App. 1 of Chapter 1 of the Appendices*) went from EUR 2.6 to 3.6 billion between 2019 and 2020, equal to +39.4%, while it fell to EUR 3.4 billion (a -5.7% drop) between 2020 and 2021.

At this point, the trend in the number of Admissions and the trend in Costs can be taken into consideration, bearing in mind that:

a) mainly that the data in absolute value shown in *Table App. 1 of Chapter 1 of the Appendices* make it possible to report the aforementioned comparison for all the various aggregate Cost items which show the following percentage incidences on the Total Costs in the two years indicated:

	2019	2021
– Purchase of Goods	25.6	29.3
– Non-healthcare Services	10.6	9.2
– Personnel	44.3	41.4
– Deferred Costs	2.3	3.2
– Other Costs	16.9	16.9

The following in-depth analysis on two specific Cost items, i.e. on the Purchase of Goods and on Other Costs, have been chosen as both have a significant weight on the Income Statements of the Hospital Centers as mentioned in point a) above, and furthermore between 2013 and 2021 the former grew by 42.1% and the latter by 23.8%, respectively, (as can be deduced from the data in absolute terms, shown in *Table App. 1 of Chapter 1 of the Appendices*);

b) if we look at Table 22A, the symmetry with Tables 21A and 21B above is evident, in the sense that the same type of exercise was carried out, based on a logic (theoretically desirable) of a potential convergence between the trend of Admissions and the trend of the two Cost items mentioned in point a) above.

Table 22A shows, first of all for the period 2013-2019, an over-developed trend of the Costs for the Purchase of Goods compared to the trend of the number of Admissions: +30.1% as the national average of the former compared to -6.6% as the national average of the latter; with peaks above the average for the Purchase of Goods in the Hospital Centers of the North (37.5%, moreover with 52.4% for Emilia Romagna) and in two Southern Regions, namely Calabria (45.1%) and Sicily (41.6%). Conversely, the trend in the number of Admissions tends to show lower or even reflect negative values (compare the data in the second column with those in the first column in Table 22A).

Therefore, the theoretical imbalance, expressed in percentage points, between the percentage trend of the Costs for the Purchase of Goods and Services and the trend of Admissions shows a value equal to 36.7 percentage points more than that theoretically conceivable, which is:

- 33.5 percentage points for the total of Hospital Centers in the North (but with 51.8 points for those in Emilia Romagna);
- 30.2 percentage points for the total of Hospital Centers in Central Italy;
- and a firm 44.1 percentage points for the Hospital Centers of the South (but with peaks of 51.0 percentage points for Calabria and 53.2 for Sicily).

Moving on to the analogous theoretical imbalance in percentage points between 2019 and 2020, it would be slightly more contained than in the previous seven years, but it is a period equal to only one year compared to the much longer period between 2013 and 2019. Furthermore, we can see very pronounced negative increases in the number of Admissions for all Hospital Centers. In any case, the percentage trend in the number of

Admissions is clearly negative (-18.5% at the national level). This last value, to be more precise (see the fifth column of Table 22A) shows:

- the Hospital Centers of the North decrease the number of Admissions by -13.7%;
- the Hospital Centers of the Center find themselves in an even worse position, with -23.2%;
- and finally, the Hospital Centers of the South settle at an almost similar value, equal to -22.2%.

At this point the theoretical imbalance, expressed in percentage points, between the increase in Costs for the Purchase of Goods and Services, on the one hand, and the increase in Admissions, on the other, shows a value equal to 29.4 percentage points on average nationally, very close to the 36.7% referred to in the previous lengthy period (compare the sixth and the third column of Table 22A). Here we can see:

- a more unbalanced situation for the Hospital Centers of the North (with 34.6 percentage points more, but with Emilia Romagna reaching 68.9 points);
- a slightly better situation for the Hospital Centers of the Center (with 22.0 percentage points more);
- and finally, a situation for the Hospital Centers of the South which approach, with their 27.0 percentage points more (and with 31.5 points for Sicily) the national average value of 29.4 points.

The Costs for the Purchase of Goods probably contributed to the theoretical imbalance just mentioned, which specifically had to do with the impact of the pandemic which saw the North in a particularly exposed position compared to the Center and the South in the year 2020.

Finally, what happened in 2021 compared to 2020, i.e. in the second year of the pandemic, needs to be examined. In this case:

- the percentage increase in Admissions is back to positive (+6.5% compared to -18.5% in 2020), while the Hospital Centers in the North, Center and South tend to converge (with 7.1%, 5.9% and 5.8%, respectively) as shown in the penultimate column of Table 22A;
- the Costs for the Purchase of Goods in turn change the dynamics, wherein the trend of the national average of -1.5% becomes -7.3% for the Hospital Centers of the North, +2.0% for the Hospital Centers of the Center and +5.9% for the Hospital Centers of Southern Italy (see the third-to-last column of Table 22A);
- consequently the theoretical imbalance (see the last column of Table 22A) tends to rebalance itself, even changing signs (from a negative to positive balance) with -8.0 percentage points as the national average

which is even -14.4 points for the Hospital Centers in the North, -3.9 points for those in the Center and +0.1 for those in the South.

In short, the expenses for the Purchase of Goods are rebalanced compared to 2020 and become a little more uniform among the Hospital centers (see the third-to-last column of Table 22A), except for the upward spike of Apulia (+11.3%) and the dip downward by Emilia Romagna (-24.2%, also due to the enormous increase of +54.2% in 2020);

c) in turn, Table 22B shows an over-developed trend of Other Costs, much more limited than that relating to Costs for the Purchase of Goods, at least for the period 2013-2019: with an average of 19.9 percentage points compared to the 36.7 for the Purchase of Goods (compare the third column of Table 22B with the third column of Table 22A).

While for the two-year period 2019-2020 it is 10.2 percentage points higher than the 29.4 points for the Purchase of Goods (compare the sixth column of Table 22B with the sixth column of Table 22A).

But behind the theoretical imbalance at a national level of +10.2 percentage points for 2020, there is the drastic decrease in the number of Admissions (-18.5%), which leads to a drop of -8.3% in expenses for Other Costs (see the fifth and fourth column of Table 22B).

These last considerations would perhaps require being able, a fortiori, to better examine the sub-items of Other Costs in order to also better understand the 2020-2021 dynamics.

In any case, with reference to the latter two years, the national average of 12.7 percentage points in excess sees:

- the Hospital Centers of the North slightly below, with 11.4 points;
- the Hospital Centers of the Center instead tend to double the number of percentage points more than the national average (23.0 compared to 12.7);
- while the Hospital Centers of Southern Italy are below the national average with 8.6 percentage points more compared to the 12.7 of the latter, likely recovering the excessive imbalance of the two-year period 2019-2020.

Thus, in the year 2021 all the Cost Items increase, achieving a figure of +4.6% in the case of Total Costs: except for the Purchase of Goods which stands at -1.5%, but with significant regional differences. Perhaps the situation that is not entirely clear is that of the Other Costs which instead shows a still substantial theoretical imbalance, with the need for a more in-depth analysis.

Table 22 – Increases/Decreases in Hospitalizations and Costs of public Hospital Centers between 2013 and 2019, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)

Hospital Centers	*INPATIENT AND DAY HOSPITAL ADMISSIONS*			*PURCHASE OF GOODS (Cod. BA010)*			*PURCHASE OF NON-HEALTHCARE SERVICES (Cod. BA1570)*			*PERSONNEL (Cod. BA2080)*			*DEFERRED COSTS (Cod.BA2690)*			*OTHER COSTS*			*TOTAL COSTS*		
	% Var. 13-19	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*
H.C. 1	-11.3	-4.1	8.4	47.8	0.3	6.4	8.9	-6.3	0.2	3.4	7.3	4.4	-75.1	301.4	32.6	6.8	-3.7	38.2	16.6	3.0	9.9
H.C. 2	17.3	-11.0	-1.3	57.4	8.7	0.9	29.0	0.7	-1.8	14.4	10.3	-0.3	-40.6	-42.9	318.6	33.0	-24.6	46.8	28.6	1.8	7.9
H.C. 3	-1.2	-14.9	9.4	29.5	6.0	-2.9	31.4	-0.1	4.0	4.2	4.2	1.0	-42.4	195.4	78.4	-1.1	-11.8	58.6	12.4	3.3	6.3
H.C. 4	16.6	-19.3	7.0	31.7	6.7	7.3	14.8	2.0	-2.9	9.9	6.2	0.3	-70.2	152.9	363.1	45.7	-6.1	18.8	19.9	4.2	7.4
H.C. 5	1.1	-16.6	14.4	19.9	23.4	0.7	94.0	0.4	-5.8	3.0	5.6	5.6	-20.1	-2.4	113.9	-49.5	60.0	-16.4	6.8	12.9	1.4
H.C. 6	-7.5	-17.4	8.9	21.2	0.2	6.4	-21.3	-6.1	-4.9	1.4	2.0	-1.1	28.7	42.6	16.9	15.8	-6.5	11.2	7.1	-0.1	3.5
Total Piedmont	***-0.2***	***-15.3***	***7.6***	***30.6***	***4.7***	***4.0***	***7.3***	***-2.1***	***-2.5***	***4.6***	***4.6***	***0.5***	***-6.3***	***48.2***	***54.1***	***14.6***	***-7.7***	***20.3***	***12.6***	***2.3***	***5.3***
H.C. 7	13.6	1.2	0.7	21.5	8.4	5.6	-24.2	17.7	13.0	6.3	25.0	2.4	-33.9	9.5	130.6	-7.4	2.7	26.9	4.2	14.4	10.6
H.C. 8	24.1	-18.8	4.6	48.1	3.6	3.2	-17.2	-5.9	21.0	0.1	5.1	5.7	265.5	43.4	9.2	35.3	1.4	9.2	18.3	4.2	6.9
Total Veneto	***18.8***	***-9.1***	***2.5***	***32.8***	***6.2***	***4.5***	***-20.4***	***4.4***	***17.1***	***3.1***	***14.9***	***3.9***	***28.8***	***29.6***	***50.8***	***10.6***	***2.0***	***17.8***	***10.8***	***9.2***	***8.8***
H.C. 9	-9.1	-13.8	3.2	25.9	200.0	-61.1	-16.3	15.1	-8.7	11.6	7.4	3.7	79.8	120.9	-64.5	5.9	5.0	8.2	11.1	59.5	-29.7
H.C. 10	40.1	-10.3	22.4	86.6	27.4	-7.8	106.3	-14.9	-0.3	12.0	58.9	5.8	2.9	13.9	-5.4	147.7	-37.7	24.2	68.2	9.1	4.6
H.C. 11	-11.8	-21.1	8.7	65.7	7.7	10.0	-1.0	6.5	8.3	3.9	6.5	7.8	8.8	-41.7	24.3	4.8	13.7	16.9	18.2	6.8	10.7
H.C. 12	0.9	-10.2	2.2	30.6	15.0	-2.5	3.6	-2.0	5.3	1.7	3.6	3.5	84.2	22.5	-8.7	-6.0	-4.8	18.0	7.0	4.3	4.3
Total Emilia	***0.6***	***-14.7***	***9.8***	***52.4***	***54.2***	***-24.2***	***15.1***	***-0.7***	***1.8***	***6.9***	***15.8***	***5.5***	***23.0***	***3.8***	***-17.5***	***29.2***	***-8.9***	***17.0***	***22.9***	***18.9***	***-3.9***
TOTAL NORTH	***4.0***	***-13.7***	***7.1***	***37.5***	***20.9***	***-7.3***	***2.6***	***-0.1***	***3.6***	***5.0***	***10.2***	***2.9***	***15.4***	***24.6***	***30.0***	***19.1***	***-6.3***	***18.5***	***15.4***	***9.6***	***2.7***
H.C. 13	15.6	-26.6	6.2	26.1	0.8	2.9	4.3	1.6	-3.7	3.0	1.3	0.1	3.3	46.5	1.8	10.8	-2.1	19.1	9.9	1.9	2.9
H.C. 14	-3.3	-20.4	3.8	32.4	-0.6	5.8	-10.7	1.1	0.2	6.7	5.3	1.7	-44.0	110.7	21.3	15.5	-7.6	16.8	12.8	2.6	5.8
Total Marche	***3.3***	***-22.8***	***4.7***	***30.3***	***-0.2***	***4.8***	***-3.3***	***1.3***	***-1.9***	***5.2***	***3.8***	***1.1***	***-27.4***	***78.5***	***13.3***	***14.0***	***-5.9***	***17.6***	***11.7***	***2.4***	***4.7***
H.C. 15	-21.7	-8.7	0.4	-2.4	4.9	4.7	-40.6	29.5	14.5	-8.1	2.3	-1.1	-16.2	53.7	82.5	-23.2	-10.0	10.4	-13.1	3.8	5.5
H.C. 16	14.1	-15.6	7.8	55.8	5.2	-5.3	-0.5	2.7	4.0	-1.1	8.2	3.7	-0.9	36.9	33.1	-15.0	1.2	-0.1	5.9	6.6	2.0
H.C. 17	-21.3	-36.5	10.8	6.6	-4.2	-0.2	2.7	5.2	0.8	66.0	2.2	-6.6	-67.6	10.9	9.5	-50.0	-24.2	97.3	-1.6	-2.9	7.7
H.C. 18	-16.2	-21.7	4.9	50.4	-5.8	-2.8	-18.9	-0.2	7.7	7.2	13.4	0.0	119.8	-13.5	32.6	-30.4	-6.1	17.4	9.3	2.0	2.6
H.C. 19	-31.4	-30.2	11.0	2.9	-3.2	6.3	0.1	-4.4	8.7	25.0	9.2	9.9	37.1	100.6	18.5	-27.2	-2.8	26.1	-1.7	1.3	12.1
Total Lazio	***-18.0***	***-23.4***	***6.5***	***13.9***	***-1.7***	***0.9***	***-11.5***	***5.9***	***6.2***	***12.3***	***5.5***	***-0.5***	***-40.7***	***28.0***	***35.3***	***-33.6***	***-10.2***	***33.4***	***-2.3***	***1.5***	***6.2***
CENTRAL Total	***-12.1***	***-23.2***	***5.9***	***18.1***	***-1.2***	***2.0***	***-9.9***	***4.9***	***4.6***	***10.2***	***5.0***	***-0.1***	***-37.9***	***40.2***	***28.5***	***-25.1***	***-9.1***	***28.9***	***1.2***	***1.7***	***5.8***

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(Continued) *Table 22 – Increases/Decreases in Hospitalizations and Costs of public Hospital Centers between 2013 and 2019, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)*

Hospital Centers	*INPATIENT AND DAY HOSPITAL ADMISSIONS*			*PURCHASE OF GOODS (Cod. BA010)*			*PURCHASE OF NON-HEALTHCARE SERVICES (Cod. BA1570)*			*PERSONNEL (Cod. BA2080)*			*DEFERRED COSTS (Cod.BA2690)*			*OTHER COSTS*			*TOTAL COSTS*		
	% Var. 13-19	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*	*% Var. 13-19*	*% Var. 19-20*	*% Var. 20-21*
H.C. 20	-36.0	-24.3	10.3	-10.4	-5.9	17.2	-8.9	9.4	11.2	4.2	4.6	9.9	-11.8	50.9	24.0	48.5	-9.0	13.7	2.5	0.6	12.9
H.C. 21	-21.0	-23.4	10.3	-0.5	8.2	1.5	3.7	23.5	9.5	11.0	24.6	12.6	-25.1	54.3	72.1	8.2	3.3	72.3	5.9	17.8	15.6
Total Apulia	***-30.7***	***-23.9***	***10.3***	***-7.3***	***-1.1***	***11.3***	***-4.9***	***14.2***	***10.5***	***6.6***	***12.1***	***11.0***	***-15.3***	***51.7***	***35.3***	***36.0***	***-6.0***	***29.5***	***3.6***	***6.4***	***13.9***
H.C. 22	-11.9	-14.0	6.0	39.9	-6.6	5.3	-17.8	1.1	10.5	-2.9	0.2	2.0	242.8	-23.5	42.7	38.6	-17.2	35.2	11.1	-4.1	7.7
H.C. 23	2.7	-15.8	4.5	24.6	6.5	9.6	2.9	-0.5	8.5	9.7	4.9	-0.3	-43.6	2,662.9	-69.7	26.7	58.9	-41.8	12.9	21.1	-9.3
H.C. 24	-1.5	-12.8	6.0	58.2	13.6	7.0	10.8	-0.8	9.0	23.9	6.9	4.0	208.2	66.6	-6.8	1,021.4	-77.4	-1.8	143.5	-28.2	3.0
H.C. 25	-10.0	-15.3	10.5	61.7	2.9	4.2	13.5	-0.5	0.7	13.0	2.2	0.1	-85.6	117.6	291.7	22.9	-24.4	13.0	23.6	-0.6	4.1
Total Calabria	***-5.9***	***-14.8***	***6.8***	***45.1***	***3.1***	***6.3***	***-1.6***	***-0.0***	***7.1***	***7.9***	***3.0***	***1.0***	***102.6***	***112.2***	***-20.0***	***176.0***	***-45.3***	***-7.2***	***31.7***	***-2.7***	***0.8***
H.C. 26	-16.1	-17.0	13.2	25.3	3.8	-1.2	12.6	0.9	18.4	4.0	2.1	-0.5	-10.7	20.2	75.5	13.4	36.5	-2.4	11.1	7.8	3.4
H.C. 27	-14.0	-20.5	-1.1	46.6	6.1	-4.4	0.8	9.7	2.2	7.6	1.2	-5.6	-24.7	26.1	42.0	14.5	-9.5	56.0	16.0	2.3	4.5
H.C. 28	-13.4	-21.0	18.9	43.1	7.0	5.9	6.4	3.6	17.9	2.9	6.8	3.9	-50.5	187.6	8.1	12.6	13.5	10.1	15.7	9.4	6.9
H.C. 29	-18.8	-34.3	10.0	35.3	8.3	19.5	-5.2	-20.9	15.8	-21.0	0.7	0.9	0.3	17.1	-16.9	-2.2	17.7	-4.0	-6.5	3.1	6.1
H.C. 30	28.0	-46.8	7.9	89.6	14.3	16.7	-1.9	3.9	13.1	-5.0	6.8	7.5	-65.7	490.5	12.7	152.2	-20.1	21.5	30.9	8.7	13.6
H.C. 31	-24.0	-22.6	-1.4	30.4	13.2	-10.5	2.3	8.0	17.4	-1.2	2.7	3.4	64.5	2.3	20.0	16.0	-4.3	12.6	10.5	5.6	1.6
H.C. 32	-21.9	-15.4	5.7	23.2	-1.8	4.0	-35.2	4.8	6.0	-6.6	2.4	3.5	-43.4	169.6	-9.8	44.2	-6.1	21.3	2.9	3.4	6.0
H.C. 33	-4.2	-17.1	-25.4	52.5	5.8	8.4	17.2	15.4	22.2	12.2	7.1	12.4	-2.1	156.8	-30.4	12.5	-7.1	5.9	24.0	6.5	8.1
Total Sicily	***-11.6***	***-24.4***	***3.8***	***41.6***	***7.1***	***4.1***	***-1.9***	***3.8***	***14.6***	***-1.5***	***3.6***	***2.8***	***-21.1***	***92.7***	***8.2***	***25.6***	***0.3***	***14.7***	***12.7***	***6.1***	***6.2***
Total SOUTH and ISLANDS	***-15.2***	***-22.2***	***5.8***	***28.9***	***4.8***	***5.9***	***-2.7***	***5.6***	***12.0***	***2.0***	***5.3***	***4.2***	***-2.8***	***93.1***	***1.9***	***45.9***	***-11.3***	***14.4***	***14.1***	***4.3***	***6.8***
TOTAL ITALY	**-6.6**	**-18.5**	**6.5**	**30.1**	**10.9**	**-1.5**	**-1.9**	**2.7**	**6.5**	**5.0**	**7.5**	**2.7**	**-8.6**	**51.8**	**17.4**	**13.3**	**-8.3**	**19.2**	**11.8**	**6.2**	**4.6**

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

Table 22A – Comparison between the % of Costs for the Purchase of Goods and the % of Hospitalizations of public Hospital Centers by Region between 2013 and 2019, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)

Hospital Centers by Region	*2013-2019*			*2019-2020*			*2020-2021*		
	Δ % Costs for the Purchase of Goods	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Costs for the Purchase of Goods and Δ Hospitalizations*	*Δ % Costs for the Purchase of Goods*	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Costs for the Purchase of Goods and Δ Hospitalizations*	*Δ % Costs for the Purchase of Goods*	*Δ Number of Admissions %*	*Theoretical imbalance in percentage points between Δ Costs for the Purchase of Goods and Δ Hospitalizations*
Total Piedmont	30.6	-0.2	**30.8**	4.7	-15.3	**20.0**	4.0	**7.6**	**-3.6**
Total Veneto	32.8	18.8	**14.0**	6.2	-9.1	**15.3**	4.5	**2.5**	**2.0**
Total Emilia Romagna	52.4	0.6	**51.8**	54.2	-14.7	**68.9**	-24.2	**9.8**	**-14.4**
TOTAL NORTH	**37.5**	**4.0**	**33.5**	**20.9**	**-13.7**	**34.6**	**-7.3**	**7.1**	**-14.4**
Total Marche	30.3	3.3	**27.0**	-0.2	-22.8	**22.6**	4.8	**4.7**	**0.1**
Total Lazio	13.9	-18.0	**31.9**	-1.7	-23.4	**21.7**	0.9	**6.5**	**-5.6**
Total CENTER	**18.1**	**-12.1**	**30.2**	**-1.2**	**-23.2**	**22.0**	**2.0**	**5.9**	**-3.9**
Total Apulia	-7.3	-30.7	**23.4**	-1.1	-23.9	**22.8**	11.3	**10.3**	**1.0**
Total Calabria	45.1	-5.9	**51.0**	3.1	-14.8	**17.9**	6.3	**6.8**	**-0.5**
Total Sicily	41.6	-11.6	**53.2**	7.1	-24.4	**31.5**	4.1	**3.8**	**0.3**
Total SOUTH and ISLANDS	**28.9**	**-15.2**	**44.1**	**4.8**	**-22.2**	**27.0**	**5.9**	**5.8**	**0.1**
TOTAL ITALY	***30.1***	***-6.6***	***36.7***	***10.9***	***-18.5***	***29.4***	***-1.5***	***6.5***	***-8.0***

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

Table 22B – Comparison between the % of Other Costs and the % trend of Hospitalizations of public Hospital Centers by Region between 2013 and 2019, between 2019 and 2020 (first year of the pandemic), as well as between 2020 and 2021 (second year of the pandemic) (% val.)

Hospital Centers by Region	*2013-2019*			*2019-2020*			*2020-2021*		
	Δ % Other Costs	*Δ Number of Admissions %*	*Imbalance in percentage points between Δ Other Costs and Δ Hospitalizations*	*Δ % Other Costs*	*Δ Number of Admissions %*	*Imbalance in percentage points between Δ Other Costs and Δ Hospitalizations*	*Δ % Other Costs*	*Δ Number of Admissions %*	*Imbalance in percentage points between Δ Other Costs and Δ Hospitalizations*
Total Piedmont	14.6	-0.2	**14.8**	-7.7	-15.3	**7.6**	20.3	**7.6**	**12.7**
Total Veneto	10.6	18.8	**-8.2**	2.0	-9.1	**11.1**	17.8	**2.5**	**15.3**
Total Emilia Romagna	29.2	0.6	**28.6**	-8.9	-14.7	**5.8**	17.0	**9.8**	**7.2**
TOTAL NORTH	**19.1**	**4.0**	**15.1**	**-6.3**	**-13.7**	**7.4**	**18.5**	**7.1**	**11.4**
Total Marche	14.0	3.3	**10.7**	-5.9	-22.8	**16.9**	17.6	**4.7**	**12.9**
Total Lazio	-33.6	-18.0	**-15.6**	-10.2	-23.4	**13.2**	33.4	**6.5**	**26.9**
Total CENTER	**-25.1**	**-12.1**	**-13.0**	**-9.1**	**-23.2**	**14.1**	**28.9**	**5.9**	**23.0**
Total Apulia	36.0	-30.7	**66.7**	-6.0	-23.9	**17.9**	29.5	**10.3**	**19.2**
Total Calabria	176.0	-5.9	**181.9**	-45.3	-14.8	**-30.5**	-7.2	**6.8**	**-0.4**
Total Sicily	25.6	-11.6	**37.2**	0.3	-24.4	**24.7**	14.7	**3.8**	**10.9**
Total SOUTH and ISLANDS	**45.9**	**-15.2**	**61.1**	**-11.3**	**-22.2**	**10.9**	**14.4**	**5.8**	**8.6**
TOTAL ITALY	***13.3***	***-6.6***	***19.9***	***-8.3***	***-18.5***	***10.2***	***19.2***	***6.5***	***12.7***

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

In conclusion, the assessment made in this Section 3.2 took into consideration the trend of the Income Statements of the public Hospital Centers, including from the point of view of the Operating results, with reference to the years from 2013 to 2021. In this regard it can be observed that (see Table 23):

a) the relationship between Revenues and Costs always closes in perfect equilibrium in three Regions as has largely been true over the last nine years. This situation affects all the Hospital Centers in Emilia Romagna, the Marche and Sicily (the loss of EUR 50.7 million in 2019 by the Hospital Centers of the latter region was initially reported in the preliminary balance, whereas the final balance saw a return to balance following greater recognition of Revenues from "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 necessarily mean that "improper" solutions were found to rectify the Losses. Nevertheless, it is evident that, if compensatory support interventions of various kinds were carried out, this has often occurred by making use of the Revenue item of "by-function activities";
b) in the other Regions compared to the three mentioned in point a) an effort was made which has led over time to progressively reduce the Losses, which however affect the various Regions and individual Hospital Centers in a different way. Piedmont, for example, highlights the important effort, in particular in one Hospital Center that reported increasing losses between 2013 and 2014, then a drop in the same for 2015 and 2016, and then reported a new significant increase in Losses, especially in 2018 and above all in 2019, achieving a significant decrease of these in 2020 and zeroing them out in 2021;
c) the Veneto Region made a significant and "steady" return starting from the Losses in 2013 up to the total zeroing out in 2017, following again in 2018 and in 2019, and then reporting a negative result for 2020 and 2021;
d) the two Hospital Centers in Apulia show a different situation, in which the first began to show losses in 2015 and which, except for some reductions, gradually increased until 2021; while the second remained in balance between 2013 and 2019 except for Losses for 2020 and 2021;
e) then there is the case of Calabria, whose four Hospital Centers started with a Loss in 2013 which gradually increased and then subsequently decreased over time, to then pick up in the years 2019-2020 and go down again in 2021;
f) the Lazio Region, in turn, shows a picture of constant Losses over the course of all Fiscal Years (from 2013 to 2021), although the effort made

to bring about a return of all Hospital Centers appears quite evident: with a gradual reduction in Losses between 2013 and 2021, except for a further lunge towards the negative following the tensions generated by the pandemic in the last two years.

At this point, in conclusion, it may be recognized that the overload of assistance needs experienced in the last three years has put all healthcare facilities under stress, adding to the problems already present before the arrival of Covid-19 those specific to the latter. So what is important is to work steadily, not just to provide quality services in reasonable time frames equally throughout the entire country, but also to exert appropriate control over the related Costs, also in terms of reporting. This is needed to improve the transparency of the Financial Statements and to arrive at a more even monitoring of the situation in both ordinary circumstances and - even more so - for extraordinary situations such as that of the pandemic.

Furthermore, it will also be necessary to more carefully report on the accounting consequences of the investments promoted by the European resources of the PNRR, aimed at improving facilities, equipment, technological systems, and qualification of human resources: with the awareness that by now even the pandemic seems to have gradually become endemic, and the needs of patients - whether infected or not - have assistance needs that require previously postponed services to be provided along with the provision of new ones as they gradually become necessary.

Table 23 – Operating results of the Hospital Centers in the nine years considered (in thousands of euros)

Hospital Centers	*Operating result as per IS (A.V.)*								
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*
H.C. 1	0	- 10,147	- 7,716	0	1,926	0	0	- 6,603	0
H.C. 2	- 5,990	- 12,852	- 18,864	- 6,428	- 2,406	-	1,814	- 19,419	- 9,004
H.C. 3	0	- 5,619	0	0	0	1,156	-	- 13,741	- 5,802
H.C. 4	0	- 5,737	- 4,486	0	1,180	-	-	- 13,978	- 9,135
H.C. 5	0	- 8,432	- 6,568	0	- 1,495	- 3,818	511	- 12,963	- 4,258
H.C. 6	- 12,750	- 30,648	- 15,081	- 11,040	- 17,478	- 120,997	- 102,504	- 31,338	0
Total Piedmont	***- 18,740***	***- 73,435***	***- 52,715***	***- 17,468***	***- 18,273***	***- 123,659***	***- 100,179***	***- 98,042***	***- 28,199***
H.C. 7	- 25,609	- 22,835	- 17,047	- 10,491	0	0	5,637	- 24,375	- 56,745
H.C. 8	- 24,950	- 13,451	1,000	0	0	0	1,425	- 33,486	- 37,982
Total Veneto	***- 50,559***	***- 36,286***	***- 16,047***	***- 10,491***	***-***	***-***	***7,062***	***- 57,861***	***- 94,727***
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
Total Emilia	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
TOTAL NORTH	***- 69,299***	***- 109,721***	***- 68,762***	***- 27,959***	***- 18,273***	***- 123,659***	***- 93,117***	***- 155,903***	***- 122,926***
H.C. 13	-	0	0	0	0	0	0	0	0
H.C. 14	-	0	0	0	0	0	0	0	0
Total Marche	***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	- 134,586
H.C. 16	- 91,594	- 102,291	- 98,853	- 81,733	- 83,599	- 77,401	- 57,726	- 83,397	- 78,955
H.C. 17	- 77,273	- 74,610	- 92,543	- 140,252	- 104,166	- 87,743	- 88,327	- 92,648	- 127,149
H.C. 18	- 102,291	- 53,708	- 54,160	- 49,108	- 41,510	- 40,432	- 48,230	- 51,327	- 49,325
H.C. 19	- 55,349	- 73,601	- 62,567	- 41,794	- 24,902	- 19,500	- 19,589	- 34,213	- 47,347
Total Lazio	***- 477,781***	***- 462,842***	***- 469,922***	***- 468,605***	***- 384,889***	***- 341,390***	***- 327,591***	***- 394,533***	***- 437,362***
Total CENTER	***- 477,781***	***- 462,842***	***- 469,922***	***- 468,605***	***- 384,889***	***- 341,390***	***- 327,591***	***- 394,533***	***- 437,362***

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(Continued) *Table* 23 – *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*	*2021*
H.C. 20	0	0	- 28,102	- 19,736	- 9,740	- 41,114	- 14,876	- 61,644	- 62,154
H.C. 21	0	0	0	0	0	0	0	- 45,316	- 46,860
Total Apulia	***-***	***-***	***- 28,102***	***- 19,736***	***- 9,740***	***- 41,114***	***- 14,876***	***- 106,960***	***- 109,014***
H.C. 22	- 4,584	- 6,007	- 1,880	0	0	0	- 12,231	- 666	- 15,756
H.C. 23	- 1,682	- 3,764	- 2,265	0	- 12,930	- 27,743	- 14,544	- 54,257	5,186
H.C. 24	- 15,516	- 14,562	- 29,858	- 42,000	- 12,319	- 20,942	- 101,787	- 72,371	- 22,550
H.C. 25	-	- 17,377	- 20,279	0	0	0	0	-	0
Total Calabria	***- 21,782***	***- 41,710***	***- 54,282***	***- 42,000***	***- 25,249***	***- 48,685***	***- 128,562***	***- 127,294***	***- 33,120***
H.C. 26	0	0	0	0	0	0	0	0	0
H.C. 27	0	0	0	0	0	0	0	0	0
H.C. 28	0	788	0	0	0	0	0	0	0
H.C. 29	0	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	0
H.C. 32	0	0	0	0	0	0	- 50,699	0	0
H.C. 33	0	2209	0	1120	0	1,666	0	0	0
Total Sicily	***-***	***5,453***	***2,680***	***1,120***	***-***	***1,666***	***- 50,699***	***-***	***-***
Total SOUTH and ISLANDS	***- 21,782***	***- 36,257***	***- 79,704***	***- 60,616***	***- 34,989***	***- 88,133***	***- 194,137***	***- 234,254***	***- 142,134***
TOTAL ITALY	**- 568,862**	**- 608,820**	**- 618,388**	**- 557,180**	**- 438,151**	**- 553,182**	**- 614,845**	**- 784,690**	**- 702,422**

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2020*

Part Two

Statistical Indicators

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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 2010-2020. Processing the information available in this area of the ministerial portal, shows substantial stabilization with respect to the gradual reorganization of the Italian hospital and care institutions which, since 2004, has largely affected the entirety of the public 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 2020 indicate a halt to the reduction of the presence of hospitals directly managed by local health authorities and accredited hospitals. Compared to 2016, the new reference year for the data presented, it can be seen that the total of public and private healthcare institutions decreased from 1,034 to 999 units in 2020, a total reduction of -3.4%. 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 (-5.8%), 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 -5.2%, %, although it must be pointed out that there are more reconversions of types or aggregations than of real divestment;
– 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 492 units in 2016 to 485 in 2020 (-1.4%).

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 43.3% for the former and 56.7% 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. This is a more analytical comparison, which considers the real public or private nature of the hospital institutions.

Considering the ratio of public/private institutions from Region to Region as reported in the data for 2020, 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, in Friuli Venezia Giulia, Sardinia, 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 and Sicily.

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 2020, the hospital system had more than 184,000 patient beds available for inpatient-admission services, with a rather steady composition over time of 69.6% from public facilities and 30.4% 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 2022, whereas Table S/6, on the other hand, offers a comparison limited to 2020 with respect to the smaller non-associated accredited components. 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'.

In 2022, regional distribution of NHS-accredited AIOP-associated institutions shows a concentration, in terms of the most prevalent nosological classifications, especially in (Table S/7):

- multi-specialist (175 out of 510 institutions);
- assisted living homes (*R.S.A.*, *Residenze Sanitarie Assistenziali*) (144 out of 510 institutions).
- rehabilitation (65 out of 510 institutions);
- surgical (64 out of 510 institutions);
- neuro-psychiatry (27 out of 510 institutions);
- long-stay care (19 out of 510 institutions);
- medical (16 out of 510 institutions).

If we consider the different types of activities (see Tables S/8 and S/9), also belonging to the AIOP-associated institutions (2022), 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. There is also a large and significant amount for highly specialized areas (almost 950 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 2020. As can be seen, Italian hospitals are endowed with an extensive amount of technological equipment that supports and qualifies their activity and which in most regions makes a decisive contribution also in terms of local specialist assistance. 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”. Among other things, it should be specified that even in this type of classification of healthcare institutions, as well as for other ministerial statistics on activity data, part of the public endowments are attributable to private facilities (the so-called assimilated public institutions in fact also include private IRCCS, private ASL facilities, private university polyclinics, and religiously-affiliated classified institutes).

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 (i.e. accredited healthcare facilities) 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

	2016		*2017*		*2018*		*2019*		*2020*	
	A.V.	*%*	*A.V.*	*%*	*A.V.*	*%*	*A.V.*	*%*	*A.V.*	*%*
– Hospital Centers	57	5.5	55	5.5	53	5.3	53	5.3	53	5.3
– Directly managed hospitals	347	33.6	327	32.5	327	32.7	329	33.0	327	32.7
– Hospital Centers integrated with the NHS	9	0.9	9	0.9	9	0.9	9	0.9	9	0.9
– Hospital Centers integrated with universities	18	1.7	16	1.6	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
– Institutes for Treatment and Research	63	6.1	63	6.3	63	6.3	63	6.3	63	6.3
– Religiously-affiliated classif. hospitals	26	2.5	27	2.7	28	2.8	28	2.8	28	2.8
– Institutes-ASL Facilities	18	1.7	17	1.7	14	1.4	14	1.4	13	1.3
– Research facilities	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2
Total public and assimilated institutions	*542*	*52.4*	*518*	*51.5*	*515*	*51.5*	*517*	*51.9*	*514*	*51.5*
– Accredited hospitals (1)	492	47.6	487	48.5	485	48.5	480	48.1	485	48.5
Grand Total	*1,034*	*100.0*	*1005*	*100.0*	*1000*	*100.0*	*997*	*100.0*	*999*	*100.0*

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.
Source: *processing based on data from the Ministry of Health - Open Data 2016-2020*

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

	2017/2016	*2018/2017*	*2019/2018*	*2020/2019*	*2020/2016*
– Hospital Centers	-3.5	-3.6	0.0	0.0	-7.0
– Directly managed hospitals	-5.8	0.0	0.6	-0.6	-5.8
– Hospital Centers integrated with the NHS	0.0	0.0	0.0	0.0	0.0
– Hospital Centers integrated with universities	-11.1	6.3	0.0	0.0	-5.6
– University Polyclinics	0.0	0.0	0.0	0.0	0.0
– Institutes for Treatment and Research	0.0	0.0	0.0	0.0	0.0
– Religiously-affiliated classif. hospitals	3.8	3.7	0.0	0.0	7.7
– Institutes-ASL Facilities	-5.6	-17.6	0.0	-7.1	-27.8
– Research facilities	0.0	0.0	0.0	0.0	0.0
Total public and assimilated institutions	*-4.4*	*-0.6*	*0.4*	*-0.6*	*-5.2*
– Accredited hospitals (1)	-1.0	-0.4	-1.0	1.0	-1.4
Grand Total	*-2.8*	*-0.5*	*-0.3*	*0.2*	*-3.4*

(1) Code 5.1 Institutes (Accredited private healthcare facilities) in the ministerial classification.
Source: *processing based on data from the Ministry of Health - Open Data 2016-2020*

Table S/3 – Publicly-operated and privately-operated agencies of the NHS by region. Year 2020 (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*	*Private Institutes for Treatment and Research*	*Religiously-affiliated classif. hospitals*	*Institutes-ASL Facilities*	*Research facilities*	*Accredited private hospitals*[1]	
– Piedmont	3	20	-	3	1	-	2	-	6	-	38	73
– Aosta Valley	-	1	-	-	-	-	-	-	-	-	1	2
– Lombardy	27	-	-	-	5	-	21	5	-	-	63	121
– A.P. of Bolzano	-	7	-	-	-	-	-	-	-	-	4	11
– A.P. of Trento	-	7	-	-	-	-	-	1	-	-	5	13
– Veneto	1	10	-	1	1	-	2	5	3	-	17	40
– Friuli V.G.	-	8	-	-	2	-	-	-	-	-	4	14
– Liguria	-	6	-	-	2	-	1	2	-	-	8	19
– Emilia R.	-	15	-	4	2	-	1	-	1	-	44	67
– Tuscany	-	30	-	4	1	-	1	-	2	1	21	60
– Umbria	2	8	-	-	-	-	-	-	-	-	5	15
– Marche	1	5	-	1	1	-	-	-	-	-	12	20
– Lazio	2	32	1	2	4	2	2	8	-	-	61	114
– Abruzzo	-	17	-	-	-	-	-	-	-	-	10	27
– Molise	-	3	-	-	-	-	1	-	-	1	3	8
– Campania	6	34	2	1	1	-	1	4	-	-	61	110
– Apulia	-	24	1	1	3	-	2	2	-	-	26	59
– Basilicata	1	7	-	-	1	-	-	-	-	-	1	10
– Calabria	4	18	-	-	1	-	-	-	-	-	31	54
– Sicily	5	53	3	-	2	-	2	1	1	-	59	126
– Sardinia	1	22	2	-	-	-	-	-	-	-	11	36
North	31	74	-	8	13	-	27	13	10	-	184	360
Center	5	75	1	7	6	2	3	8	2	1	99	209
South	17	178	8	2	8	-	6	7	1	1	202	430
Italy	*53*	*327*	*9*	*17*	*27*	*2*	*36*	*28*	*13*	*2*	*485*	*999*

(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 - Open Data 2020*

Table S/4 – Publicly-operated and privately-operated agencies of the NHS by region. Year 2020 (%)

Regions	Publicly-operated agencies					Privately-operated agencies								
	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*	*Private Institutes for Treatment and Research*	*Religiously-affiliated classif. hospitals*	*Institutes-ASL Facilities*	*Research facilities*	*Accredited private hospitals*[1]	*Publicly-operated component*	*Privately-operated component*	*Total Institutions*
– Piedmont	4.1	27.4	0.0	4.1	1.4	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	0.0	50.0	50.0	50.0	100.0
– Lombardy	22.3	0.0	0.0	0.0	4.1	0.0	17.4	4.1	0.0	0.0	52.1	26.4	73.6	100.0
– AP Bolzano	0.0	63.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	63.6	36.4	100.0
– AP Trento	0.0	53.8	0.0	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	25.0	0.0	2.5	2.5	0.0	5.0	12.5	7.5	0.0	42.5	32.5	67.5	100.0
– Friuli V.G.	0.0	57.1	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	28.6	71.4	28.6	100.0
– Liguria	0.0	31.6	0.0	0.0	10.5	0.0	5.3	10.5	0.0	0.0	42.1	42.1	57.9	100.0
– Emilia R.	0.0	22.4	0.0	6.0	3.0	0.0	1.5	0.0	1.5	0.0	65.7	31.3	68.7	100.0
– Tuscany	0.0	50.0	0.0	6.7	1.7	0.0	1.7	0.0	3.3	1.7	35.0	58.3	41.7	100.0
– Umbria	13.3	53.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7	33.3	100.0
– Marche	5.0	25.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	60.0	40.0	60.0	100.0
– Lazio	1.8	28.1	0.9	1.8	3.5	1.8	1.8	7.0	0.0	0.0	53.5	36.0	64.0	100.0
– Abruzzo	0.0	63.0	0.0	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	0.0	12.5	0.0	0.0	12.5	37.5	37.5	62.5	100.0
– Campania	5.5	30.9	1.8	0.9	0.9	0.0	0.9	3.6	0.0	0.0	55.5	40.0	60.0	100.0
– Apulia	0.0	40.7	1.7	1.7	5.1	0.0	3.4	3.4	0.0	0.0	44.1	49.2	50.8	100.0
– Basilicata	10.0	70.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	10.0	90.0	10.0	100.0
– Calabria	7.4	33.3	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	57.4	42.6	57.4	100.0
– Sicily	4.0	42.1	2.4	0.0	1.6	0.0	1.6	0.8	0.8	0.0	46.8	50.0	50.0	100.0
– Sardinia	2.8	61.1	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.6	69.4	30.6	100.0
North	8.6	20.6	0.0	2.2	3.6	0.0	7.5	3.6	2.8	0.0	51.1	35.0	65.0	100.0
Center	2.4	35.9	0.5	3.3	2.9	1.0	1.4	3.8	1.0	0.5	47.4	45.0	55.0	100.0
South	4.0	41.4	1.9	0.5	1.9	0.0	1.4	1.6	0.2	0.2	47.0	49.5	50.5	100.0
Italy	*5.3*	*32.7*	*0.9*	*1.7*	*2.7*	*0.2*	*3.6*	*2.8*	*1.3*	*0.2*	*48.5*	*43.3*	*56.7*	*100.0*

(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 - Open Data 2020*

Table S/5 – Patient beds of publicly- and privately-operated agencies of the NHS used for inpatient admissions, by Region. 2020

Regions	2020						2019		
	Publicly-operated agencies of the NHS (1)		Privately-operated agencies of the NHS (1)		Total 2020		Publicly-operated agencies of the NHS	Privately-operated agencies of the NHS	Total
	Patient beds	% of the total	Patient beds	% of the total	Patient beds	% of the total	% of the total	% of the total	
– Piedmont	10,177	70.0	4,357	30.0	14,534	100.0	69.9	30.1	100.0
– Aosta Valley	411	84.7	74	15.3	485	100.0	83.3	16.7	100.0
– Lombardy	21,721	62.6	12,955	37.4	34,676	100.0	62.5	37.5	100.0
– A.P. of Bolzano	1,591	88.0	216	12.0	1,807	100.0	89.6	10.4	100.0
– A.P. of Trento	1,190	63.9	673	36.1	1,863	100.0	64.8	35.2	100.0
– Veneto	12,723	80.3	3,115	19.7	15,838	100.0	81.4	18.6	100.0
– Friuli V.G.	3,309	89.1	405	10.9	3,714	100.0	89.6	10.4	100.0
– Liguria	4,155	82.5	883	17.5	5,038	100.0	82.9	17.1	100.0
– Emilia R.	11,286	75.7	3,629	24.3	14,915	100.0	75.5	24.5	100.0
– Tuscany	8,418	82.1	1,836	17.9	10,254	100.0	82.2	17.8	100.0
– Umbria	2,583	91.2	249	8.8	2,832	100.0	91.2	8.8	100.0
– Marche	3,815	82.0	839	18.0	4,654	100.0	81.9	18.1	100.0
– Lazio	9,021	50.9	8,692	49.1	17,713	100.0	49.3	50.7	100.0
– Abruzzo	2,961	76.3	922	23.7	3,883	100.0	76.5	23.5	100.0
– Molise	494	55.4	397	44.6	891	100.0	55.4	44.6	100.0
– Campania	8,855	60.4	5,797	39.6	14,652	100.0	61.6	38.4	100.0
– Apulia	8,031	69.4	3,534	30.6	11,565	100.0	72.0	28.0	100.0
– Basilicata	1,529	97.5	40	2.5	1,569	100.0	97.5	2.5	100.0
– Calabria	3,241	65.4	1,715	34.6	4,956	100.0	66.1	33.9	100.0
– Sicily	8,952	64.5	4,935	35.5	13,887	100.0	65.4	34.6	100.0
– Sardinia	3,939	82.3	849	17.7	4,788	100.0	82.7	17.3	100.0
North	66,563	71.7	26,307	28.3	92,870	100.0	71.9	28.1	100.0
Center	23,837	67.2	11,616	32.8	35,453	100.0	66.1	33.9	100.0
South	38,002	67.6	18,189	32.4	56,191	100.0	68.8	31.2	100.0
Italy	*128,402*	*69.6*	*56,112*	*30.4*	*184,514*	*100.0*	*69.9*	*30.1*	*100.0*

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

Source*: processing by Ermeneia - data from the Ministry of Health, Open Data 2020*

Table S/6 – NHS Accredited Hospitals (1), by region– Institutions and Patient bed. 2020

	AIOP		*ARIS*		*Other*		*Total*	
	Institutions	*Accred. patient beds*	*Institutions*	*Accred. patient beds*	*Institutions*	*Accred. patient beds*	*Institutions*	*Accred. patient beds*
– Piedmont	26	1,999	4	444	8	591	38	3,034
– Aosta Valley	1	74	-	-	-	-	1	74
– Lombardy	37	4,351	14	1,864	12	1,015	63	7,230
– Bolzano	3	171	-	-	1	45	4	216
– Trento	3	345	1	88	1	135	5	568
– Veneto	17	1,577	-	-	-	-	17	1,577
– Friuli V.G.	2	182	-	-	2	223	4	405
– Liguria	2	134	1	11	5	170	8	315
– Emilia R.	41	3,250	1	76	2	127	44	3,453
– Tuscany	13	960	6	213	2	290	21	1,463
– Umbria	4	189	1	60	-	-	5	249
– Marche	10	596	1	35	1	208	12	839
– Lazio	42	3,286	5	300	14	1,385	61	4,971
– Abruzzo	2	401	2	87	6	434	10	922
– Molise	2	100	-	-	1	40	3	140
– Campania	52	4,426	-	-	9	651	61	5,077
– Apulia	15	1,244	1	54	10	1,057	26	2,355
– Basilicata	1	40	-	-	-	-	1	40
– Calabria	14	831	-	-	17	884	31	1,715
– Sicily	48	3,460	-	-	11	513	59	3,973
– Sardinia	9	680	-	-	2	169	11	849
– North	132	12,083	21	2,483	31	2,306	184	16,872
– Center	69	5,031	13	608	17	1,883	99	7,522
– South	143	11,182	3	141	56	3,748	202	15,071
Italy	*344*	*28,296*	*37*	*3,232*	*104*	*7,937*	*485*	*39,465*
%	*70.9*	*71.7*	*7.6*	*8.2*	*21.4*	*20.1*	*100.0*	*100.0*

(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, Open Data 2020 and AIOP*

Table S/7 – Regional distribution of AIOP-associated institutions according to the most prevalent nosological classifications–Year 2022

	Multi-specialist		*Medical*		*Surgical*		*Neuro-psychiatry*		*Long-stay care pts*		*Rehabilitation*		*RSA*		*Totals*		*Rehabilitation Centers*	
Regions	*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	15	3	-	-	-	1	4	-	3	-	5	-	4	-	31	4	-	-
– Aosta Valley	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
– Lombardy	26	2	3	-	2	1	2	-	-	-	13	-	54	5	100	8	1	-
– Bolzano	-	-	-	-	-	-	-	-	-	-	3	-	-	-	3	-	-	-
– Trento	2	-	-	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-
– Veneto	9	1	-	-	2	-	3	-	-	-	6	-	2	-	22	1	-	-
– Friuli V.G.	2	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-	-
– Liguria	1	2	-	-	-	-	-	-	-	-	1	-	-	-	2	2	-	-
– Emilia R.	24	1	1	-	1	-	6	-	3	-	7	-	10	1	52	2	1	-
– Tuscany	5	-	1	-	7	1	2	-	1	-	1	-	6	-	23	1	1	-
– Umbria	2	-	-	-	2	-	-	-	1	-	1	-	1	-	7	-	-	-
– Marche	7	-	-	-	1	-	1	-	1	-	3	-	3	-	16	-	1	-
– Lazio	20	11	5	1	5	8	7	1	4	-	6	-	39	1	86	22	5	-
– Abruzzo	2	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-	2	-
– Molise	3	-	-	-	-	-	-	-	-	-	1	-	-	-	4	-	1	-
– Campania	24	-	2	-	12	2	-	-	3	-	7	-	5	-	53	2	1	-
– Apulia	9	-	1	-	1	-	-	-	-	-	1	-	9	-	21	-	6	-
– Basilicata	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
– Calabria	1	-	1	-	7	1	-	-	-	-	4	-	2	-	15	1	-	-
– Sicily	18	-	2	-	21	-	2	-	-	-	5	-	8	-	56	-	-	-
– Sardinia	5	-	-	-	3	-	-	-	1	-	-	-	-	-	9	-	-	-
North	79	9	4	-	5	2	15	-	7	-	36	-	70	7	216	18	2	-
Center	34	11	6	1	15	9	10	1	7	-	11	-	49	1	132	23	7	-
South	62	-	6	-	44	3	2	-	5	-	18	-	25	-	162	3	10	-
Italy	*175*	*20*	*16*	*1*	*64*	*14*	*27*	*1*	*19*	-	*65*	-	*144*	*8*	*510*	*44*	*19*	-

Source: *AIOP*

Table S/8 – – Regional distribution of patient beds of the AIOP-associated institutions according to the different types of activities – Year 2022

Regions	*High Specialty*		*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	90	10	414	101	787	259	264	32	413	31	647	10	454	26	3,069	469	-	-
– Aosta Valley	-	-	-	-	12	4	-	-	-	-	64	-	-	-	76	4	-	-
– Lombardy	471	8	2,912	82	3,026	166	103	20	10	-	2,289	55	5,930	600	14,741	931	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	1,058	32	1,504	159	674	2	570	5	953	51	639	296	5,471	547	143	-
– 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	970	563	23	573	3	1,056	428	3,383	215	8,444	2,068	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	365	30	-	-	125	-	370	-	76	-	984	33	-	-
– Sicily	77	2	1,168	30	1,848	25	109	23	83	1	649	44	395	93	4,329	218	-	-
– Sardinia	-	-	169	8	359	21	-	-	90	-	147	-	-	-	765	29	-	-
North	649	20	5,088	360	6,253	798	1,413	72	1,215	75	4,935	201	7,494	999	27,047	2,525	231	-
Center	21	40	1,738	389	2,759	1,020	718	24	940	3	1,792	463	4,067	244	12,035	2,183	880	-
South	276	15	3,129	335	5,501	655	209	23	871	56	2,858	238	1,871	483	14,715	1,805	1,600	80
Italy	*946*	*75*	*9,955*	*1,084*	*14,513*	*2,473*	*2,340*	*119*	*3,026*	*134*	*9,585*	*902*	*13,432*	*1,726*	*53,797*	*6,513*	*2,711*	*80*

Source: *AIOP*

Table S/9 – Regional distribution of patient beds of the AIOP-associated institutions according to the different types of activities and regions. Year 2022 (Composition %)

Regions	*High Specialty*		*Medical*		*Surgical*		*Neuro-psychiatry*		*Long-stay care pts*		*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	2.9	2.1	13.5	21.5	25.6	55.2	8.6	6.8	13.5	6.6	21.1	2.1	14.8	5.5	100.0	100.0
– Aosta Valley	-	-	-	-	15.8	100.0	-	-	-	-	84.2	-	-	-	100.0	100.0
– Lombardy	3.2	0.9	19.8	8.8	20.5	17.8	0.7	2.1	0.1	-	15.5	5.9	40.2	64.4	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	19.3	5.9	27.5	29.1	12.3	0.4	10.4	0.9	17.4	9.3	11.7	54.1	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	46.9	6.7	1.1	6.8	0.1	12.5	20.7	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	-	-	-	-	-	27.4	65.8	6.4	-	100.0	100.0
– Campania	1.5	2.2	17.2	22.2	40.4	64.3	-	-	10.4	9.3	22.4	2.0	8.2	-	100.0	100.0
– Apulia	3.8	-	26.5	11.5	24.5	21.6	-	-	-	-	6.8	4.8	38.3	62.2	100.0	100.0
– Basilicata	-	-	-	-	-	-	-	-	5.3	-	55.0	-	39.7	-	100.0	-
– Calabria	-	-	4.9	9.1	37.1	90.9	-	-	12.7	-	37.6	-	7.7	-	100.0	100.0
– Sicily	1.8	0.9	27.0	13.8	42.7	11.5	2.5	10.6	1.9	0.5	15.0	20.2	9.1	42.7	100.0	100.0
– Sardinia	-	-	22.1	27.6	46.9	72.4	-	-	11.8	-	19.2	-	-	-	100.0	100.0
North	2.4	0.8	18.8	14.3	23.1	31.6	5.2	2.9	4.5	3.0	18.2	8.0	27.7	39.6	100.0	100.0
Center	0.2	1.8	14.4	17.8	22.9	46.7	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	21.3	18.6	37.4	36.3	1.4	1.3	5.9	3.1	19.4	13.2	12.7	26.8	100.0	100.0
Italy	*1.8*	*1.2*	*18.5*	*16.6*	*27.0*	*38.0*	*4.3*	*1.8*	*5.6*	*2.1*	*17.8*	*13.8*	*25.0*	*26.5*	*100.0*	*100.0*

Source: *AIOP*

Table S/10 – Technical and biomedical equipment for diagnosis and treatment in public hospital and assimilated facilities. 2020

Regions	*HC*	*Echo*	*CT*	*HD*	*ACCA*	*MON*	*MRI*	*OT*	*RU*	*LV*	*PXU*	*LINAC*	*RCT*	*AIA*	*CGC*	*AM*	*SL*	*ADC*
– Piedmont	-	1,149	90	1,293	179	3,925	42	516	204	1,122	190	27	84	306	20	632	1,102	91
– Aosta Valley	-	57	2	29	9	95	2	9	3	36	6	1	1	21	-	26	66	4
– Lombardy	4	3,301	187	2,395	308	11,717	133	1,135	604	3,314	414	68	203	726	64	1,278	3,207	306
– A.P. of Bolzano	-	195	9	129	17	713	6	54	51	144	28	-	8	32	1	84	398	16
– A.P. of Trento	-	157	13	140	18	612	6	87	5	210	18	4	8	42	2	64	367	15
– Veneto	-	1,630	91	1,167	179	5,177	74	742	177	1,962	234	32	78	394	11	695	2,209	107
– Friuli V.G.	1	427	24	529	80	1,746	15	241	41	420	52	13	22	177	4	177	737	28
– Liguria	2	460	34	506	90	1,943	25	235	103	582	89	12	32	155	7	263	517	46
– Emilia R.	1	1,285	90	1,161	138	4,702	52	641	168	1,316	213	26	86	416	9	724	1,837	95
– Tuscany	4	1,401	87	1,310	226	4,841	58	567	186	1,895	192	21	87	537	20	639	1,840	111
– Umbria	-	355	24	496	53	1,078	14	128	33	426	40	9	23	167	5	163	338	39
– Marche	-	543	35	432	28	1,572	25	154	65	607	67	10	25	137	5	171	474	43
– Lazio	3	1,371	121	1,191	169	5,490	75	567	232	1,683	248	42	127	546	22	762	1,551	138
– Abruzzo	-	411	27	472	94	967	12	148	45	401	64	8	31	140	17	141	360	38
– Molise	-	86	10	121	48	298	9	46	22	76	29	2	10	45	5	47	106	16
– Campania	8	1,191	100	547	212	4,014	22	465	190	1,423	202	13	103	411	13	591	1,107	130
– Apulia	2	1,047	73	1,247	339	2,666	40	375	210	1,059	150	20	109	389	20	441	895	164
– Basilicata	-	189	13	149	30	368	10	69	32	186	21	4	23	53	4	81	180	21
– Calabria	7	345	35	411	80	1,006	31	140	55	288	60	15	45	117	21	183	243	52
– Sicily	12	1,187	119	686	234	4,595	61	540	213	1,320	270	22	117	346	30	752	1,351	139
– Sardinia	3	554	36	635	92	1,334	21	187	89	453	75	9	45	198	7	229	512	64
North	8	8,661	540	7,349	1,018	30,630	355	3,660	1,356	9,106	1,244	183	522	2,269	118	3,943	10,440	708
Center	7	3,670	267	3,429	476	12,981	172	1,416	516	4,611	547	82	262	1,387	52	1,735	4,203	331
South	32	5,010	413	4,268	1,129	15,248	206	1,970	856	5,206	871	93	483	1,699	117	2,465	4,754	624
Italy	*47*	*17,341*	*1,220*	*15,046*	*2,623*	*58,859*	*733*	*7,046*	*2,728*	*18,923*	*2,662*	*358*	*1,267*	*5,355*	*287*	*8,143*	*19,397*	*1,663*

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[1]. 2020

Regions	*HC*	*Echo*	*CT*	*HD*	*ACCA*	*MON*	*MRI*	*OT*	*RU*	*LV*	*PXU*	*LINAC*	*RCT*	*AIA*	*CGC*	*AM*	*SL*	*ADC*
– Piedmont	1	155	17	4	29	347	21	72	43	62	38	1	30	29	-	89	114	31
– Aosta Valley	-	1	1	-	1	5		2	1	2	1	-	1	1	-	2	4	1
– Lombardy	6	698	53	210	113	2,107	52	251	136	467	98	17	59	86	3	257	570	58
– A.P. of Bolzano	-	17	4	-	2	43	5	10	11	3	1	6	5	2	1	6	16	6
– A.P. of Trento	-	21	3	-	2	16	3	4	5	2	2	-	3	2	-	5	8	3
– Veneto	-	123	14	-	10	267	14	54	21	50	25	2	10	12	2	57	119	11
– Friuli V.G.	-	55	4	23	10	66	7	24	9	9	5	-	6	10	-	20	28	7
– Liguria	-	27	4	2	8	71	4	20	8	21	12	-	7	8	-	22	30	6
– Emilia R.	-	237	22	76	23	584	34	140	57	192	80	2	39	26	2	148	253	22
– Tuscany	-	79	12	24	19	298	13	62	30	114	30	3	17	10	-	66	79	20
– Umbria	-	21	4	-	8	38	4	19	7	12	16	-	5	4	-	19	22	5
– Marche	-	58	9	-	10	157	13	30	17	31	23	-	13	17	-	28	52	11
– Lazio	1	252	49	544	70	852	42	176	108	219	91	6	67	68	8	193	242	67
– Abruzzo	-	55	9	9	20	128	14	25	13	37	11	-	15	18	-	31	49	11
– Molise	-	11	3	-	7	11		4	5	5	4	-	4	3	-	5	5	3
– Campania	4	310	50	53	81	794	28	203	99	261	71	2	68	78	24	231	300	87
– Apulia	-	141	22	55	43	393	15	71	45	136	38	3	29	42	2	73	130	28
– Basilicata	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
– Calabria	1	105	21	4	34	221	13	74	34	70	28	2	32	27	7	76	99	30
– Sicily	1	259	47	25	103	570	31	157	89	186	74	6	63	49	7	182	229	65
– Sardinia	-	74	6	112	17	178	4	41	13	46	15	-	11	8	-	46	43	7
North	7	1,334	122	315	198	3,506	140	577	291	808	262	28	160	176	8	606	1,142	145
Center	1	410	74	568	107	1,345	72	287	162	376	160	9	102	99	8	306	395	103
South	6	955	158	258	306	2,295	105	575	298	741	241	13	222	225	40	644	855	231
Italy	*14*	*2,699*	*354*	*1,141*	*611*	*7,146*	*317*	*1,439*	*751*	*1,925*	*663*	*50*	*484*	*500*	*56*	*1,556*	*2,392*	*479*

(1) Code 5.1 Institutes (Accredited private healthcare facilities) 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 Ermeneia - data from the Ministry of Health*

Table S/12 – Technical and biomedical equipment for diagnosis and treatment in non-accredited private healthcare facilities. 2020

Regions	*HC*	*Echo*	*CT*	*HD*	*ACCA*	*MON*	*MRI*	*OT*	*RU*	*LV*	*PXU*	*LINAC*	*RCT*	*AIA*	*CGC*	*AM*	*SL*	*ADC*
– Piedmont	-	44	3	-	2	67	3	25	11	11	4	-	4	2	-	29	42	5
– Lombardy	-	35	4	1	4	84	4	34	9	22	10	-	5	3	1	34	48	7
– A.P. of Bolzano	-	4	1	-	-	18	3	5	4	5	3	-	-	-	-	4	5	-
– A.P. of Trento	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Veneto	-	2	-	-	-	5	-	2	1	-	1	-	1	-	-	2	4	-
– Friuli V.G.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Liguria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Emilia R.	-	25	3	1	4	62	2	11	5	17	5	-	4	-	-	14	33	1
– Tuscany	-	33	2	1	4	69	2	21	6	10	8	1	2	1	-	20	43	2
– Umbria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Marche	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Lazio	-	166	22	70	26	392	23	110	46	105	41	4	26	23	7	145	171	32
– Abruzzo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Molise	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Campania	-	13	2	-	2	22	-	14	3	7	2	-	2	3	-	13	16	3
– Apulia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Basilicata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Calabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Sicily	-	-	-	-	-	4	-	4	-	1	1	-	-	-	-	3	4	-
– Sardinia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North	-	110	11	2	10	236	12	77	30	55	23	-	14	5	1	83	132	13
Center	-	199	24	71	30	461	25	131	52	115	49	5	28	24	7	165	214	34
South	-	13	2	-	2	26	-	18	3	8	3	-	2	3	-	16	20	3
Italy	-	*322*	*37*	*73*	*42*	*723*	*37*	*226*	*85*	*178*	*75*	*5*	*44*	*32*	*8*	*264*	*366*	*50*

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*

2. Activity data

2.1. In-hospital days and patient bed occupancy rate

The data in Table S/13, now updated to the year 2020, hanks 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 191,000 in 2016 to 184,514 in 2020, for a decrease of -3.7%. This decrease seems to have affected the public and assimilated component slightly more (-4%), than the accredited component (-2.6%) 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 54 million in 2016 to 44.8 million in 2020, with an overall decline of -17.1%; a decline at more marked rates than in previous years, caused by the collapse of services that occurred after the outbreak of the Covid-19 pandemic. The decreases for public and assimilated facilities amounted to -17%, and -17.4% for accredited hospitals. There was thus a much more marked decrease in addition to the declines caused over the years by regional policies to reduce admissions and freeze the budgets of accredited hospitals.

Table S/15 shows a comparison of the 2020 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 7.9 days for public facilities and Table S/18 shows a number of 5.7 days for accredited hospitals.

The overall patient bed occupancy rate, again displayed in Table S/15, dropped sharply in 2020 for both components of the hospital system, going

from 77.1% in the previous year to 66.5% in the most critical period of the pandemic.

If we consider only the acute case admissions, the average length of stay remained substantially unchanged between 2019 and 2020 for both public facilities (Table S/16) and private facilities (Table S/18). In the same period, the usage rate tended to decrease decisively both for accredited hospitals (Table S/18) and for public facilities (Table S/16), but with a greater gap for the former (-27.9% compared to -11.4%).

2.2. Types of admissions and discharges

An alternative data source relating to in-hospital days and cases treated may be found by processing hospital discharge forms (SDOs), for which a version aligned to 2020 is also 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 2021 update is available.

Tables S/20 and S/21 offer the ability to observe how, in 2020 for the set of regimes and types of in-hospital stays, almost 6.8 million patients were treated by the hospital system, more than 1,700,000 less than in 2019; and of these, 1.8 million (or 27.3% of NHS patients) 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 2020 accounted for almost 28.3% of the overall supply of in-hospital stay days. The "private" item in this table 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 31.9 million for public facilities and 12.9 million for the 'expanded accredited private' facilities, whereas the volume of day-hospital admissions is 2.8 million and 800,000, respectively.

The total data in Table S/20 also includes discharges (more than 294,000) and in-hospital days (848,000) 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 (78.6% inpatient admissions) and long-stay care (55.5% 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 2020 *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 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 2021 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 (2020) and, more specifically, in AIOP accredited hospitals (2021).

At the combined public-private level, the most common DRG is still childbirth with 249,178 discharges in 2020 (compared to 283,818 units in 2016) amounting to 5.1% 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 again in first place for 2021 (with 66,866 cases amounting to 11.5% of the total) an uptick compared to 2020 thanks to the resumption of activities, followed by the DRG of vaginal childbirth with 12,938 cases, while the DRG for heart failure and shock (12,835 cases) exceeds that of cesarean delivery.

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 672,777 cases in 2020, compared to 919,182 cases recorded in 2016; and diseases and disorders of the respiratory system should also be noted which, due to the pandemic, attained second position, with 644,497 cases in 2020 (compared to 568,882 in 2016), as shown by the data in Table S/31.

The greatest average hospital stay (well above the 7.5 days general total) is that for Pre MDC (35 days), HIV infections (17.7 days), burns (14.2 days), and multiple major trauma (14.1 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 (162,960 cases) (Table S/32).

Rehabilitation activities for inpatient admissions were greatest among illnesses and disorders of the musculoskeletal system and connective tissue (with 104,726 cases), followed by illnesses and disorders of the nervous system (with 56,582 cases) and illnesses and disorders of the cardiovascular system (with 33,254 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 (8,194 cases), second place are illnesses and disorders of the musculoskeletal system and connective tissue (3,642 cases), and finally the cases that fall within the MDC Factors influencing health status and use of health services (2,802 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 2020 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 in-depth 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. The initiation of a process of measuring waiting times for services

Waiting lists - although it would be more appropriate to refer to the phenomenon as waiting times - are an intrinsic feature of universal healthcare systems, where health is not merely a common good to be purchased in the marketplace, but rather a basic right to be ensured, safeguarded, and regulated.

Public healthcare provides the individual with the services suitable to resolve changes to his/her mental-physical condition, for which the user does not possess the knowledge or information necessary to formulate an informed request. At the same time, a universal system is legitimized by its ability to limit the phenomenon of moral hazard, understood as an individual's opportunistic behavior in the presence of free services: in this sense, the general practitioner's role as gatekeeper and the waiting lists represent an implicit rationing mechanism of the demand for services.

Waiting times are, within certain limits, a mechanism for governing the supply and demand of healthcare services, articulated according to priorities for intervention. But the anomaly becomes apparent when there are excessive waiting times, a situation which occurs every time the diagnoses and subsequent therapies are unjustifiably postponed, thereby compromising patients' prognoses and quality of life.

And it is more than just this. The so-called waiting lists represent one of the elements of greatest inequity within a universalistic system, since they

create a gap between those who can turn to the healthcare services marketplace - outside of the National Health Service - and those who, for economic and social reasons, cannot afford such out-of-pocket expenses. For the latter, the alternative is the choice between waiting, which could compromise, either in whole or in part, their state of health, or forgoing treatment.

In addition to individual ad hoc surveys, mainly undertaken by consumer associations, there is a lack of systematic monitoring of the phenomenon at a central level. Agenas (the National Agency for Regional Healthcare Services) tried for the first time in 2022 to evaluate waiting times, measuring the number of inpatient admissions for class A services[1]actually taking place within the required 30-day time frame.

The data published, to date, by Agenas - relating to interventions planned for cardiovascular diseases and tumors - show an extremely mixed (see Table S/61) but largely critical scenario, considering that, due to the type of services being examined, no expected values other than 100% are acceptable.

It should be noted that the situation is comparatively more serious for oncological services: considering only the public facilities of the NHS and the last year of the survey, in Sardinia less than one service out of two was provided within the margin of safety; but also in Umbria, Liguria, Apulia and in the A.P. of Trento, less than one out of three hospitalizations occurred within the maximum amount of time envisaged.

Inter-regional variability is also important in this case: among the private facilities alone, it ranges from a minimum of 33% in the A.P. of Trento and 49% in Piedmont, to values above 95% in Veneto, Emilia-Romagna, Molise and Campagna.

[1] The waiting time indicates the number of days that elapse between the booking date and the date the healthcare services were provided. When writing out a prescription, the doctor is required to indicate the diagnostic work-up (which describes the health problem) and the priority level (which determines the time of access to healthcare services).

In the case of inpatient hospital services, the priority levels are different:

- Level A - Hospitalization within 30 days, for cases that may rapidly worsen seriously jeopardizing the patient's health;
- Level B - Hospitalization within 60 days, for cases that present intense pain or severe dysfunction, or severe disability but which do not tend to rapidly worsen to the point of becoming emergencies;
- Level C – Hospitalization within 180 days for cases with minimal pain, dysfunction or disability, and which do not tend to worsen;
- Level D – Hospitalization within 12 months, intended for cases without pain, dysfunction or disability.

The waiting times for medical visits and exams provided at a hospital institution or in private practice (ALPI), may be viewed in the appropriate dedicated section of the websites of the Hospital Centers.

However, the raw data as published by Agenas requires some special interpretations to be made.

First of all, these data should be read together with those on mobility and, in general, with the demand for services addressed to the public and private facilities of each Region.

We might think, for example, of the Calabria Region which offers one of the best performances in the cardiovascular area in terms of compliance with the waiting time limits, a figure that can be partially explained by the low internal demand for services. Indeed, Calabria turns out to be the number two region in Italy for passive mobility, with a negative balance of (-159.5 million)[2] and outgoing flows which, as regards cardiac surgery services such as coronary artery bypass surgery and valvuloplasty, see 27% and 54%, respectively,[3] of residents turn to facilities in other regions.

In general, the private component of the NHS complies with waiting times better than the public component. The exceptions are Liguria and Tuscany for cardiovascular services and Piedmont and the Autonomous Province of Trento for oncological services.

Further information is reported in Table S/61, showing a comparison between 2021 and 2019.

In this case the trend is markedly different from region to region. In the cardiovascular area, 14 out of 21 regional systems reported a worsening in 2021 compared to the pre-pandemic period, with a variability ranging from -22% in Umbria to +12% in Molise. In the area of malignant tumors, eight healthcare systems reported worse performance in 2021 than in 2019 regarding compliance with waiting times. Again in this case the uneven distribution is extreme and ranges from -25% in the A.P. of Trento to +19% in the Val d'Aosta.

Add to this that even when the data improves, in most cases there is a decrease in the denominator, i.e. the demand for services and therefore the pressure on the system.

2.7. The Long Covid of the National Health Service

Alongside of its updating of the activity data to 2019, the *Health & Hospitals/2019* Report published information relating to 2020 concerning the stability of the system in the context of the pandemic impact.

[2] Data from the AGENAS Statistical Portal, available on the open website https://stat.agenas.it/web/index.php?r=site/public

[3] PNE data, 2022 edition on 2021 Sdo data.

Those assessments, which made it possible to promptly measure the sharp decline in activity volumes in the first pandemic period, have not been updated[4].

Nevertheless, using the Agenas statistical portal, as regards the specialist outpatient services, and AIOP processing of SDO data updated to 2021, as regards hospital admissions, it is possible to get a complete picture.

In fact, the ability to recoup delayed or unprovided services represents an essential element in monitoring a system which, already characterized by greater-than-expected waiting times, found itself during the Covid emergency forced to further increase the amount of time between the appearance of a need and the assistance response.

Just like mobility, the phenomenon of waiting lists must also be evaluated in its various components, considering that waiting to get access to healthcare services is one of the direct tools for governing demand in every universal healthcare system, and that the clinical event that needs to be checked should only concern unjustified delays, those that might compromise patients' prognoses and quality of life.

Another fundamental distinction concerns the elective or urgent nature of the unprovided or delayed services in the context of the pandemic. If for elective services that were not provided there is essentially a need to assess the system's ability to reset back to pre-pandemic quantitative and qualitative levels and, at the same time, to undertake a rational recouping of services not provided, for urgent deferred or non-provided services expressed (even more than for the scheduled ones) the assessment of the phenomenon is more complex, starting from the identification of the determinants that have influenced the demand and supply of services during the pandemic period which by definition were indispensable.

In both cases, a careful assessment of the clinical outcomes is required as well as the detection and interception of compromised or aggravated health conditions, with respect to which the delayed assistance response is inevitably less effective, more complex and more onerous in terms of dedicated resources.

However, the monitoring of these post-pandemic aspects does not seem to have found the right space at a political-decision-making level.

[4] Both the National Screening Observatory, as regards prevention programs, and Agenas' Assessment System of the resilience capacity of the National Health System, as regards hospitalizations and specialist outpatient services, limited themselves to measuring the collapse of non-Covid services in 2020, without assessing the extent of the recovery in the following year.

From the assessments reported in the *Health & Hospitals* Report, on the other hand, it is clear that Long Covid is a phenomenon that has not only affected patients, but the Italian NHS as well.

Not only is there no expected recovery of the services lost during the pandemic phase, but - despite a recovery compared to 2020 - the volumes of activity have not returned to pre-pandemic levels either for scheduled or urgent services (see Table S/62).

In particular, the volume of urgent hospitalizations did not undergo substantial changes between 2020 and 2021, remaining at a percentage difference of -13% compared to the pre-pandemic period: around 900,000 "lost" hospitalizations in 2020 and 2021.

Furthermore, the number of urgent hospitalizations remains comparable in the two-year period even within the same territorial areas (North, Center and South), attesting to a decrease mostly in the South and in the Islands, comparatively less hit by the pandemic impact and by the consequent recovery effort.

On the other hand, as far as scheduled hospitalizations are concerned, there has been a recovery in elective activity, although there is still a significant difference (-16%) from the numbers in 2019.

In this case, it is more than evident how the system struggled to return to pre-pandemic levels, also with what follows in terms of the failure to recoup services not provided in 2020.

With regard to scheduled hospitalizations in the North in the first pandemic year there was a drop of 27.5% compared to previous volumes, although still in 2021 the gap compared to 2019 is approximately 20%: one out of five services less.

In central Italy, the decrease compared to 2019 was 20% in 2020 and 13% in 2021. In the South and in the Islands it went from 24.5% to 11%: a decrease that was already difficult to explain in 2020, when the South remained essentially untouched by infections and the pressure on the hospital system and which in 2021 is even more emblematic of a mechanism that to some extent is frozen.

On the other hand, the partial recovery does not seem to have concentrated on services at risk of being inappropriate or deferrable.

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.

Part One of the Report observes the trends of the economic balances relating to the flows of active and passive mobility, while Table S/63 of part Four gives an account, as usual, of the trend over time of the propensity to seek suitable responses for health needs even quite far from patients' places of residence, expressed in terms of summary indices of attraction and flight. The data refer to the last five years available (2016-2020) and are integrated by those of the final column which shows the most recent net balance values of the flow of patients entering and leaving acute care wards in the respective territorial areas.

The data extracted from the inter-regional mobility matrices of the SDO Report, referred to 2020, show for the first time a variation compared to the historical record of the most attractive Region held by Lombardy, a record that has now passed on to be held by Emilia Romagna, which has probably benefited from a lower negative impact of the emergency phase. The most favorable balances are however far from those of the pre-pandemic phase and that for Emilia Romagna shows a figure that is close to 38,000 units for the acute care sector. Lombardy, Veneto, Tuscany, Lazio and Friuli Venezia Giulia follow up among the most attractive regions. 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, Basilicata, Sardinia and Marche.

Considering the mobility flow data for all regimes and types of hospitalization, and despite the critical issues generated by the pandemic, there were more than 500,000 patients, who, in 2020, chose to go to other regional systems, with an active balance for Emilia Romagna that in this case exceeds 47,000 units, compared to more than 44,000 units in Lombardy.

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 net-

work performances, as is that of the freedom to choose the place for treatment. In the post-Covid period the Regions will have to ask themselves again about the causes of flows that maintain the same features over time, attempting to give up on policies aimed simply at limiting their effects by implementing limitation agreements or freezes. 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

	2016			2017			2018			2019			2020		
	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	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	145,049	36,598,460	69.1
Accredited Hospitals[1]	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	39,465	8,220,454	57.1
Total	*191,554*	*54,072,442*		*188,748*	*53,570,972*		*188,451*	*53,255,579*		*187,010*	*52,646,928*		*184,514*	*44,818,914*	
	%	%		%	%		%	%		%	%		%	%	
Public and assim. Hospitals	78.8	81.6		78.7	81.6		78.6	81.8		78.9	81.6		78.6	81.7	
Accredited Hospitals[1]	21.2	18.4		21.3	18.4		21.4	18.2		21.1	18.4		21.4	18.3	
Total	*100.0*	*100.0*		*100.0*	*100.0*		*100.0*	*100.0*		*100.0*	*100.0*		*100.0*	*100.0*	

(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 2016, 2017, 2018, 2019 and 2020*

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

	2017/2016		2018/2017		2019/2018		2020/2019		2020/2016	
	Patient beds	*In-hospital days*	*Patient beds*	*In-hospital days*	*Patient beds*	*In-hospital days*	*Patient beds*	*In-hospital days*	*Patient beds*	*In-hospital days*
– Public and assim. hospitals	-1.7	-0.9	-0.2	-0.4	-0.4	-1.4	-1.7	-14.8	-4.0	-17.0
– Accredited hospitals[1]	-0.6	-1.2	0.1	-1.4	-2.2	0.1	0.1	-15.3	-2.6	-17.4
Total	*-1.5*	*-0.9*	*-0.2*	*-0.6*	*-0.8*	*-1.1*	*-1.3*	*-14.9*	*-3.7*	*-17.1*

(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 2016, 2017, 2018, 2019 and 2020*

Table S/15 – Public and accredited hospitals – Activity data for inpatient admissions. 2020

Type of institution	2020					2019	
	Patient beds	*Discharged pts*	*Days*	*Average length of stay*	*Occupancy rate %*	*Average length of stay*	*Occupancy rate %*
– Total public and assimilated hospitals	145,049	4,310,716	36,598,460	8.5	69.1	8.1	79.7
– Accredited hospitals[1]	39,465	861,201	8,220,454	9.5	57.1	9.4	67.5
Total public and accredited institutions	*184,514*	*5,171,917*	*44,818,914*	*8.7*	*66.5*	*8.3*	*77.1*

(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 2020 and comparison with the year 2019

Regions	*Patient beds actually used*	*Admissions*	*Days spent in hospital*	*2020*			*2019*		
				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	10,285	301,832	2,550,173	8.4	67.9	70.0	7.8	77.0	84.1
– Aosta Valley	371	10,847	96,127	8.9	71.0	86.8	8.0	76.8	101.5
– Lombardy	21,887	688,588	5,742,545	8.3	71.9	68.7	7.5	78.1	86.4
– A.P. of Bolzano	1,383	48,354	326,354	6.7	64.7	90.8	6.8	74.4	109.3
– A.P. of Trento	1,228	43,645	314,994	7.2	70.3	80.0	7.1	80.8	93.3
– Veneto	12,290	401,443	3,244,169	8.1	72.3	82.3	7.8	82.0	96.7
– Friuli V.G.	3,279	108,968	826,696	7.6	69.1	90.3	7.2	78.2	106.6
– Liguria	4,185	127,910	1,120,681	8.8	73.4	83.9	7.8	80.2	107.0
– Emilia R.	10,502	389,859	2,968,621	7.6	77.4	87.3	7.1	85.5	103.9
– Tuscany	8,702	299,947	2,107,432	7.0	66.4	81.2	6.7	75.7	98.3
– Umbria	2,035	75,312	565,048	7.5	76.1	86.5	7.1	85.3	105.8
– Marche	3,252	112,348	890,015	7.9	75.0	74.3	7.6	81.5	90.8
– Lazio	11,632	367,260	2,990,787	8.1	70.4	63.8	7.8	74.5	72.7
– Abruzzo	2,748	90,462	703,887	7.8	70.2	69.9	7.5	78.2	81.6
– Molise	740	23,813	178,097	7.5	65.9	79.2	7.2	80.2	97.3
– Campania	8,728	278,786	2,182,085	7.8	68.5	48.8	7.3	79.5	63.3
– Apulia	7,539	259,017	1,905,162	7.4	69.2	65.5	7.1	82.1	86.7
– Basilicata	1,323	38,272	286,794	7.5	59.4	69.2	7.0	75.3	92.1
– Calabria	2,465	82,105	624,087	7.6	69.4	43.3	7.3	80.7	65.0
– Sicily	9,039	267,485	2,142,584	8.0	64.9	54.9	7.8	79.9	69.9
– Sardinia	3,986	111,669	882,641	7.9	60.7	69.3	7.3	71.3	81.1
North	65,410	2,121,446	17,190,360	8.1	72.1	76.8	7.5	79.9	93.3
Center	25,621	854,867	6,553,282	7.7	70.2	72.3	7.3	76.7	85.5
South	36,568	1,151,609	8,905,337	7.7	66.9	57.0	7.4	79.2	73.5
Italy	*127,599*	*4,127,922*	*32,648,979*	*7.9*	*70.1*	69.2	*7.4*	*79.1*	*85.0*

(*) 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 2020 and comparison with the year 2019

Regions	*Patient beds actually used*	*Admissions*	*Days spent in hospital*	*2020*		*2019*	
				Average length of stay	*Occupancy rate (%)*	*Average length of stay*	*Occupancy rate (%)*
– Piedmont	1,635	15,406	439,552	28.5	73.7	27.6	85.8
– Aosta Valley	12	160	3,573	22.3	81.6	27.2	95.1
– Lombardy	3,154	33,940	890,964	26.3	77.4	25.1	88.7
– A.P. of Bolzano	83	1,195	21,699	18.2	71.6	17.5	77.3
– A.P. of Trento	99	842	28,771	34.2	79.6	33.2	102.8
– Veneto	1,593	16,591	436,987	26.3	75.2	26.1	87.2
– Friuli V.G.	185	1,488	56,269	37.8	83.3	31.3	97.6
– Liguria	597	8,459	176,715	20.9	81.1	19.3	83.5
– Emilia Romagna	1,258	17,217	396,296	23.0	86.3	23.6	90.1
– Tuscany	460	4,881	139,724	28.6	83.2	26.7	86.2
– Umbria	290	3,784	91,502	24.2	86.4	21.5	90.3
– Marche	225	2,939	60,840	20.7	74.1	19.6	85.6
– Lazio	1,067	7,093	295,485	41.7	75.9	38.0	87.2
– Abruzzo	177	3,176	51,095	16.1	79.1	16.3	82.6
– Molise	69	604	21,571	35.7	85.7	32.6	93.8
– Campania	431	3,762	114,665	30.5	72.9	25.9	79.5
– Apulia	761	6,661	172,277	25.9	62.0	25.7	83.5
– Basilicata	273	1,452	47,671	32.8	47.8	30.9	68.9
– Calabria	72	454	11,458	25.2	43.6	20.5	54.9
– Sicily	1,094	6,154	271,332	44.1	68.0	40.4	85.5
– Sardinia	110	846	32,087	37.9	79.9	45.5	87.5
North	8,616	95,298	2,450,826	25.7	78.0	25.0	88.0
Center	2,042	18,697	587,551	31.4	79.0	28.9	87.3
South	2,987	23,109	722,156	31.2	67.5	29.4	81.5
Italy	*13,645*	*137,104*	*3,760,533*	*27.4*	*75.5*	*26.2*	*86.6*

(*) 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[1], by region. Year 2020 and comparison with the year 2019

Regions	*Patient beds actually used*	*Admissions*	*Days spent in hospital*	*2020*			*2019*		
				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	833	21,049	108,211	5.1	35.6	4.9	4.3	50.6	5.7
– Aosta Valley	80	724	5,254	7.3	18.0	5.8	2.8	53.8	5.7
– Lombardy	7,485	128,888	780,976	6.1	28.6	12.9	5.0	59.1	18.3
– A.P. of Bolzano	108	796	18,730	23.5	47.5	1.5	11.3	94.2	0.9
– A.P. of Trento	190	1,766	17,885	10.1	25.8	3.2	7.9	45.6	4.6
– Veneto	995	26,384	210,485	8.0	58.0	5.4	8.9	67.6	5.5
– Friuli V.G.	396	8,421	48,894	5.8	33.8	7.0	4.8	38.9	7.1
– Liguria	159	2,128	14,971	7.0	25.8	1.4	4.9	46.4	1.9
– Emilia R.	2,392	72,047	412,760	5.7	47.3	16.1	5.2	62.1	20.2
– Tuscany	818	23,523	112,733	4.8	37.8	6.4	4.6	44.4	7.6
– Umbria	217	5,014	17,694	3.5	22.3	5.8	3.4	24.4	6.0
– Marche	442	14,848	66,777	4.5	41.4	9.8	4.4	52.8	10.8
– Lazio	3,176	82,543	496,958	6.0	42.9	14.3	5.7	51.0	14.5
– Abruzzo	557	15,213	71,710	4.7	35.3	11.8	4.9	54.2	11.0
– Molise	80	1,620	10,068	6.2	34.5	5.4	6.3	46.8	7.2
– Campania	3,855	116,698	704,337	6.0	50.1	20.4	5.3	57.9	23.5
– Apulia	1,827	55,411	263,748	4.8	39.6	14.0	4.8	51.8	16.2
– Basilicata	-	-	-	-	-	0.0	-	-	0.0
– Calabria	668	15,780	71,470	4.5	29.3	8.3	4.7	42.3	15.2
– Sicily	3,163	74,787	384,147	5.1	33.3	15.3	5.3	41.6	17.1
– Sardinia	617	15,755	66,110	4.2	29.4	9.8	4.1	28.0	9.6
North	12,638	262,203	1,618,166	6.2	37.9	9.5	5.3	59.3	12.3
Center	4,653	125,928	694,162	5.5	41.4	10.6	5.2	48.5	11.3
South	10,767	295,264	1,571,590	5.3	41.6	14.6	5.1	48.6	16.9
Italy	*28,058*	*683,395*	*3,883,918*	*5.7*	*37.9*	*11.5*	*5.2*	*52.6*	*13.7*

(*) 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[1], by region. Year 2020 and comparison with the year 2019

Regions	*Patient beds actually used*	*Admissions*	*Days spent in hospital*	*2020*		*2019*	
				Average length of stay	*Occupancy rate (%)*	*Average length of stay*	*Occupancy rate (%)*
– Piedmont	2,240	14,685	437,675	29.8	53.5	28.7	67.1
– Aosta Valley	75	552	9,168	16.6	33.5	17.5	61.5
– Lombardy	2,991	29,679	721,120	24.3	66.1	22.9	94.2
– A.P. of Bolzano	201	3,153	74,881	23.7	102.1	20.6	94.0
– A.P. of Trento	431	4,621	116,988	25.3	74.4	22.7	96.8
– Veneto	608	8,610	168,311	19.5	75.8	19.5	84.3
– Friuli V.G.	104	714	12,128	17.0	31.9	17.5	38.9
– Liguria	214	2,439	53,908	22.1	69.0	18.1	83.6
– Emilia Romagna	1,517	22,680	444,420	19.6	80.3	19.0	92.1
– Tuscany	554	6,126	143,900	23.5	71.2	22.0	72.2
– Umbria	31	907	9,787	10.8	86.5	12.9	105.2
– Marche	467	4,643	128,957	27.8	75.7	27.5	83.9
– Lazio	2,496	20,133	596,672	29.6	65.5	29.6	90.5
– Abruzzo	434	3,518	86,413	24.6	54.6	24.7	80.6
– Molise	60	413	9,825	23.8	44.9	23.1	68.7
– Campania	1,698	9,768	336,351	34.4	54.3	29.6	81.4
– Apulia	660	6,125	162,163	26.5	67.3	26.2	80.3
– Basilicata	40	274	9,369	34.2	64.2	35.9	81.8
– Calabria	547	5,135	138,386	26.9	69.3	23.1	79.8
– Sicily	1,038	11,592	263,857	22.8	69.6	22.0	93.5
– Sardinia	312	3,564	67,368	18.9	59.2	18.5	76.1
North	8,381	87,133	2,038,599	23.4	68.8	22.3	84.6
Center	3,548	31,809	879,316	27.6	68.1	27.6	86.7
South	4,789	40,389	1,073,732	26.6	62.2	25.0	82.8
Italy	*16,718*	*159,331*	*3,991,647*	*25.1*	*65.4*	*24.0*	*84.6*

(*) 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 S/20 – Hospital Discharge Forms (SDOs): recorded activity, national grand total, and totals for public and private institutions – Discharged pts and in-hospital days. 2020

	Number of cases			*Number of days*		
	Public	*Private*	*Total*	*Public*	*Private*	*Total*
– Inpatient admissions for acute cases	3,709,772	1,200,810	4,910,582	29,724,964	7,002,689	36,727,653
– Day hospital for acute cases	870,888	380,765	1,251,653	2,754,809	615,023	3,369,832
– Rehabilitation for inpatient admissions	50,247	185,478	235,725	1,409,052	5,063,292	6,472,344
– Rehabilitation – *Day hospital*	6,288	12,255	18,543	72,629	195,803	268,432
– Long-term care	37,285	35,681	72,966	783,741	1,009,620	1,793,361
– Normal newborns(1)	232,114	62,374	294,488	670,100	177,990	848,090
Total	4,906,594	*1,877,363*	*6,783,957*	*35,415,295*	*14,064,417*	*49,479,712*

Public institutions: Hospital Centers, University Hospital Centers and Public Polyclinics, Public I.R.C.C.S. and Public Foundations, Directly Managed Hospitals.
Private institutions: Private Polyclinics, Private I.R.C.C.S. and Private Foundations, Classified Hospitals, USL Facilities, Research Facilities, Accredited Hospitals[2], 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 (Private accredited healthcare facilities) in the ministerial classification
Source: *data from the Ministry of Health – SDO 2020*

Table S/21 *– Distribution of discharged pts classified according to type of institution, activity, and admissions(1). 2020*

Type of institution	*Acute*				*Rehabilitation*					
	Inpatient admissions		*Day hospital*		*Inpatient admissions*		*Day hospital*		*Long-term care*	
	Number	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*
– Public institutions	3,709,772	75.5	870,888	69.6	50,247	21.3	6,288	33.9	37,285	51.1
– Accredited hospitals (as a whole)	1,154,045	23.5	370,057	29.6	185,289	78.6	12,255	66.1	35,279	48.3
– Non-accr. Private Healthcare Facilities	46,765	1.0	10,708	0.8	189	0.1	-	0.0	402	0.6
Total	*4,910,582*	*100.0*	*1,251,653*	*100.0*	*235,725*	*100.0*	*18,543*	*100.0*	*72,966*	*100.0*

(1) Data for normal newborns is not included.
Source: *data from the Ministry of Health – SDO 2020*

Table S/22 *– Distribution of in-hospital days classified according to type of institution, activity, and admissions(1). 2020*

Type of institution	*Acute*				*Rehabilitation*					
	Inpatient admissions		*Day hospital*		*Inpatient admissions*		*Day hospital*		*Long-term care*	
	Number	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*
– Public institutions	29,724,964	80.9	2,754,809	81.8	1,409,052	21.8	72,629	27.1	783,741	43.7
– Accredited hospitals (as a whole)	6,847,516	18.6	603,886	17.9	5,058,063	78.1	195,803	72.9	995,578	55.5
– Non-accr. Private Healthcare Facilities	155,173	0.4	11,137	0.3	5,229	0.1	-	0.0	14,042	0.8
Total	*36,727,653*	*100.0*	*3,369,832*	*100.0*	*6,472,344*	*100.0*	*268,432*	*100.0*	*1,793,361*	*100.0*

(1) Data for normal newborns is not included.
Source: *data from the Ministry of Health – SDO 2020*

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. 2020

Rank		DRG	Discharges			% In-hospital days	Average length of stay
			Number	%	% cumul.		
1	373	Vaginal Delivery W/O Complicating Diagnoses	249,178	5.1	5.1	2.3	3.4
2	544	Major Joint Replacement or Reattachment of Lower Extremity	150,208	3.0	8.1	3.1	7.6
3	087	Pulmonary Edema & Respiratory Failure	149,158	3.0	11.1	4.4	10.9
4	127	Heart Failure & Shock	121,561	2.5	13.6	3.1	9.4
5	371	Cesarean Section W/O Cc	117,480	2.4	16.0	1.4	4.4
6	079	Respiratory Infections And Inflammations, Age >17 W Cc	115,585	2.3	18.3	4.5	14.3
7	014	Intracranial Hemorrhage Or Cerebral Infarction	76,890	1.6	19.9	2.1	10.1
8	576	Septicemia W/O Mv 96+ Hours Age >17	71,081	1.4	21.3	2.6	13.5
9	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	67,964	1.4	22.7	0.6	3.3
10	311	Transurethral Procedures W/O Cc	64,183	1.3	24.0	0.5	3.1
11	089	Simple Pneumonia & Pleurisy Age >17 W Cc	63,819	1.3	25.3	1.9	11.2
12	080	Respiratory Infections And Inflammations, Age >17 W/O Cc	63,424	1.3	26.6	1.9	11.2
13	430	Psychoses	60,330	1.2	27.8	2.3	13.8
14	316	Renal failure	58,743	1.2	29.0	1.6	9.9
15	557	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	56,864	1.2	30.2	1.1	7.4
16	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	55,614	1.1	31.3	0.5	3.3
17	125	Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	50,788	1.0	32.3	0.4	3.2
18	219	Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc	46,859	1.0	33.3	0.8	6.1
19	390	Neonate W Other Significant Problems	45,835	0.9	34.2	0.5	4.0
20	558	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	41,270	0.8	35.1	0.4	3.9
21	224	Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc	37,390	0.8	35.8	0.3	2.7
22	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	37,369	0.8	36.6	1.0	9.8
23	203	Malignancy Of Hepatobiliary System Or Pancreas	34,288	0.7	37.3	0.9	9.3
24	410	Chemotherapy W/O Acute Leukemia As Secondary Diagnosis	33,955	0.7	38.0	0.5	5.1
25	467	Other Factors Influencing Health Status	33,670	0.7	38.6	0.3	3.4
26	082	Respiratory Neoplasms	31,365	0.6	39.3	0.9	10.1
27	210	Hip & Femur Procedures Except Major Joint Age >17 W Cc	30,726	0.6	39.9	1.1	12.7
28	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	30,370	0.6	40.5	0.4	4.8
29	149	Major Small & Large Bowel Procedures W/O Cc	30,025	0.6	41.1	0.7	9.1
30	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	29,997	0.6	41.7	0.1	1.8
31	395	Red Blood Cell Disorders Age >17	29,139	0.6	42.3	0.7	8.6

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(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. 2020*

Rank		DRG	Discharges			% in-hospital days	Average length of stay
			Number	%	% cumul.		
32	518	Perc Cardio Proc W/O Coronary Artery Stent Or Ami	28,173	0.6	42.9	0.3	3.3
33	260	Subtotal Mastectomy For Malignancy W/O Cc	27,989	0.6	43.5	0.1	2.0
34	183	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	27,524	0.6	44.0	0.4	5.5
35	124	Circulatory Disorders Except Ami, W Card Cath & Complex Diag	27,143	0.6	44.6	0.5	7.2
36	090	Simple Pneumonia & Pleurisy Age >17 W/O Cc	26,408	0.5	45.1	0.6	8.4
37	503	Knee Procedures W/O Pdx Of Infection	25,261	0.5	45.6	0.1	1.8
38	337	Transurethral Prostatectomy W/O Cc	25,182	0.5	46.1	0.3	3.9
39	225	Foot Procedures	24,532	0.5	46.6	0.1	2.1
40	290	Thyroid Procedures	23,816	0.5	47.1	0.2	3.0
41	565	Respiratory System Diagnosis with Ventilator Support = 96 hours	23,466	0.5	47.6	1.2	18.7
42	389	Full Term Neonate W Major Problems	22,945	0.5	48.1	0.4	6.6
43	174	G.I. Hemorrhage w CC	22,675	0.5	48.5	0.6	9.3
44	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	22,331	0.5	49.0	0.2	3.8
45	381	Abortion W D&C, Aspiration Curettage Or Hysterotomy	22,011	0.4	49.4	0.1	1.6
46	208	Disorders Of The Biliary Tract W/O Cc	21,277	0.4	49.9	0.4	6.6
47	207	Disorders Of The Biliary Tract W Cc	20,998	0.4	50.3	0.6	10.2
48	569	Major Small & Large Bowel Procedures W Cc W Major Gi Dx	20,509	0.4	50.7	0.9	17.0
49	078	Pulmonary Embolism	19,949	0.4	51.1	0.5	10.0
50	012	Degenerative Nervous System Disorders	19,771	0.4	51.5	0.5	9.1
51	075	Major Chest Procedures	19,761	0.4	51.9	0.5	9.5
52	158	Anal & Stomal Procedures W/O Cc	19,573	0.4	52.3	0.1	2.1
53	288	O.R. Procedures For Obesity	19,533	0.4	52.7	0.2	3.5
54	479	Other Vascular Procedures W/O Cc	19,388	0.4	53.1	0.2	4.7
55	204	Disorders Of Pancreas Except Malignancy	19,369	0.4	53.5	0.5	9.2
56	524	Transient Ischemia	19,342	0.4	53.9	0.4	7.0
57	172	Digestive Malignancy W Cc	19,228	0.4	54.3	0.6	11.0
58	566	Respiratory System Diagnosis with Ventilator Support < 96 hours	19,163	0.4	54.7	0.5	9.6
59	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	19,152	0.4	55.1	0.1	2.0
60	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	18,382	0.4	55.4	0.2	3.7
		Total (top 60 DRGs)	2,729,979	55.4		54.3	
		Grand Total	4,925,394	100.0		100.0	7.5

Source: *data from the Ministry of Health – SDO 2020*

Table S/24 – AIOP accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases. 2021

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	66,866	11.5	11.5	10.8	5.7	379,077
2	373	Vaginal Delivery W/O Complicating Diagnoses	12,938	2.2	13.8	1.2	3.3	43,046
3	127	Heart Failure & Shock	12,835	2.2	16.0	3.4	9.3	119,014
4	288	O.R. Procedures For Obesity	12,655	2.2	18.2	1.2	3.3	42,042
5	371	Cesarean Section W/O Cc	12,618	2.2	20.3	1.4	3.8	47,555
6	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	11,512	2.0	22.3	1.0	3.1	35,294
7	311	Transurethral Procedures W/O Cc	10,817	1.9	24.2	0.8	2.6	28,441
8	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	10,661	1.8	26.0	0.8	2.6	27,851
9	224	Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc	10,556	1.8	27.8	0.5	1.8	19,243
10	125	Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	10,166	1.8	29.6	0.6	2.1	21,671
11	558	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	10,012	1.7	31.3	0.8	2.7	27,341
12	225	Foot Procedures	9,359	1.6	32.9	0.4	1.4	13,119
13	498	Spinal Fusion Except Cervical W/O Cc	8,327	1.4	34.4	1.1	4.6	38,097
14	503	Knee Procedures W/O Pdx Of Infection	8,138	1.4	35.8	0.4	1.8	14,378
15	518	Perc Cardio Proc W/O Coronary Artery Stent Or Ami	7,589	1.3	37.1	0.6	2.6	19,685
16	337	Transurethral Prostatectomy W/O Cc	6,606	1.1	38.2	0.7	3.6	23,750
17	087	Pulmonary Edema & Respiratory Failure	6,556	1.1	39.4	2.4	12.7	82,969
18	223	Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc	6,452	1.1	40.5	0.3	1.6	10,277
19	080	Respiratory Infections And Inflammations, Age >17 W/O Cc	5,972	1.0	41.5	2.7	16.2	96,638
20	104	Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath	5,404	0.9	42.4	1.7	11.3	61,289
21	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	5,258	0.9	43.3	0.5	3.2	16,608
22	467	Other Factors Influencing Health Status	4,741	0.8	44.2	0.5	3.5	16,813
23	430	Psychoses	4,463	0.8	44.9	1.6	12.8	57,152
24	491	Major Joint & Limb Reattachment Procedures Of Upper Extremity	4,410	0.8	45.7	0.5	3.9	17,135
25	479	Other Vascular Procedures W/O Cc	4,337	0.7	46.4	0.4	3.1	13,641
26	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	4,135	0.7	47.2	0.2	2.0	8,475
27	012	Degenerative Nervous System Disorders	4,134	0.7	47.9	3.4	29.1	120,234
28	079	Respiratory Infections And Inflammations, Age >17 W Cc	4,121	0.7	48.6	1.9	16.4	67,722
29	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	4,089	0.7	49.3	0.5	4.7	19,059
30	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	4,032	0.7	50.0	0.4	3.5	14,091

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(Continued) *Table S/24 – AIOP accredited hospitals: top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases. 2021*

Rank		*DRG*	*Discharges*			*% in-hospital days*	*Average length of stay*	*In-hospital days*
			Number	*%*	*% cumul,*			
31	545	Revision Of Hip Or Knee Replacement	3,983	0.7	50.7	0.9	7.5	29,973
32	219	Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc	3,947	0.7	51.3	0.5	4.0	15,968
33	232	Arthroscopy	3,910	0.7	52.0	0.3	2.7	10,716
34	316	Renal failure	3,871	0.7	52.7	0.9	7.9	30,654
35	305	Kidney And Ureter Procedures For Non-Neoplasm Without Cc	3,767	0.6	53.3	0.4	3.4	12,800
36	227	Soft Tissue Procedures W/O Cc	3,630	0.6	54.0	0.2	1.7	6,273
37	158	Anal & Stomal Procedures W/O Cc	3,521	0.6	54.6	0.2	1.6	5,460
38	243	Medical Back Problems	3,488	0.6	55.2	0.8	7.7	26,908
39	245	Bone Diseases & Specific Arthropathies W/O Cc	3,452	0.6	55.8	0.6	6.4	22,208
40	290	Thyroid Procedures	3,236	0.6	56.3	0.2	2.6	8,462
41	410	Chemotherapy W/O Acute Leukemia As Secondary Diagnosis	3,197	0.6	56.9	0.3	3.0	9,641
42	089	Simple Pneumonia & Pleurisy Age >17 W Cc	3,190	0.6	57.4	1.0	10.8	34,311
43	149	Major Small & Large Bowel Procedures W/O Cc	3,062	0.5	58.0	0.6	6.8	20,971
44	557	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	3,013	0.5	58.5	0.6	6.7	20,218
45	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	2,999	0.5	59.0	0.1	1.6	4,650
46	014	Intracranial Hemorrhage Or Cerebral Infarction	2,972	0.5	59.5	0.8	9.5	28,349
47	470	Ungroupable (cases which could not be assigned to valid DRGs)	2,956	0.5	60.0	0.5	6.3	18,727
48	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	2,914	0.5	60.5	0.2	2.9	8,472
49	120	Other Circulatory System O.R. Procedures	2,781	0.5	61.0	0.3	3.6	9,898
50	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	2,769	0.5	61.5	0.6	7.4	20,472
51	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	2,547	0.4	61.9	0.2	2.3	5,780
52	016	Nonspecific Cerebrovascular Disorders W Cc	2,377	0.4	62.3	0.4	6.2	14,654
53	335	Major Male Pelvic Procedures W/O Cc	2,344	0.4	62.7	0.4	6.1	14,184
54	082	Respiratory Neoplasms	2,332	0.4	63.1	0.5	7.7	18,035
55	203	Malignancy Of Hepatobiliary System Or Pancreas	2,311	0.4	63.5	0.5	7.6	17,674
56	183	Esophagitis, gastroenteritis and miscellaneous digestive disorders, Age >17 W/O Cc	2,242	0.4	63.9	0.4	5.7	12,875
57	133	Atherosclerosis W/O Cc	2,015	0.3	64.3	0.3	4.6	9,274
58	428	Disorders Of Personality & Impulse Control	1,971	0.3	64.6	1.5	26.6	52,370
59	395	Red Blood Cell Disorders Age >17	1,916	0.3	64.9	0.5	8.9	17,043
60	576	Septicemia W/O Mv 96+ Hours Age >17	1,896	0.3	65.3	0.7	13.1	24,805
		Total (top 60 DRGs)	*378,368*	*65.3*			*5.4*	*2,033,532*
		Grand Total	*579,773*				*6.1*	*3,514,926*

Source: *processing by Ermeneia, based on data from AIOP*

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. 2021

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	41,647	14.0	14.0	11.0	5.7	239,123
2	225	Foot Procedures	6,979	2.3	16.3	0.4	1.2	8,330
3	288	O.R. Procedures For Obesity	6,080	2.0	18.3	0.8	2.9	17,912
4	224	Shoulder, Elbow or Forearm Procedures, Except Major Joint Procedures W/O Cc	6,007	2.0	20.4	0.4	1.4	8,457
5	127	Heart Failure & Shock	5,634	1.9	22.2	3.0	11.4	64,253
6	518	Perc Cardio Proc W/O Coronary Artery Stent Or Ami	5,383	1.8	24.0	0.6	2.6	13,803
7	558	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	5,275	1.8	25.8	0.6	2.5	13,410
8	080	Respiratory Infections And Inflammations, Age >17 W/O Cc	5,264	1.8	27.6	4.0	16.4	86,233
9	311	Transurethral Procedures W/O Cc	5,024	1.7	29.3	0.5	2.2	10,944
10	503	Knee Procedures W/O Pdx Of Infection	4,846	1.6	30.9	0.4	2.0	9,604
11	498	Spinal Fusion Except Cervical W/O Cc	4,129	1.4	32.3	0.9	4.9	20,269
12	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	3,948	1.3	33.6	0.5	2.6	10,378
13	223	Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc	3,759	1.3	34.9	0.3	1.5	5,482
14	232	Arthroscopy	3,643	1.2	36.1	0.5	2.8	10,261
15	125	Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	3,622	1.2	37.3	0.3	2.1	7,503
16	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	3,587	1.2	38.5	0.4	2.3	8,415
17	373	Vaginal Delivery W/O Complicating Diagnoses	3,573	1.2	39.7	0.6	3.4	12,291
18	087	Pulmonary Edema & Respiratory Failure	3,381	1.1	40.8	2.6	16.9	57,305
19	104	Cardiac Valve and Other Major Cardiothoracic Procedures with Cardiac Catheterization	3,164	1.1	41.9	1.7	11.4	36,161
20	430	Psychoses	2,881	1.0	42.9	2.1	16.0	46,010
21	337	Transurethral Prostatectomy W/O Cc	2,843	1.0	43.8	0.4	3.2	9,102
22	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	2,816	0.9	44.8	0.4	2.9	8,246
23	245	Bone Diseases & Specific Arthropathies W/O Cc	2,682	0.9	45.7	0.9	7.4	19,760
24	079	Respiratory Infections And Inflammations, Age >17 W Cc	2,652	0.9	46.5	2.1	17.0	45,207
25	243	Medical Back Problems	2,610	0.9	47.4	1.0	8.7	22,745
26	545	Revision Of Hip Or Knee Replacement	2,516	0.8	48.3	0.9	7.5	18,864
27	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	2,445	0.8	49.1	0.3	2.8	6,959
28	158	Anal & Stomal Procedures W/O Cc	2,369	0.8	49.9	0.1	1.3	3,057
29	227	Soft Tissue Procedures W/O Cc	2,332	0.8	50.7	0.2	1.6	3,653
30	012	Degenerative Nervous System Disorders	2,248	0.8	51.4	5.0	48.3	108,651
31	491	Major Joint & Limb Reattachment Procedures Of Upper Extremity	2,226	0.7	52.2	0.4	3.7	8,189
32	479	Other Vascular Procedures W/O Cc	2,081	0.7	52.9	0.3	3.1	6,515

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(Continued) *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. 2021*

Rank		DRG	Discharges			% in-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
33	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	2,066	0.7	53.5	0.4	3.8	7,895
34	219	Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc	2,034	0.7	54.2	0.3	3.7	7,437
35	014	Intracranial Hemorrhage Or Cerebral Infarction	1,958	0.7	54.9	0.9	10.0	19,590
36	557	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	1,934	0.6	55.5	0.6	6.7	12,979
37	133	Atherosclerosis W/O Cc	1,886	0.6	56.2	0.4	4.6	8,665
38	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	1,864	0.6	56.8	0.4	5.1	9,479
39	467	Other Factors Influencing Health Status	1,857	0.6	57.4	0.6	7.0	13,010
40	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	1,817	0.6	58.0	0.1	1.6	2,980
41	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	1,804	0.6	58.6	0.2	2.2	3,899
42	428	Disorders Of Personality & Impulse Control	1,791	0.6	59.2	2.4	28.5	51,121
43	371	Cesarean Section W/O Cc	1,536	0.5	59.7	0.3	4.3	6,592
44	496	Combined Anterior/Posterior Spinal Fusion	1,510	0.5	60.3	0.3	4.6	6,910
45	256	Other Musculoskeletal System & Connective Tissue Diagnoses	1,472	0.5	60.7	3.0	44.9	66,049
46	149	Major Small & Large Bowel Procedures W/O Cc	1,459	0.5	61.2	0.5	6.8	9,922
47	248	Tendonitis, Myositis & Bursitis	1,414	0.5	61.7	0.6	9.1	12,802
48	335	Major Male Pelvic Procedures W/O Cc	1,381	0.5	62.2	0.4	6.0	8,299
49	131	Peripheral Vascular Disorders W/O Cc	1,343	0.5	62.6	0.3	5.3	7,062
50	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	1,340	0.4	63.1	0.5	7.8	10,407
51	089	Simple Pneumonia & Pleurisy Age >17 W Cc	1,338	0.4	63.5	0.8	12.6	16,827
52	136	Cardiac Congenital & Valvular Disorders Age >17 W/O Cc	1,319	0.4	64.0	0.5	8.8	11,616
53	105	Cardiac Valve & Oth Major Cardiothoracic Proc W/O Card Cath	1,302	0.4	64.4	0.8	13.9	18,082
54	523	Alc/Drug Abuse Or Depend W/O Rehabilitation Therapy W/O Cc	1,255	0.4	64.8	0.6	10.8	13,537
55	532	Spinal Procedures W/O Cc	1,172	0.4	65.2	0.1	2.6	3,014
56	316	Renal failure	1,155	0.4	65.6	0.5	10.2	11,769
57	053	Sinus & Mastoid Procedures Age >17	1,147	0.4	66.0	0.1	1.7	1,967
58	461	O.R. Proc W Diagnoses of Other Contact W Health Services	1,146	0.4	66.4	0.1	2.3	2,612
59	421	Viral Illness Age >17	1,121	0.4	66.7	0.9	16.9	18,924
60	117	Cardiac Pacemaker Revision Except Device Replacement	1,096	0.4	67.1	0.1	1.8	1,971
		Total (top 60 DRGs)	*200,163*	*67.1*			*6.6*	*1,312,509*
		Grand Total (North)	*298,259*				*7.3*	*2,171,681*

Source: *processing by Ermeneia, based on data from AIOP*

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. 2021

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	8,084	15.0	15.0	15.0	5.6	45,218
2	224	Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc	1,715	3.2	18.2	1.4	2.4	4,086
3	127	Heart Failure & Shock	1,600	3.0	21.2	4.7	8.9	14,286
4	498	Spinal Fusion Except Cervical W/O Cc	1,600	3.0	24.2	1.9	3.6	5,741
5	311	Transurethral Procedures W/O Cc	1,578	2.9	27.1	1.3	2.4	3,823
6	373	Vaginal Delivery W/O Complicating Diagnoses	1,279	2.4	29.5	1.6	3.7	4,754
7	503	Knee Procedures W/O Pdx Of Infection	1,156	2.1	31.6	0.4	1.1	1,261
8	223	Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc	1,055	2.0	33.6	0.4	1.2	1,286
9	337	Transurethral Prostatectomy W/O Cc	1,041	1.9	35.5	1.0	2.9	3,023
10	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	986	1.8	37.4	0.7	2.2	2,129
11	225	Foot Procedures	939	1.7	39.1	0.6	1.9	1,740
12	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	876	1.6	40.7	0.8	2.7	2,332
13	089	Simple Pneumonia & Pleurisy Age >17 W Cc	865	1.6	42.3	2.8	9.9	8,587
14	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	727	1.4	43.7	0.6	2.5	1,848
15	371	Cesarean Section W/O Cc	723	1.3	45.0	1.0	4.3	3,145
16	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	707	1.3	46.4	0.3	1.1	812
17	245	Bone Diseases & Specific Arthropathies W/O Cc	683	1.3	47.6	0.7	3.0	2,073
18	491	Major Joint & Limb Reattachment Procedures Of Upper Extremity	615	1.1	48.8	0.8	3.7	2,291
19	219	Lower Extrem & Humerus Proc Except Hip, Foot, Femur Age >17 W/O Cc	613	1.1	49.9	1.1	5.5	3,366
20	288	O.R. Procedures For Obesity	576	1.1	51.0	0.5	2.6	1,520
21	087	Pulmonary Edema & Respiratory Failure	534	1.0	52.0	1.7	9.6	5,145
22	079	Respiratory Infections And Inflammations, Age >17 W Cc	1,168	2.2	54.2	5.6	14.5	16,929
23	576	Septicemia W/O Mv 96+ Hours Age >17	501	0.9	55.1	1.8	10.6	5,322
24	316	Renal failure	476	0.9	56.0	1.5	9.5	4,543
25	545	Revision Of Hip Or Knee Replacement	452	0.8	56.8	1.2	7.9	3,554
26	395	Red Blood Cell Disorders Age >17	422	0.8	57.6	1.3	9.0	3,782
27	082	Respiratory Neoplasms	381	0.7	58.3	1.4	11.1	4,238
28	090	Simple Pneumonia & Pleurisy Age >17 W/O Cc	375	0.7	59.0	1.0	7.7	2,893
29	305	Kidney And Ureter Procedures For Non-Neoplasm Without Cc	370	0.7	59.7	0.4	3.4	1,273
30	014	Intracranial Hemorrhage Or Cerebral Infarction	364	0.7	60.4	1.3	10.9	3,984
31	243	Medical Back Problems	359	0.7	61.0	0.6	4.6	1,660
32	081	Respiratory Infections And Inflammations, Age 0-17	542	1.0	62.0	2.4	13.4	7,241

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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. 2021*

Rank		*DRG*	*Discharges*			*% in-hospital days*	*Average length of stay*	*In-hospital days*
			Number	*%*	*% cumul.*			
33	467	Other Factors Influencing Health Status	351	0.7	62.7	0.1	0.9	315
34	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	348	0.6	63.3	1.0	8.3	2,905
35	227	Soft Tissue Procedures W/O Cc	341	0.6	64.0	0.2	2.2	743
36	158	Anal & Stomal Procedures W/O Cc	330	0.6	64.6	0.2	1.9	613
37	335	Major Male Pelvic Procedures W/O Cc	316	0.6	65.2	0.6	5.7	1,787
38	385	Neonates, died or transferred to another acute care facility	314	0.6	65.8	0.3	3.2	1,001
39	080	Respiratory Infections And Inflammations, Age >17 W/O Cc	437	0.8	66.6	1.8	12.8	5,581
40	172	Digestive Malignancy W Cc	283	0.5	67.1	1.0	10.3	2,904
41	147	Rectal Resection W/O Cc	283	0.5	67.6	0.4	4.0	1,137
42	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	282	0.5	68.1	0.2	2.3	662
43	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	278	0.5	68.7	0.6	7.0	1,944
44	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	271	0.5	69.2	0.1	1.1	293
45	183	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	260	0.5	69.7	0.6	6.6	1,706
46	249	Aftercare, Musculoskeletal System & Connective Tissue	259	0.5	70.1	0.5	5.8	1,505
47	203	Malignancy Of Hepatobiliary System Or Pancreas	253	0.5	70.6	0.8	10.1	2,560
48	320	Kidney & Urinary Tract Infections Age >17 W Cc	248	0.5	71.1	0.8	10.0	2,468
49	524	Transient Ischemia	239	0.4	71.5	0.7	8.6	2,062
50	229	Hand Or Wrist Proc, Except Major Joint Proc, W/O Cc	238	0.4	72.0	0.1	1.6	369
51	053	Sinus & Mastoid Procedures Age >17	229	0.4	72.4	0.1	1.6	371
52	160	Hernia Procedures Except Inguinal & Femoral Age >17 W/O Cc	225	0.4	72.8	0.1	2.0	450
53	324	Urinary Stones W/O Cc	225	0.4	73.2	0.2	2.8	641
54	296	Nutritional & Misc Metabolic Disorders Age >17 W Cc	207	0.4	73.6	0.6	8.6	1,772
55	321	Kidney and Urinary Tract Infections, 0-17 W/O Cc	205	0.4	74.0	0.5	7.5	1,542
56	149	Major Small & Large Bowel Procedures W/O Cc	201	0.4	74.4	0.5	7.3	1,462
57	309	Minor Bladder Procedures W/O Cc	198	0.4	74.7	0.2	2.6	505
58	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	192	0.4	75.1	0.2	2.7	523
59	088	Chronic Obstructive Pulmonary Disease	181	0.3	75.4	0.4	7.2	1,305
60	339	Testes Procedures, Non-Malignancy Age >17	175	0.3	75.7	0.1	1.2	211
		Total (top 60 DRGs)	*40,731*	*75.7*			*5.2*	*213,222*
		Grand Total (Center)	*53,776*				*5.6*	*301,787*

Source: *processing by Ermeneia, based on data from AIOP*

Table S/27 – AIOP 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. 2021

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	17,135	7.5	7.5	9.1	5.5	94,736
2	371	Cesarean Section W/O Cc	10,359	4.5	12.1	3.6	3.7	37,818
3	373	Vaginal Delivery W/O Complicating Diagnoses	8,086	3.6	15.6	2.5	3.2	26,001
4	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	6,688	2.9	18.6	2.2	3.4	22,584
5	125	Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	6,540	2.9	21.4	1.4	2.2	14,122
6	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	6,347	2.8	24.2	1.7	2.8	17,588
7	288	O.R. Procedures For Obesity	5,999	2.6	26.9	2.2	3.8	22,610
8	127	Heart Failure & Shock	5,601	2.5	29.3	3.9	7.2	40,475
9	558	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	4,733	2.1	31.4	1.3	2.9	13,891
10	311	Transurethral Procedures W/O Cc	4,215	1.9	33.2	1.3	3.2	13,674
11	410	Chemotherapy W/O Acute Leukemia As Secondary Diagnosis	3,054	1.3	34.6	0.8	2.8	8,568
12	224	Shoulder, Elbow Or Forearm Proc, Except Major Joint Proc, W/O Cc	2,834	1.2	35.8	0.6	2.4	6,700
13	337	Transurethral Prostatectomy W/O Cc	2,722	1.2	37.0	1.1	4.3	11,625
14	305	Kidney And Ureter Procedures For Non-Neoplasm Without Cc	2,682	1.2	38.2	0.8	3.1	8,359
15	087	Pulmonary Edema & Respiratory Failure	2,641	1.2	39.4	2.0	7.8	20,519
16	498	Spinal Fusion Except Cervical W/O Cc	2,598	1.1	40.5	1.2	4.7	12,087
17	467	Other Factors Influencing Health Status	2,533	1.1	41.6	0.3	1.4	3,488
18	290	Thyroid Procedures	2,347	1.0	42.6	0.6	2.7	6,386
19	120	Other Circulatory System O.R. Procedures	2,265	1.0	43.6	0.7	3.1	7,105
20	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	2,250	1.0	44.6	0.8	3.5	7,839
21	316	Renal failure	2,240	1.0	45.6	1.4	6.4	14,342
22	104	Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath	2,240	1.0	46.6	2.4	11.2	25,128
23	016	Nonspecific Cerebrovascular Disorders W Cc	2,210	1.0	47.6	1.2	5.8	12,876
24	479	Other Vascular Procedures W/O Cc	2,210	1.0	48.5	0.6	3.1	6,769
25	518	Perc Cardio Proc W/O Coronary Artery Stent Or Ami	2,206	1.0	49.5	0.6	2.7	5,882
26	503	Knee Procedures W/O Pdx Of Infection	2,136	0.9	50.4	0.3	1.6	3,513
27	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	1,947	0.9	51.3	0.7	3.9	7,636
28	012	Degenerative Nervous System Disorders	1,835	0.8	52.1	1.1	6.0	10,978
29	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	1,816	0.8	52.9	0.5	3.1	5,640

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(Continued) *Table S/27 – AIOP 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. 2021*

Rank		*DRG*	*Discharges*			*% in-hospital days*	*Average length of stay*	*In-hospital days*
			Number	*%*	*% cumul.*			
30	223	Major Shoulder/Elbow Proc, Or Other Upper Extremity Proc W Cc	1,638	0.7	53.6	0.3	2.1	3,509
31	430	Psychoses	1,571	0.7	54.3	1.1	7.0	11,057
32	491	Major Joint & Limb Reattachment Procedures Of Upper Extremity	1,569	0.7	55.0	0.6	4.2	6,655
33	144	Other Circulatory System Diagnoses W Cc	1,459	0.6	55.6	0.6	4.6	6,766
34	225	Foot Procedures	1,441	0.6	56.3	0.3	2.1	3,049
35	149	Major Small & Large Bowel Procedures W/O Cc	1,402	0.6	56.9	0.9	6.8	9,587
36	082	Respiratory Neoplasms	1,361	0.6	57.5	0.7	5.5	7,514
37	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	1,332	0.6	58.1	0.3	2.5	3,366
38	219	Lower Extremity and Humerus Procedures, Except Hip, Foot and Femur, > 17, W/O Cc	1,300	0.6	58.6	0.5	4.0	5,165
39	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	1,254	0.6	59.2	0.2	1.9	2,400
40	172	Digestive Malignancy W Cc	1,168	0.5	59.7	0.8	6.7	7,836
41	017	Nonspecific Cerebrovascular Disorders W/O Cc	1,115	0.5	60.2	0.6	5.3	5,934
42	151	Peritoneal Adhesiolysis W/O Cc	1,099	0.5	60.7	0.4	3.4	3,759
43	183	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	1,096	0.5	61.2	0.5	4.7	5,097
44	315	Other kidney & urinary tract O.R. procedures	1,093	0.5	61.6	0.3	3.0	3,256
45	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	1,081	0.5	62.1	0.7	6.6	7,160
46	557	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	1,077	0.5	62.6	0.7	6.7	7,226
47	203	Malignancy Of Hepatobiliary System Or Pancreas	1,074	0.5	63.1	0.7	6.4	6,849
48	260	Subtotal Mastectomy For Malignancy W/O Cc	1,044	0.5	63.5	0.3	2.5	2,645
49	524	Transient Ischemia	1,022	0.4	64.0	0.6	6.5	6,603
50	545	Revision Of Hip Or Knee Replacement	1,015	0.4	64.4	0.7	7.4	7,555
51	179	Inflammatory Bowel Disease	992	0.4	64.8	0.5	5.1	5,046
52	089	Simple Pneumonia & Pleurisy Age >17 W Cc	987	0.4	65.3	0.9	9.0	8,897
53	227	Soft Tissue Procedures W/O Cc	957	0.4	65.7	0.2	2.0	1,877
54	296	Nutritional & Misc Metabolic Disorders Age >17 W Cc	909	0.4	66.1	0.6	6.4	5,786
55	202	Cirrhosis & Alcoholic Hepatitis	892	0.4	66.5	0.6	7.5	6,666
56	160	Hernia Procedures Except Inguinal & Femoral Age >17 W/O Cc	880	0.4	66.9	0.3	3.1	2,699
57	381	Abortion W D&C, Aspiration Curettage Or Hysterotomy	869	0.4	67.3	0.1	0.9	780
58	130	Peripheral Vascular Disorders W Cc	868	0.4	67.6	0.5	5.5	4,810
59	390	Neonate W Other Significant Problems	854	0.4	68.0	0.3	3.8	3,274
60	182	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W Cc	839	0.4	68.4	0.5	5.8	4,837
		Total (top 60 DRGs)	*155,727*	*68.4*			*4.2*	*656,599*
		Grand Total (South)	*227,738*				*4.6*	*1,041,458*

Source: *processing by Ermeneia, based on data from AIOP*

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. 2020

Rank		DRG	Discharges			% Accesses	Average number of accesses
			Number	%	% cumul.		
1	410	Chemotherapy W/O Acute Leukemia As Secondary Diagnosis	91,089	7.3	7.3	26.9	10.0
2	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	61,422	4.9	12.2	2.3	1.2
3	381	Abortion W D&C, Aspiration Curettage Or Hysterotomy	53,715	4.3	16.4	2.1	1.3
4	266	Skin Graft &/Or Debrid Except For Skin Ulcer Or Cellulitis W/O Cc	37,035	3.0	19.4	1.6	1.5
5	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	36,836	2.9	22.3	1.4	1.3
6	467	Other Factors Influencing Health Status	34,863	2.8	25.1	2.1	2.0
7	503	Knee Procedures W/O Pdx Of Infection	30,444	2.4	27.5	1.2	1.3
8	380	Abortion W/O D&C	23,938	1.9	29.4	1.6	2.3
9	042	Intraocular Procedures Except Retina, Iris & Lens	23,097	1.8	31.3	1.0	1.4
10	225	Foot Procedures	22,216	1.8	33.1	0.9	1.4
11	229	Hand Or Wrist Proc, Except Major Joint Proc, W/O Cc	19,201	1.5	34.6	0.7	1.3
12	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	19,148	1.5	36.1	0.7	1.3
13	364	D&C, Conization Except For Malignancy	18,799	1.5	37.6	0.7	1.3
14	395	Red Blood Cell Disorders Age >17	16,991	1.4	39.0	4.2	8.3
15	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	16,779	1.3	40.3	0.7	1.4
16	466	Aftercare W/O History Of Malignancy As Secondary Diagnosis	16,494	1.3	41.6	1.2	2.5
17	270	Other Skin, Subcut Tiss & Breast Proc W/O Cc	16,388	1.3	42.9	0.7	1.4
18	158	Anal & Stomal Procedures W/O Cc	16,081	1.3	44.2	0.6	1.3
19	036	Retinal procedures	16,036	1.3	45.5	0.7	1.5
20	039	Lens Procedures With Or Without Vitrectomy	15,875	1.3	46.7	0.8	1.7
21	169	Mouth Procedures W/O Cc	12,001	1.0	47.7	0.5	1.4
22	404	Lymphoma & Non-Acute Leukemia W/O Cc	11,888	0.9	48.6	2.0	5.7
23	119	Vein Ligation & Stripping	11,483	0.9	49.6	0.4	1.2
24	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	11,466	0.9	50.5	0.4	1.3
25	301	Endocrine Disorders W/O Cc	11,452	0.9	51.4	0.7	2.0
26	365	Other Female Reproductive System O.R. Procedures	11,025	0.9	52.3	0.3	1.0
27	227	Soft Tissue Procedures W/O Cc	10,539	0.8	53.1	0.4	1.3
28	461	O.R. Proc W Diagnoses of Other Contact W Health Services	9,607	0.8	53.9	0.4	1.2
29	040	Extraocular Procedures Except Orbit Age >17	9,309	0.7	54.6	0.4	1.4
30	267	Perianal & Pilonidal Procedures	8,799	0.7	55.3	0.4	1.4
		Total (top 30 DRGs)	*694,016*	*55.3*		*58.0*	
		Grand Total	*1,254,587*	*100.0*		*100.0*	*2.7*

Source: *data from the Ministry of Health – SDO 2020*

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. 2020

Rank		DRG	Discharges			% in-hospital days	Average length of stay
			Number	%	% cumul.		
1	256	Other Musculoskeletal System & Connective Tissue Diagnoses	60,842	25.8	25.8	16.8	17.8
2	012	Degenerative Nervous System Disorders	30,439	12.9	38.7	19.8	42.2
3	249	Aftercare, Musculoskeletal System & Connective Tissue	22,602	9.6	48.3	9.6	27.6
4	145	Other Circulatory System Diagnoses W/O Cc	13,671	5.8	54.1	3.5	16.6
5	144	Other Circulatory System Diagnoses W Cc	10,271	4.4	58.4	3.1	19.8
6	009	Spinal Disorders & Injuries	8,040	3.4	61.8	7.0	56.2
7	462	Rehabilitation	6,898	2.9	64.8	2.7	25.4
8	087	Pulmonary Edema & Respiratory Failure	6,788	2.9	67.6	2.6	24.7
9	236	Fractures Of Hip & Pelvis	6,134	2.6	70.2	2.8	29.8
10	247	Signs & Symptoms Of Musculoskeletal System & Conn Tissue	6,130	2.6	72.8	2.3	24.4
11	430	Psychoses	5,981	2.5	75.4	2.7	29.7
12	127	Heart Failure & Shock	4,888	2.1	77.4	1.5	20.3
13	035	Other Disorders Of Nervous System W/O Cc	4,828	2.0	79.5	2.9	39.2
14	034	Other Disorders Of Nervous System W Cc	3,822	1.6	81.1	2.5	42.8
15	248	Tendonitis, Myositis & Bursitis	2,923	1.2	82.3	1.2	26.2
16	467	Other Factors Influencing Health Status	2,885	1.2	83.6	1.0	21.4
17	014	Intracranial Hemorrhage Or Cerebral Infarction	2,394	1.0	84.6	1.7	44.7
18	088	Chronic Obstructive Pulmonary Disease	2,267	1.0	85.5	0.8	23.8
19	428	Disorders Of Personality & Impulse Control	2,182	0.9	86.5	1.1	33.3
20	245	Bone Diseases & Specific Arthropathies W/O Cc	2,014	0.9	87.3	0.5	17.2
21	079	Respiratory Infections And Inflammations, Age >17 W Cc	1,711	0.7	88.0	0.5	18.5
22	243	Medical Back Problems	1,642	0.7	88.7	0.7	26.8
23	080	Respiratory Infections And Inflammations, Age >17 W/O Cc	1,440	0.6	89.4	0.4	18.2
24	023	Nontraumatic Stupor & Coma	1,261	0.5	89.9	1.9	95.9
25	019	Cranial & Peripheral Nerve Disorders W/O Cc	1,140	0.5	90.4	0.6	32.8
26	013	Multiple Sclerosis & Cerebellar Ataxia	1,050	0.4	90.8	0.6	36.0
27	522	Alc/Drug Abuse Or Depend W Rehabilitation Therapy W/O Cc	1,001	0.4	91.2	0.4	26.8
28	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	922	0.4	91.6	0.3	23.7
29	133	Atherosclerosis W/O Cc	822	0.3	92.0	0.2	18.1
30	018	Cranial & Peripheral Nerve Disorders W Cc	817	0.3	92.3	0.5	38.7
		Total (top 30 DRGs)	*217,805*	*92.3*		*92.3*	
		Grand Total	*235,915*	*100.0*		*100.0*	*27.5*

Source: *data from the Ministry of Health – SDO 2020*

Table S/30 – – AIOP accredited hospitals: top 30 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for rehabilitation treatment. 2021

Rank	DRG		Discharges			% in-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
1	256	Other Musculoskeletal System & Connective Tissue Diagnoses	27,342	34.9	34.9	22.3	14.7	402,028
2	249	Aftercare, Musculoskeletal System & Connective Tissue	6,071	7.7	42.6	9.0	26.8	162,708
3	012	Degenerative Nervous System Disorders	5,895	7.5	50.2	12.9	39.4	232,377
4	145	Other Circulatory System Diagnoses W/O Cc	4,761	6.1	56.3	4.5	17.1	81,187
5	430	Psychoses	4,256	5.4	61.7	6.6	28.0	119,174
6	247	Signs & Symptoms Of Musculoskeletal System & Conn Tissue	3,731	4.8	66.4	4.6	22.1	82,289
7	144	Other Circulatory System Diagnoses W Cc	2,346	3.0	69.4	2.5	19.3	45,242
8	236	Fractures Of Hip & Pelvis	2,200	2.8	72.2	3.9	32.2	70,867
9	245	Bone Diseases & Specific Arthropathies W/O Cc	1,944	2.5	74.7	2.4	22.2	43,097
10	462	Rehabilitation	1,737	2.2	76.9	2.6	26.5	46,044
11	087	Pulmonary Edema & Respiratory Failure	1,348	1.7	78.7	1.7	23.0	30,941
12	428	Disorders Of Personality & Impulse Control	1,313	1.7	80.3	2.1	29.0	38,089
13	035	Other Disorders Of Nervous System W/O Cc	1,175	1.5	81.8	2.3	36.1	42,407
14	009	Spinal Disorders & Injuries	1,037	1.3	83.2	2.4	42.2	43,774
15	522	Alc/Drug Abuse Or Depend W Rehabilitation Therapy W/O Cc	964	1.2	84.4	1.4	25.4	24,458
16	248	Tendonitis, Myositis & Bursitis	938	1.2	85.6	1.4	27.9	26,134
17	127	Heart Failure & Shock	833	1.1	86.7	0.9	19.7	16,439
18	243	Medical Back Problems	761	1.0	87.6	0.9	21.6	16,445
19	034	Other Disorders Of Nervous System W Cc	607	0.8	88.4	1.3	39.0	23,676
20	088	Chronic Obstructive Pulmonary Disease	598	0.8	89.2	0.8	24.0	14,338
21	467	Other Factors Influencing Health Status	590	0.8	89.9	0.8	23.5	13,889
22	523	Alc/Drug Abuse Or Depend W/O Rehabilitation Therapy W/O Cc	588	0.8	90.7	0.8	24.5	14,420
23	014	Intracranial Hemorrhage Or Cerebral Infarction	466	0.6	91.3	0.9	36.5	16,989
24	019	Cranial & Peripheral Nerve Disorders W/O Cc	445	0.6	91.8	0.7	29.5	13,143
25	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	320	0.4	92.2	0.4	24.5	7,855
26	133	Atherosclerosis W/O Cc	287	0.4	92.6	0.3	18.2	5,214
27	015	Nonspecific Cva & Precerebral Occlusion W/O Infarct	257	0.3	92.9	0.6	41.4	10,627
28	137	Cardiac congenital and valvular disorders, age 0-17	253	0.3	93.3	0.2	17.1	4,317
29	140	Angina pectoris	247	0.3	93.6	0.3	18.6	4,602
30	429	Organic Disturbances & Mental Retardation	232	0.3	93.9	0.3	26.0	6,037
	Total (top 30 DRGs)		*73,542*	*93.9*			*22.6*	*1,658,807*
	Grand Total		*78,343*				*23.0*	*1,804,832*

Source: *processing by Ermeneia, based on data from AIOP*

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. 2020

MDC	*Number of cases*	*%*	*In-hospital days*	*Average length of stay*
01 – Diseases and Disorders of the Nervous System	317,207	6.4	2,750,401	8.7
02 – Diseases and Disorders of the Eye	43,260	0.9	125,745	2.9
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	116,925	2.4	376,158	3.2
04 – Diseases and Disorders of the Respiratory System	644,497	13.1	7,163,603	11.1
05 – Diseases and Disorders of the Circulatory System	672,777	13.7	4,899,148	7.3
06 – Diseases and Disorders of the Digestive System	400,272	8.1	3,034,780	7.6
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	219,541	4.5	1,770,510	8.1
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	619,606	12.6	3,907,634	6.3
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	131,195	2.7	536,434	4.1
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	108,168	2.2	587,907	5.4
11 – Diseases and Disorders of the Kidney and Urinary Tract	303,920	6.2	2,026,788	6.7
12 – Diseases and Disorders of the Male Reproductive System	79,406	1.6	353,740	4.5
13 – Diseases and Disorders of the Female Reproductive System	123,991	2.5	497,657	4.0
14 – Pregnancy, Childbirth and the Puerperium	479,512	9.7	1,789,438	3.7
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	99,078	2.0	778,314	7.9
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	52,069	1.1	433,832	8.3
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	113,440	2.3	933,719	8.2
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	126,617	2.6	1,552,229	12.3
19 – Mental Diseases and Disorders	103,105	2.1	1,309,203	12.7
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	9,428	0.2	78,441	8.3
21 – Injuries, Poisonings and Toxic Effects of Drugs	35,648	0.7	238,314	6.7
22 – Burns	3,224	0.1	45,843	14.2
23 – Factors Influencing Health Status and Other Contacts with Health Services	67,791	1.4	313,791	4.6
24 – Multiple Significant Trauma	7,854	0.2	110,766	14.1
25 - H.I.V. infections	2,925	0.1	51,892	17.7
Other DRGs	13,866	0.3	131,610	9.5
Pre MDC	30,072	0.6	1,051,715	35.0
Grand Total	*4,925,394*	*100.0*	*36,849,612*	*7.5*

Source: *data from the Ministry of Health – SDO 2020*

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. 2020

MDC	*Number of cases*	*%*	*Accesses*	*Average number of accesses*
01 – Diseases and Disorders of the Nervous System	52,092	4.2	125,878	2.4
02 – Diseases and Disorders of the Eye	74,937	6.0	118,419	1.6
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	62,862	5.0	97,895	1.6
04 – Diseases and Disorders of the Respiratory System	24,499	2.0	66,930	2.7
05 – Diseases and Disorders of the Circulatory System	68,152	5.4	120,287	1.8
06 – Diseases and Disorders of the Digestive System	92,868	7.4	153,295	1.7
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	17,465	1.4	56,972	3.3
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	162,960	13.0	283,914	1.7
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	99,934	8.0	169,514	1.7
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	34,080	2.7	78,977	2.3
11 – Diseases and Disorders of the Kidney and Urinary Tract	46,292	3.7	115,972	2.5
12 – Diseases and Disorders of the Male Reproductive System	40,562	3.2	56,385	1.4
13 – Diseases and Disorders of the Female Reproductive System	110,126	8.8	136,996	1.2
14 – Pregnancy, Childbirth and the Puerperium	82,084	6.5	133,128	1.6
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	1,231	0.1	2,860	2.3
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	33,065	2.6	217,185	6.6
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	133,361	10.6	1,132,045	8.5
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	4,393	0.4	15,293	3.5
19 – Mental Diseases and Disorders	26,093	2.1	107,812	4.1
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	354	0.0	2,420	6.8
21 – Injuries, Poisonings and Toxic Effects of Drugs	6,851	0.5	15,975	2.3
22 – Burns	215	0.0	747	3.5
23 – Factors Influencing Health Status and Other Contacts with Health Services	72,358	5.8	144,974	2.0
24 – Multiple Significant Trauma	3	0.0	21	7.0
25 - H.I.V. infections	6,096	0.5	21,419	3.5
Other DRGs	1,605	0.1	3,381	2.1
Pre MDC	49	0.0	66	1.3
Grand Total	*1,254,587*	*100.0*	*3,378,760*	*2.7*

Source: *data from the Ministry of Health – SDO 2020*

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.2020

MDC	*Number of cases*	*%*	*In-hospital days*	*Average length of stay*
01 – Diseases and Disorders of the Nervous System	56,582	24.0	2,549,187	45.1
02 – Diseases and Disorders of the Eye	17	0.0	397	23.4
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	511	0.2	8,696	17.0
04 – Diseases and Disorders of the Respiratory System	15,011	6.4	343,682	22.9
05 – Diseases and Disorders of the Circulatory System	33,254	14.1	619,899	18.6
06 – Diseases and Disorders of the Digestive System	95	0.0	2,043	21.5
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	31	0.0	664	21.4
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	104,726	44.4	2,261,266	21.6
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	172	0.1	4,780	27.8
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	1,415	0.6	34,774	24.6
11 – Diseases and Disorders of the Kidney and Urinary Tract	404	0.2	4,596	11.4
12 – Diseases and Disorders of the Male Reproductive System	9	0.0	319	35.4
13 – Diseases and Disorders of the Female Reproductive System	4	0.0	200	50.0
14 – Pregnancy, Childbirth and the Puerperium	1	0.0	19	19.0
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	6	0.0	165	27.5
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	41	0.0	748	18.2
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	40	0.0	783	19.6
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	707	0.3	17,217	24.4
19 – Mental Diseases and Disorders	10,338	4.4	317,035	30.7
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	1,953	0.8	48,461	24.8
21 – Injuries, Poisonings and Toxic Effects of Drugs	165	0.1	4,514	27.4
22 – Burns	2	0.0	85	42.5
23 – Factors Influencing Health Status and Other Contacts with Health Services	10,035	4.3	243,214	24.2
24 – Multiple Significant Trauma	89	0.0	4,291	48.2
25 - H.I.V. infections	3	0.0	114	38.0
Other DRGs	293	0.1	8,971	30.6
Pre MDC	11	0.0	591	53.7
Grand Total	*235,915*	*100.0*	*6,476,711*	*27.5*

Source: *data from the Ministry of Health – SDO 2020*

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. 2020

MDC	*Number of cases*	*%*	*Accesses*	*Average number of accesses*
01 – Diseases and Disorders of the Nervous System	8,194	43.5	117,285	14.3
02 – Diseases and Disorders of the Eye	27	0.1	72	2.7
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	6	0.0	55	9.2
04 – Diseases and Disorders of the Respiratory System	521	2.8	5,295	10.2
05 – Diseases and Disorders of the Circulatory System	1,503	8.0	20,302	13.5
06 – Diseases and Disorders of the Digestive System	228	1.2	1,265	5.5
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	1	0.0	17	17.0
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	3,642	19.3	69,284	19.0
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	32	0.2	243	7.6
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	67	0.4	794	11.9
11 – Diseases and Disorders of the Kidney and Urinary Tract	74	0.4	1,030	13.9
12 – Diseases and Disorders of the Male Reproductive System	23	0.1	43	1.9
13 – Diseases and Disorders of the Female Reproductive System	22	0.1	311	14.1
14 – Pregnancy, Childbirth and the Puerperium	0	0.0	0	0.0
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	8	0.0	47	5.9
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	1	0.0	3	3.0
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	3	0.0	36	12.0
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	4	0.0	23	5.8
19 – Mental Diseases and Disorders	1,673	8.9	15,956	9.5
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	14	0.1	215	15.4
22 – Burns	0	0.0	0	0.0
23 – Factors Influencing Health Status and Other Contacts with Health Services	2,802	14.9	36,608	13.1
24 – Multiple Significant Trauma	1	0.0	15	15.0
25 - H.I.V. infections	0	0.0	0	0.0
Other DRGs	4	0.0	29	7.3
Pre MDC	0	0.0	0	0.0
Grand Total	*18,850*	*100.0*	*268,928*	*14.3*

Source: *data from the Ministry of Health – SDO 2020*

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. 2020

MDC	*Number of cases*	*%*	*In-hospital days*	*Average length of stay*
01 – Diseases and Disorders of the Nervous System	10,299	14.1	289,241	28.1
02 – Diseases and Disorders of the Eye	26	0.0	996	38.3
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	144	0.2	3,153	21.9
04 – Diseases and Disorders of the Respiratory System	11,396	15.6	227,099	19.9
05 – Diseases and Disorders of the Circulatory System	7,037	9.6	164,425	23.4
06 – Diseases and Disorders of the Digestive System	2,313	3.2	47,195	20.4
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	1,542	2.1	30,208	19.6
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	17,391	23.8	473,433	27.2
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	935	1.3	22,963	24.6
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	1,367	1.9	30,229	22.1
11 – Diseases and Disorders of the Kidney and Urinary Tract	2,619	3.6	56,236	21.5
12 – Diseases and Disorders of the Male Reproductive System	148	0.2	3,794	25.6
13 – Diseases and Disorders of the Female Reproductive System	144	0.2	3,008	20.9
14 – Pregnancy, Childbirth and the Puerperium	3	0.0	82	27.3
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	15	0.0	419	27.9
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	713	1.0	15,449	21.7
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	849	1.2	18,447	21.7
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	3,919	5.4	90,994	23.2
19 – Mental Diseases and Disorders	3,104	4.3	104,331	33.6
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	186	0.3	5,585	30.0
21 – Injuries, Poisonings and Toxic Effects of Drugs	527	0.7	13,701	26.0
22 – Burns	12	0.0	312	26.0
23 – Factors Influencing Health Status and Other Contacts with Health Services	8,140	11.2	187,670	23.1
24 – Multiple Significant Trauma	53	0.1	1,716	32.4
25 - H.I.V. infections	15	0.0	324	21.6
Other DRGs	56	0.1	1,408	25.1
Pre MDC	16	0.0	1,023	63.9
Grand Total	*72,969*	*100.0*	*1,793,441*	*24.6*

Source: *data from the Ministry of Health – SDO 2020*

Table S/36 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. Year 2020 (National Data)

Specialty	*Total*					*AIOP-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	215	969	4.5	10.6	25	215	969	4.5	10.6
Casualty department	17	1,199	9,230	7.7	148.8					
Heart Surgery	491	19,857	106,746	5.4	59.6	341	14,816	72,848	4.9	58.5
Cardiology	1,277	62,679	246,209	3.9	52.8	920	42,629	168,966	4.0	50.3
General Surgery	4,153	110,520	506,156	4.6	33.4	3,242	88,436	410,500	4.6	34.7
Maxillofacial surgery	55	1,906	3,492	1.9	16.4	52	799	2,289	2.9	12.1
Pediatric surgery	10	16	45	2.8	1.2					
Plastic surgery	39	1,521	8,062	5.3	56.6	16	693	5,949	8.6	101.9
Thoracic surgery	45	2,151	10,019	4.7	61.0	28	1,310	5,664	4.3	55.4
Vascular surgery	327	9,469	44,304	4.7	37.1	226	6,248	29,139	4.7	35.3
Inmates	10	157	453	2.9	12.4					
Gastroenterology	34	784	4,554	5.8	36.7	16	109	761	7.0	13.0
Geriatrics	427	10,092	72,506	7.2	46.5	314	6,016	51,848	8.6	45.2
Immunology	2,593	7,472	123,213	16.5	13.0	2,053	5,917	92,848	15.7	12.4
Long-stay care pts	4,171	35,490	954,989	26.9	62.7	3,041	28,328	703,387	24.8	63.4
Endocrine, nutritional and metabolic diseases	42	814	5,802	7.1	37.8	40	785	5,722	7.3	39.2
Tropical Medicine Infectious diseases	3,211	11,821	158,635	13.4	13.5	2,241	8,164	118,066	14.5	14.4
General medicine	4,500	97,612	844,316	8.6	51.4	3,450	79,895	691,884	8.7	54.9
Nephrology	97	2,369	11,473	4.8	32.4	60	1,241	5,805	4.7	26.5
Pediatric Nephrology	27	255	2,067	8.1	21.0					
Neonatology	120	4,023	19,903	4.9	45.4	40	1,045	5,201	5.0	35.6
Neurosurgery	207	8,003	35,620	4.5	47.1	151	5,976	28,019	4.7	50.8
Neurology	356	6,129	37,488	6.1	28.9	244	3,652	23,032	6.3	25.9
Neurological rehabilitation	304	1,430	94,352	66.0	85.0	133	851	45,083	53.0	92.9
Day nursery	126	5,148	13,192	2.6	28.7	100	4,452	11,281	2.5	30.9
Ophthalmology	201	1,464	5,839	4.0	8.0	161	1,243	5,155	4.1	8.8
Oncohematology	26	858	8,260	9.6	87.0	24	821	8,067	9.8	92.1
Oncology	285	8,130	47,169	5.8	45.3	230	7,579	43,581	5.8	51.9
Orthopedics and Traumatology	4,372	156,270	692,960	4.4	43.4	3,670	133,208	589,036	4.4	44.0
Obstetrics and gynecology	1,493	63,862	280,264	4.4	51.4	967	37,796	188,798	5.0	53.5
Otorhinolaryngology	460	7,345	30,362	4.1	18.1	361	5,861	27,417	4.7	20.8
Pediatrics	72	1,980	14,774	7.5	56.2	14	367	1,778	4.8	34.8
Pneumology	183	2,930	27,223	9.3	40.8	138	1,803	18,823	10.4	37.4
Psychiatry	792	10,985	200,457	18.2	69.3	742	9,863	190,228	19.3	70.2
Radiation Therapy	10	24	212	8.8	5.8	10	24	212	8.8	5.8

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(Continued) *Table S/36 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. Year 2020 (National Data)*

Specialty	*Total*					*AIOP-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 %*
Oncological radiotherapy	4	153	618	4.0	42.3	1	152	564	3.7	154.5
Functional recovery and rehabilitation	12,204	122,297	2,934,055	24.0	65.9	7,667	81,816	1,887,383	23.1	67.4
Rheumatology	52	856	6,781	7.9	35.7	52	856	6,781	7.9	35.7
Pain therapy	10	538	2,744	5.1	75.2	9	534	2,734	5.1	83.2
Intensive care	581	17,760	83,782	4.7	39.5	398	12,341	54,208	4.4	37.3
Neonatal intensive care	49	617	5,896	9.6	33.0	8	128	1,848	14.4	63.3
Semi-Intensive Care	60	511	4,871	9.5	22.2	60	511	4,871	9.5	22.2
Coronary care unit	152	8,514	34,994	4.1	63.1	88	4,395	20,131	4.6	62.7
Spinal care unit	39	114	8,251	72.4	58.0	4	17	1,387	81.6	95.0
Urology	1,067	36,386	172,258	4.7	44.2	860	27,919	142,529	5.1	45.4
Total	*44,776*	*825,872*	*7,875,565*	*9.5*	*48.2*	*32,197*	*616,236*	*5,674,792*	*9.2*	*48.3*

(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 (accredited healthcare facilities) classified according to specialty. Year 2020 (North)

Specialty	*Total*					*AIOP-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 %*
Heart Surgery	242	8,539	49,317	5.8	55.8	194	7,213	39,255	5.4	55.4
Cardiology	492	19,662	82,380	4.2	45.9	410	15,927	68,579	4.3	45.8
General Surgery	1,249	35,162	127,448	3.6	28.0	994	29,886	107,298	3.6	29.6
Maxillofacial surgery	30	232	543	2.3	5.0	30	232	543	2.3	5.0
Plastic surgery	20	315	1,223	3.9	16.8	8	177	739	4.2	25.3
Thoracic surgery	19	471	2,400	5.1	34.6	19	471	2,400	5.1	34.6
Vascular surgery	151	4,794	23,212	4.8	42.1	111	3,186	16,499	5.2	40.7
Gastroenterology	2	6	40	6.7	5.5	2	6	40	6.7	5.5
Geriatrics	159	4,991	30,193	6.0	52.0	104	2,046	19,628	9.6	51.7
Immunology	1,064	4,069	73,454	18.1	18.9	905	3,354	56,019	16.7	17.0
Long-stay care pts	2,155	21,271	502,074	23.6	63.8	1,585	18,323	405,905	22.2	70.2
Tropical Medicine Infectious diseases	3,211	11,821	158,635	13.4	13.5	2,241	8,164	118,066	14.5	14.4
General medicine	1,876	38,028	372,012	9.8	54.3	1,361	30,588	306,556	10.0	61.7
Nephrology	10	274	2,084	7.6	57.1					
Neonatology	33	2,454	11,631	4.7	96.6					
Neurosurgery	79	3,494	16,078	4.6	55.8	59	2,805	12,755	4.5	59.2
Neurology	157	2,678	17,191	6.4	30.0	117	1,506	11,312	7.5	26.5
Neurological rehabilitation	181	753	46,991	62.4	71.1	103	600	34,215	57.0	91.0
Ophthalmology	48	631	2,007	3.2	11.5	35	524	1,566	3.0	12.3
Oncology	74	898	8,175	9.1	30.3	26	435	5,060	11.6	53.3
Orthopedics and Traumatology	1,780	74,121	319,117	4.3	49.1	1,430	64,303	279,435	4.3	53.5
Obstetrics and gynecology	348	12,359	42,187	3.4	33.2	213	5,268	15,082	2.9	19.4
Otorhinolaryngology	172	4,378	8,579	2.0	13.7	134	3,579	6,997	2.0	14.3
Pediatrics	72	1,980	14,774	7.5	56.2	14	367	1,778	4.8	34.8
Pneumology	37	315	5,159	16.4	38.2	29	295	4,788	16.2	45.2
Psychiatry	585	7,791	161,168	20.7	75.5	585	7,791	161,168	20.7	75.5
Functional recovery and rehabilitation	6,031	65,080	1,486,883	22.8	67.5	3,782	43,043	943,256	21.9	68.3
Pain therapy	1	118	249	2.1	68.2	1	118	249	2.1	68.2
Intensive care	308	8,174	34,459	4.2	30.7	245	6,729	28,787	4.3	32.2
Neonatal intensive care	16	394	3,335	8.5	57.1					
Coronary care unit	29	1,331	3,644	2.7	34.4	18	383	1,455	3.8	22.1
Spinal care unit	14	29	2,651	91.4	51.9	4	17	1,387	81.6	95.0
Urology	374	12,723	47,472	3.7	34.8	304	9,795	36,632	3.7	33.0
Total	*21,019*	*342,348*	*3,656,765*	*10.7*	*47.7*	*15,063*	*261,788*	*2,687,449*	*10.3*	*48.9*

(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/59 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. Year 2020 (Center)

Specialty	*Total*					*AIOP-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	215	969	4.5	10.6	25	215	969	4.5	10.6
Casualty department	17	1,199	9,230	7.7	148.8					
Heart Surgery	22	1,223	6,413	5.2	79.9					
Cardiology	87	7,092	30,770	4.3	96.9	14	631	3,405	5.4	66.6
General Surgery	744	19,831	84,015	4.2	30.9	607	16,591	62,398	3.8	28.2
Plastic surgery	4	466	936	2.0	64.1					
Inmates	10	157	453	2.9	12.4					
Geriatrics	26	309	2,888	9.3	30.4	26	309	2,888	9.3	30.4
Immunology	438	1,710	24,647	14.4	15.4	414	1,644	23,466	14.3	15.5
Long-stay care pts	1,008	8,212	263,905	32.1	71.7	600	4,855	139,423	28.7	63.7
Endocrine, nutritional and metabolic diseases	10	26	219	8.4	6.0	10	26	219	8.4	6.0
General medicine	1,240	26,697	245,981	9.2	54.3	1,045	22,905	208,770	9.1	54.7
Nephrology	42	525	2,659	5.1	17.3	32	518	2,350	4.5	20.1
Pediatric Nephrology	27	255	2,067	8.1	21.0					
Neonatology	33	342	1,308	3.8	10.9	2	6	15	2.5	2.1
Neurosurgery	24	701	2,855	4.1	32.6	10	457	1,782	3.9	48.8
Neurology	8	187	1,034	5.5	35.4					
Neurological rehabilitation	75	326	30,166	92.5	110.2					
Ophthalmology	43	435	1,458	3.4	9.3	41	377	1,336	3.5	8.9
Oncology	35	1,026	5,932	5.8	46.4	35	1,026	5,932	5.8	46.4
Orthopedics and Traumatology	1,020	38,304	160,430	4.2	43.1	899	34,262	136,068	4.0	41.5
Obstetrics and gynecology	232	11,507	37,302	3.2	44.1	113	3,250	11,023	3.4	26.7
Otorhinolaryngology	108	747	1,420	1.9	3.6	99	732	1,392	1.9	3.9
Pneumology	24	316	2,409	7.6	27.5	24	316	2,409	7.6	27.5
Psychiatry	82	696	18,493	26.6	61.8	82	696	18,493	26.6	61.8
Functional recovery and rehabilitation	2,465	23,271	585,245	25.1	65.0	1,326	14,753	332,824	22.6	68.8
Intensive care	97	2,829	16,112	5.7	45.5	62	1,216	6,768	5.6	29.9
Neonatal intensive care	16	55	419	7.6	7.2					
Semi-Intensive Care	52	456	4,156	9.1	21.9	52	456	4,156	9.1	21.9
Coronary care unit	31	2,025	8,283	4.1	73.2	5	339	1,911	5.6	104.7
Urology	156	6,597	21,304	3.2	37.4	118	5,107	16,992	3.3	39.5
Total	*8,201*	*154,582*	*1,573,478*	*10.2*	*52.6*	*5,641*	*108,474*	*984,989*	*9.1*	*47.8*

(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/60 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. Year 2020 (South)

Specialty	*Total*					*AIOP-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 %*
Heart Surgery	227	10,095	51,016	5.1	61.6	147	7,603	33,593	4.4	62.6
Cardiology	698	35,925	133,059	3.7	52.2	496	26,071	96,982	3.7	53.6
General Surgery	2,160	55,527	294,693	5.3	37.4	1,641	41,959	240,804	5.7	40.2
Maxillofacial surgery	25	1,674	2,949	1.9	30.2	22	567	1,746	3.1	21.7
Pediatric surgery	10	16	45	2.8	1.2					
Plastic surgery	15	740	5,903	8.0	107.8	8	516	5,210	10.1	178.4
Thoracic surgery	26	1,680	7,619	4.5	80.3	9	839	3,264	3.9	99.4
Vascular surgery	176	4,675	21,092	4.5	32.8	115	3,062	12,640	4.1	30.1
Gastroenterology	32	778	4,514	5.8	38.6	14	103	721	7.0	14.1
Geriatrics	242	4,792	39,425	8.2	44.6	184	3,661	29,332	8.0	43.7
Immunology	1,091	1,693	25,112	14.8	6.3	734	919	13,363	14.5	5.0
Long-stay care pts	1,008	6,007	189,010	31.5	51.4	856	5,150	158,059	30.7	50.6
Endocrine, nutritional and metabolic diseases	32	788	5,583	7.1	47.8	30	759	5,503	7.3	50.3
General medicine	1,384	32,887	226,323	6.9	44.8	1,044	26,402	176,558	6.7	46.3
Nephrology	45	1,570	6,730	4.3	41.0	28	723	3,455	4.8	33.8
Neonatology	54	1,227	6,964	5.7	35.3	38	1,039	5,186	5.0	37.4
Neurosurgery	104	3,808	16,687	4.4	44.0	82	2,714	13,482	5.0	45.0
Neurology	191	3,264	19,263	5.9	27.6	127	2,146	11,720	5.5	25.3
Neurological rehabilitation	48	351	17,195	49.0	98.1	30	251	10,868	43.3	99.3
Day nursery	126	5,148	13,192	2.6	28.7	100	4,452	11,281	2.5	30.9
Ophthalmology	110	398	2,374	6.0	5.9	85	342	2,253	6.6	7.3
Oncohematology	26	858	8,260	9.6	87.0	24	821	8,067	9.8	92.1
Oncology	176	6,206	33,062	5.3	51.5	169	6,118	32,589	5.3	52.8
Orthopedics and Traumatology	1,572	43,845	213,413	4.9	37.2	1,341	34,643	173,533	5.0	35.5
Obstetrics and gynecology	913	39,996	200,775	5.0	60.2	641	29,278	162,693	5.6	69.5
Otorhinolaryngology	180	2,220	20,363	9.2	31.0	128	1,550	19,028	12.3	40.7
Pneumology	122	2,299	19,655	8.5	44.1	85	1,192	11,626	9.8	37.5
Psychiatry	125	2,498	20,796	8.3	45.6	75	1,376	10,567	7.7	38.6
Radiation Therapy	10	24	212	8.8	5.8	10	24	212	8.8	5.8
Oncological radiotherapy	4	153	618	4.0	42.3	1	152	564	3.7	154.5
Functional recovery and rehabilitation	3,708	33,946	861,927	25.4	63.7	2,559	24,020	611,303	25.4	65.4
Rheumatology	52	856	6,781	7.9	35.7	52	856	6,781	7.9	35.7
Pain therapy	9	420	2,495	5.9	76.0	8	416	2,485	6.0	85.1
Intensive care	176	6,757	33,211	4.9	51.7	91	4,396	18,653	4.2	56.2
Neonatal intensive care	17	168	2,142	12.8	34.5	8	128	1,848	14.4	63.3
Semi-Intensive Care	8	55	715	13.0	24.5	8	55	715	13.0	24.5

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(Continued) *Table S/60 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. Year 2020 (South)*

Specialty	*Total*					*AIOP-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 %*
Coronary care unit	92	5,158	23,067	4.5	68.7	65	3,673	16,765	4.6	70.7
Spinal care unit	25	85	5,600	65.9	61.4					
Urology	537	17,066	103,482	6.1	52.8	438	13,017	88,905	6.8	55.6
Total	*15,556*	*328,942*	*2,645,322*	*8.0*	*46.6*	*11,493*	*245,974*	*2,002,354*	*8.1*	*47.7*

(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/61 – Compliance with waiting times in the first two years of the pandemic, by Region and by legal status of the hospital facilities

Region	*Cardiovascular area*							*Oncological area*						
	Public hospitals			*Private accredited hospitals*			*Public + Private accredited hospitals*	*Public hospitals*			*Private accredited hospitals*			*Public + Private accredited hospitals*
	2019	*2020*	*2021*	*2019*	*2020*	*2021*	*2021* vs *2019*	*2019*	*2020*	*2021*	*2019*	*2020*	*2021*	*2021* vs *2019*
Piedmont	87.8	88.2	82.0	92.3	95.0	96.6	-3.3	75.1	74.1	65.5	61.2	66.2	49.2	-10.7
Aosta Valley	91.8	95.4	87.0				-4.8	69.9	91.0	89.2				19.3
Lombardy	80.2	81.0	78.9	85.0	84.3	80.8	-2.5	67.8	68.7	70.7	63.8	72.4	81.1	9.6
AP Bolzano	88.6	80.2	81.1				-7.5	95.3	94.7	95.9				0.6
AP Trento	69.2	70.1	66.1				-3.1	80.8	68.1	55.4		100.0	33.3	-25.4
Veneto	85.8	87.8	86.5	92.9	97.3	98.2	1.1	96.8	94.8	90.9	97.8	97.6	97.6	-5.1
Friuli Venezia Giulia	74.8	78.0	77.6				2.8	63.1	68.2	64.9	71.2	80.1	73.2	1.7
Liguria	84.3	82.4	82.2	62.6	62.0	59.9	-2.8	61.7	63.7	60.1	59.5	75.3	62.9	-1.0
Emilia Romagna	85.6	84.7	78.1	96.0	96.0	96.2	-3.2	85.9	79.7	71.5	95.0	97.4	97.0	-14.1
Tuscany	91.4	89.7	89.1	89.5	87.7	67.6	-6.8	72.7	81.6	86.2	83.9	80.7	87.5	13.4
Umbria	93.4	87.4	71.4				-22.0	64.7	68.8	58.4	100.0	100.0	96.2	-6.1
Marche	71.5	67.9	70.9				-0.6	68.6	71.3	67.1	97.9	92.6	92.8	-2.2
Lazio	71.3	64.5	57.8	75.9	81.3	76.5	-4.8	67.7	68.3	68.5	71.0	73.5	71.3	0.7
Abruzzo	79.9	85.6	84.8	84.3	95.3	99.1	6.8	61.4	75.9	79.2	90.7	88.3	91.0	14.5
Molise	69.7	82.8	81.8	87.5	100.0	100.0	12.2	89.4	82.7	84.8	100.0	100.0	100.0	-4.5
Campania	74.3	62.8	67.0	96.3	96.8	97.2	-0.8	58.8	62.0	63.5	94.6	94.2	96.7	3.9
Apulia	84.4	81.7	82.0	90.6	89.4	90.9	-0.3	66.3	66.0	60.6	86.2	91.8	90.4	-1.1
Basilicata	59.9	70.8	58.0				-1.9	73.0	71.3	76.2				3.2
Calabria	84.9	93.3	91.2	92.0	100.0	97.0	3.2	90.6	87.9	84.6	95.8	92.7	92.8	5.3
Sicily	88.2	86.6	85.2	65.2	85.7	86.3	7.4	69.9	75.6	76.8	72.2	83.2	80.0	7.3
Sardinia	81.8	85.3	86.5				4.8	50.7	49.2	47.8	88.9	93.8	92.5	0.8

Source: *applies to processing of Agenas data – National Agency for Regional Health Services, 2022*

Table S/62 – Changes in absolute values and percentages of hospitalizations between 2019 and 2020 and between 2019 and 2021

Reg. code	Region	Inpatient urgent admissions[1]					Inpatient scheduled admissions[1]				
		2019	2020	2021	2020 vs 2019	2021 vs 2019	2019	2020	2021	2020 vs 2019	2021 vs 2019
010	Piedmont	219,180	197,339	200,696	-10.0	-8.4	244,691	177,347	204,348	-27.5	-16.5
020	Aosta Valley	8,420	7,396	7,424	-12.2	-11.8	6,139	4,433	5,081	-27.8	-17.2
030	Lombardy	528,204	479,912	462,636	-9.1	-12.4	592,374	395,880	450,660	-33.2	-23.9
041	AP Bolzano	38,382	31,952	32,046	-16.8	-16.5	24,650	20,441	22,314	-17.1	-9.5
042	AP Trento	36,466	32,488	32,883	-10.9	-9.8	25,686	18,724	21,332	-27.1	-17.0
050	Veneto	286,912	254,110	252,631	-11.4	-11.9	241,881	195,412	202,115	-19.2	-16.4
060	Friuli V.G.	85,487	75,256	75,373	-12.0	-11.8	58,763	47,391	44,742	-19.4	-23.9
070	Liguria	108,550	90,493	91,235	-16.6	-16.0	73,613	49,897	58,309	-32.2	-20.8
080	Emilia-R.	304,844	272,407	282,397	-10.6	-7.4	288,973	219,746	239,791	-24.0	-17.0
	North	*1,616,445*	1,441,353	1,437,321	*-10.8*	*-11.1*	1,556,770	1,129,271	1,248,692	*-27.5*	*-19.8*
090	Tuscany	227,453	198,228	205,802	-12.8	-9.5	172,713	132,332	144,322	-23.4	-16.4
100	Umbria	62,311	53,140	56,147	-14.7	-9.9	38,892	29,138	30,670	-25.1	-21.1
110	Marche	87,219	73,352	74,336	-15.9	-14.8	74,340	59,896	62,333	-19.4	-16.2
120	Lazio	296,984	278,921	280,850	-6.1	-5.4	277,361	226,798	251,607	-18.2	-9.3
	Center	*673,967*	603,641	617,135	*-10.4*	*-8.4*	563,306	448,164	488,932	*-20.4*	*-13.2*
130	Abruzzo	75,484	67,040	67,402	-11.2	-10.7	62,726	50,647	54,814	-19.3	-12.6
140	Molise	16,934	13,760	13,338	-18.7	-21.2	15,981	12,584	14,215	-21.3	-11.1
150	Campania	278,190	223,579	215,281	-19.6	-22.6	235,962	176,745	218,885	-25.1	-7.2
160	Apulia	237,470	186,905	190,211	-21.3	-19.9	177,311	130,770	147,672	-26.2	-16.7
170	Basilicata	33,284	26,022	26,164	-21.8	-21.4	18,742	11,933	14,483	-36.3	-22.7
180	Calabria	94,201	71,279	71,732	-24.3	-23.9	60,111	40,036	46,341	-33.4	-22.9
190	Sicily	273,724	231,919	231,963	-15.3	-15.3	181,282	142,315	165,487	-21.5	-8.7
200	Sardinia	106,280	85,684	86,893	-19.4	-18.2	53,458	43,497	52,494	-18.6	-1.8
	South	*1,115,567*	*906,188*	*902,984*	*-18.8*	*-19.1*	*805,573*	*608,527*	*714,391*	*-24.5*	*-11.3*
	ITALY	*3,405,979*	*2,951,182*	*2,957,440*	*-13.4*	*-13.2*	*2,925,649*	*2,185,962*	*2,452,015*	*-25.3*	*-16.2*

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(Continued) *Table S/62 – Changes in absolute values and percentages of hospitalizations between 2019 and 2020 and between 2019 and 2021*

Reg. code	Region	Day-hospital admissions[1]					Total admissions				
		2019	2020	2021	2020 vs 2019	2021 vs 2019	2019	2020	2021	2020 vs 2019	2021 vs 2019
010	Piedmont	122,960	87,557	100,852	-28.8	-18.0	620,054	494,620	535,989	-20.2	-13.6
020	Aosta Valley	5,178	2,892	4,006	-44.1	-22.6	20,666	15,900	17,722	-23.1	-14.2
030	Lombardy	264,050	167,259	215,801	-36.7	-18.3	1,464,338	1,118,503	1,202,468	-23.6	-17.9
041	AP Bolzano	16,189	11,734	13,729	-27.5	-15.2	87,067	71,861	75,751	-17.5	-13.0
042	AP Trento	19,884	15,219	16,796	-23.5	-15.5	82,107	66,482	71,063	-19.0	-13.5
050	Veneto	114,006	90,879	99,621	-20.3	-12.6	677,694	574,617	588,589	-15.2	-13.1
060	Friuli V.G.	36,870	28,472	30,280	-22.8	-17.9	181,848	151,736	151,139	-16.6	-16.9
070	Liguria	66,525	48,052	59,468	-27.8	-10.6	259,767	199,975	220,181	-23.0	-15.2
080	Emilia-R.	126,739	92,071	109,985	-27.4	-13.2	759,884	621,073	669,138	-18.3	-11.9
	North	772,401	544,135	650,538	*-29.6*	*-15.8*	4,153,425	3,314,767	3,532,040	*-20.2*	*-15.0*
090	Tuscany	126,026	95,139	105,741	-24.5	-16.1	551,085	449,111	479,547	-18.5	-13.0
100	Umbria	27,286	18,158	21,556	-33.5	-21.0	135,526	106,975	114,668	-21.1	-15.4
110	Marche	53,630	38,926	42,840	-27.4	-20.1	225,405	181,627	188,692	-19.4	-16.3
120	Lazio	243,594	201,865	227,138	-17.1	-6.8	857,156	748,847	800,613	-12.6	-6.6
	Center	450,536	354,088	397,275	*-21.4*	*-11.8*	1,769,172	1,486,560	1,583,520	*-16.0*	*-10.5*
130	Abruzzo	39,069	27,092	31,705	-30.7	-18.8	181,207	148,793	160,353	-17.9	-11.5
140	Molise	12,381	8,248	9,351	-33.4	-24.5	46,996	36,108	38,316	-23.2	-18.5
150	Campania	239,876	157,822	191,910	-34.2	-20.0	803,076	599,542	670,387	-25.3	-16.5
160	Apulia	34,311	22,882	26,457	-33.3	-22.9	477,648	367,895	391,321	-23.0	-18.1
170	Basilicata	14,771	9,851	12,324	-33.3	-16.6	70,600	51,785	56,650	-26.7	-19.8
180	Calabria	45,128	28,344	37,115	-37.2	-17.8	212,725	149,801	167,383	-29.6	-21.3
190	Sicily	109,614	77,232	90,692	-29.5	-17.3	586,123	473,474	512,616	-19.2	-12.5
200	Sardinia	67,001	50,574	58,315	-24.5	-13.0	236,105	188,384	206,288	-20.2	-12.6
	South	*562,151*	*382,045*	*457,869*	*-32.0*	*-18.6*	*2,614,480*	*2,015,782*	*2,203,314*	*-22.9*	*-15.7*
	ITALY	*1,785,088*	*1,280,268*	*1,505,682*	*-28.3*	*-15.7*	*8,537,077*	*6,817,109*	*7,318,874*	*-20.1*	*-14.3*

(1) *Urgent admissions*: with hospitalization regime "1" (Inpatient) and "2" (Urgent); *Scheduled inpatient*: with hospitalization regime "1" (Inpatient) and admission type "1" (Scheduled); *Day hospital admissions*: with hospitalization regime "2" (Day hospital).

Source: *AIOP processing of SDO data, 2021*

Table S/63 – Differences of healthcare options across the country, assessed according to patient mobility using data on hospital admissions (a). Years 2016 - 2020

Regions	2016		2017		2018		2019		2020			
	Inflow	*Outflow*	*Inflow*	*Outflow*	*Inflow*	*Outflow*	*Inflow*	*Outflow*	*Inflow*	*Outflow*	*Inflow/Outflow Ratio*	*Mobility balance(b)*
– Piedmont	0.88	1.14	0.86	1.17	0.88	1.13	0.97	1.03	1.02	0.98	1.0	419
– Aosta Valley	0.78	1.28	0.83	1.20	0.75	1.33	0.70	1.42	0.72	1.38	1.9	-505
– Lombardy	2.64	0.38	2.63	0.38	2.60	0.38	2.46	0.41	1.84	0.54	0.3	31,746
– A.P. of Trento	0.65	1.55	0.68	1.46	0.67	1.49	0.71	1.40	0.69	1.45	2.1	-1,916
– Veneto	1.30	0.77	1.34	0.75	1.32	0.76	1.41	0.71	1.52	0.66	0.4	12,277
– Friuli V.G.	1.35	0.74	1.25	0.80	1.23	0.81	1.13	0.88	1.15	0.87	0.8	1,137
– Liguria	0.66	1.51	0.71	1.41	0.71	1.42	0.70	1.43	0.73	1.37	1.9	-4,915
– Emilia Romagna	2.39	0.42	2.40	0.42	2.43	0.41	2.58	0.39	2.64	0.38	0.1	37,720
– Tuscany	1.95	0.51	1.77	0.57	1.73	0.58	1.49	0.67	1.47	0.68	0.5	8,759
– Umbria	1.30	0.77	1.17	0.85	1.16	0.87	1.15	0.87	0.99	1.01	1.0	-130
– Marche	0.80	1.24	0.77	1.30	0.84	1.19	0.82	1.22	0.81	1.23	1.5	-3,178
– Lazio	0.86	1.16	0.90	1.11	0.92	1.09	0.95	1.05	1.16	0.87	0.7	5,493
– Abruzzo	0.68	1.48	0.69	1.44	0.65	1.55	0.65	1.54	0.69	1.45	2.1	-5,774
– Molise	1.04	0.96	1.03	0.97	1.05	0.96	1.04	0.96	1.08	0.93	0.9	752
– Campania	0.32	3.12	0.31	3.25	0.30	3.34	0.30	3.31	0.32	3.13	9.8	-25,555
– Apulia	0.57	1.74	0.54	1.86	0.53	1.90	0.53	1.87	0.60	1.67	2.8	-10,648
– Basilicata	0.79	1.27	0.74	1.36	0.72	1.38	0.67	1.49	0.61	1.63	2.7	-4,710
– Calabria	0.12	8.47	0.12	8.39	0.12	8.37	0.13	7.62	0.14	7.05	49.7	-20,909
– Sicily	0.25	3.98	0.25	4.03	0.24	4.10	0.23	4.29	0.23	4.37	19.1	-16,314
– Sardinia	0.33	2.99	0.34	2.97	0.36	2.77	0.33	3.00	0.33	3.02	9.1	-4,020

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 Ermeneia - data from the Ministry of Health*

3. Staff information

3.1. Staff fluctuation over the years

The data on personnel resources published by the Ministry of Health and referring this year to 2020, show a more decisive growth trend compared to the +0.3% per year of 2018 and 2019. After a period of stabilization of the progressive downsizing of the workforce reported by the entirety of public hospital facilities starting from 2010, a trend that had led to an overall reduction of 10.3% by 2015, the values communicated for 2020 show an initial reaction of the system to the pandemic crisis and demonstrate an increase of +4.5% compared to 2019. Thus, similarly to what has been shown with respect to the trends in healthcare spending since 2020, it can be seen how the emergency has led to a decisive change in the trend also on the side of public personnel, with new acquisitions implemented to deal with the crisis, and with a contextual rethinking of the overall structure of the system. The improvement, as we will see in detail later, is also evident in terms of the amount of patient beds for both medical and nursing staff.

This decisive inversion of trend is further strengthened 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, temporary or similarly employed personnel, which have nevertheless become part of the workforce over the last few years.

On the other hand, observing in particular the trends described in Table S/64, which reports the data for the period 2016-2020, we can see in this

period an increase of no less than 22,863 units, with a complement that increases by 5% going from 455,102 to 477,965 employees, taking into account, however, that the most accentuated increases are to be attributed to 2020 and to the extraordinary needs of the first emergency phase.

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 3,227 units, of nurses by 13,569 units, whereas for the remaining personnel the increase is more limited and stands at 6,067 units, as shown by the data in the following table:

	2016	*2020*
Medical doctors and Dentists	84,741	87,968
Nurses	210,552	224,121
Other staff	159,809	165,876

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 2016 for both Hospital Centers and the hospitals of the local health authorities, an obviously more pronounced improvement for the year 2020. It should nevertheless be kept in mind that the trend of these relationships continues to be strongly influenced by the change in classifications and by the transformations of institutions that have taken place in the public sphere in recent years, as well as by the worrying trend of the constant reduction of hospital patient beds (see Table S/66).

However, uncertainties remain about the future in terms of the general availability of doctors and nurses in the public sector. According to the recent Agenas Report on the personnel of the National Health Service in October 2022, which analyzes in particular the aspects related to the needs of these professionals, the most critical issues include the compensation of personnel leaving the system due to retirement and the contextual containment measures of the hirings adopted in the Regions under debt rescheduling plans and in the others subject to forms of restrictions on spending. Showing the results of the calculation between personnel who have left service and new entries, it shows how the turnover rate (which in the event of full replacement is equal to 100) in the period 2010-2019 went on average - for annual changes - to a value of 90 for doctors and 95 for nursing staff. This has led, among

other things, to an increase in the average age which has become 51.3 years for doctors and 47.3 years for nurses. Agenas estimates for the five-year period 2022-2027 envisage the number of personnel leaving the system, due to retirements alone, to total 29,331 units of medical personnel and 21,050 units of nursing personnel. These are critical issues that will be highlighted even more by the need for nurses linked to the strengthening of local assistance required by the implementation of Ministerial Decree 77. All the new operating realities (2,350 in all) for which the insufficiency on the management side of overall healthcare funding is underlined in other parts of this Report, which in 2025 will decrease heavily to 6.1% of GDP, (i.e. for Community Homes, Territorial Operations Centers, Community Hospitals, Continuity Assistance Units and Home Assistance) according to Agenas calculations, will need from a minimum of 19,450 to a maximum of 26,850 new acquisitions.

On the other hand, analyzing the staff complements of the facilities in the AIOP area, we can see an increase of 3,585 units between 2016 and 2021, equal to +5.1% (Table S/67). This increase is seen among medical personnel, nurses and other categories of employees in the healthcare and service fields, but again taking into account the fact that the overall complements and their articulation in the various professional figures are also influenced in a significant manner by the variability in the consistency and composition by type of association complex (Table S/68).

3.2. The situation of employees by territory and professional category

The number of personnel working in the entirety of the public and private healthcare institutions of the National Health Service exceeds 600,000 units.

The distribution on a regional scale shown in Table S/69 comes from ISTAT and is based on surveys carried out up to 2013 with a form no longer used by the Ministry of Health and which, therefore, can no longer be updated. 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 new surveys, entrusted to the SICO system of the Ministry of the Economy and Finance (Annual Account of the public administrations), although characterized by greater detail, do not permit a coherent regional aggregation between the types of hospitalization with the ministerial reports

available (public, equivalent to public, healthcare facilities) and the forms of employment relationships (permanent and fixed-term employment, temporary work and other).

The only feasible aggregation for the hospital facilities of the public and private components of the NHS is the one shown in Table S/70, which shows the distribution of permanent staff by professional category and type of institution for the year 2020 (latest available ministerial revision).

Employees with open-ended contracts in service at all the hospitals of the NHS total 614,880 units, of which 501,795 are in public facilities and 113,085 in those belonging to the private component (Private University Polyclinics, Private IRCCS, Private Foundations, Classified Hospitals, Qualified private institutes, Local Healthcare Authority facilities, Research Institutions and Accredited healthcare facilities). The hospital workforce includes 105,419 doctors (17% more) and a large nursing staff which, with 276,967 units, makes up 45% of the total.

Overall, the personnel of the private component account for an average incidence on the total of more than 18%, with a majority operating in rehabilitation capacities (more than 41%), and a minority made up of medical personnel (almost 13%); the latter figure should be interpreted taking into account the presence among the medical staff of the accredited healthcare facilities of a prevalent component of units with a coordinated and continuous professional relationship, a presence envisaged by the regional regulations on the requirements for accreditation.

The public component shown in Table S/70 totals 143,361 units employed with the same type of relationship in the local healthcare authorities and in other regional public entities and agencies in the health sector. Overall, there are more than 645,000 permanent public employees, supported in the daily operational activity of the public and accredited private components by nearly 47,000 employees with fixed-term employment contracts.

The size and distribution throughout the territory of the employees of the facilities belonging to AIOP, for which an update is proposed at the end of 2021, are shown in Table S/71 below, which makes it possible to see the presence of a total of operators with an employment relationship totaling almost 65,700 units. In support of this contract-employment component, we find 7,534 units of medical personnel in any case characterized by a coordinated and continuous employment relationship with the facilities and 4,956 units of non-medical personnel who perform their activities as freelance employees.

Table S/64 – Staff trends in Hospital Centers and in the local health service (ASL) hospitalization facilities[(a)] (A.V.)

Type of institution	*2016*		*2017*		*2018*		*2019*		*2020*	
Role	*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	33,785	50,956	34,264	50,664	35,145	50,633	35,934	49,972	37,377	50,591
Nurses	90,096	120,456	90,343	121,295	91,741	122,413	92,298	121,450	96,285	127,836
Other	77,163	82,646	77,098	80,868	76,722	79,439	77,249	80,402	79,359	86,517
Total	*201,044*	*254,058*	*201,705*	*252,827*	*203,608*	*252,485*	*205,481*	*251,824*	*213,021*	*264,944*

(a) Staff working as self-employed professionals or other contract types were not included.
(*) NHS staff and University staff.
(**) Residual mental health facilities are included.
Source: *data processed by Ermeneia from the Report "Attività gestionali ed economiche delle Asl e Aziende Ospedaliere", Ministry of Health, Years 2016, 2017, 2018, 2019 and 2020*

Table S/65 – Hospital Center and local health service (ASL) hospitalization facility staff (% var.)

Type of institution	*2017/2016*		*2018/2017*		*2019/2018*		*2020/2019*		*2020/2016*	
Role	*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	1.4	-0.6	2.6	-0.1	2.2	-1.3	4.0	1.2	10.6	-0.7
Nurses	0.3	0.7	1.5	0.9	0.6	-0.8	4.3	5.3	6.9	6.1
Other	-0.1	-2.2	-0.5	-1.8	0.7	1.2	2.7	7.6	2.8	4.7
Total	*0.3*	*-0.5*	*0.9*	*-0.1*	*0.9*	*-0.3*	*3.7*	*5.2*	*6.0*	*4.3*

(a) Staff working as self-employed professionals or other 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 2016, 2017, 2018, 2019, and 2020*

Table S/66 – Hospital Center and local health service (ASL) hospitalization facility staff

	2016		2017		2018		2019		2020	
	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	6.0	6.4	6.2	6.5	6.5	6.4	6.7	6.4	7.0	6.7
Nurses per 10 patient beds	16.0	15.0	16.3	15.4	17.0	15.5	17.1	15.5	17.9	16.8

(*) 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 Ermeneia from the Report "Attività gestionali ed economiche delle Asl e Aziende Ospedaliere", Ministry of Health, Years 2016, 2017, 2018, 2019 and 2020*

Table S/67 – Staff working in medical institutions associated with AIOP. Years 2016-2021

Role	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*
Contract employee and self-employed doctors	12,191	12,340	12,136	12,364	12,303	12,322
Nurses	21,147	21,241	21,087	21,148	21,113	21,218
Other	36,307	36,572	38,015	38,705	39,119	39,690
Total	*69,645*	*70,153*	*71,238*	*72,217*	*72,535*	*73,230*

Note: surveying data related to staff can be significantly affected by institutions entering or leaving AIOP over the years.
Source*: processing by Ermeneia – data from AIOP*

Table S/68 – Staff working in medical institutions associated with AIOP. Years 2016-2021 (% var.)

	2017/2016	*2018/2017*	*2019/2018*	*2020/2019*	*2021/2020*	*2021/2016*
Contract employee and self-employed doctors	1.2	-1.7	1.9	-0.5	0.2	1.1
Nurses	0.4	-0.7	0.3	-0.2	0.5	0.3
Other	0.7	3.9	1.8	1.1	1.5	9.3
Total	*0.7*	*1.5*	*1.4*	*0.4*	*1.0*	*5.1*

Note: surveying data related to staff can be significantly affected by institutions entering or leaving AIOP over the years.
Source*: processing by Ermeneia – data from AIOP*

Table S/69 – Total number of healthcare personnel employed in various healthcare institutions, by region. 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
– A.P. of Bolzano	948	3,203	4,785	8,936
– A.P. 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/70 – Permanent staff and managerial staff by professional category of the healthcare institutions making up the NHS. 2020

Professional category	*Publicly-operated agencies of the NHS*	*Privately-operated agencies of the NHS*	*Total healthcare institutions*
– Medical personnel	92,115	13,304	105,419
– Dentists	100	97	197
– Pharmacists	1,924	248	2,172
– Biologists	3,477	1,277	4,754
– Chemists	98	31	129
– Physicists	604	128	732
– Psychologists	1,442	518	1,960
– Healthcare managers	284	341	625
– Nursing staff	234,005	42,962	276,967
– Medical technicians	34,079	6,400	40,479
– Surveillance and inspection personnel	1,211	561	1,772
– Rehabilitative personnel	11,155	7,822	18,977
– Professional profile role	252	55	307
– Professional managerial role	454	98	552
– Technical profile role	89,479	21,554	111,033
– Technical managerial role	206	45	251
– Administrative profile role	29,268	14,940	44,208
– Administrative managerial role	874	654	1,528
– Other staff	768	2,050	2,818
Total	*501,795*	*113,085*	*614,880*

Source: *Ministry of Health – The Personnel of the Italian Health System, August 2022*

Table S/71 – Staff working in medical institutions associated with AIOP. Updated to December 31st, 2021

Regions	*Contract employee operators*							*Self-employed professionals*	
	Medical personnel	*Nurses*	*Technicians*	*Auxiliary staff in Health and Social Care Settings*	*Other caregiver staff*	*Other staff*	*Total*	*Medical personnel*	*Non-medical personnel*
– Piedmont	208	1,122	329	536	644	1,097	3,936	573	345
– Aosta Valley	1	12	4	3	14	9	43	2	23
– Lombardy	1,362	5,826	1,776	1,847	2,658	4,946	18,415	2,274	1,139
– A.P. of Bolzano	3	67	33	21	33	39	196	10	19
– A.P. of Trento	17	81	25	37	88	72	320	5	15
– Veneto	300	1,444	416	216	819	958	4,153	233	175
– Friuli Venezia Giulia	41	119	40	15	92	112	419	29	23
– Liguria	3	128	17	9	12	150	319	16	41
– Emilia Romagna	154	2,013	481	384	1,047	1,144	5,223	664	545
– Tuscany	133	686	188	139	588	432	2,166	399	186
– Umbria	24	118	67	25	114	67	415	71	10
– Marche	123	416	97	80	275	312	1,303	124	100
– Lazio	676	3,315	1,193	1,638	1,142	2,472	10,436	1,303	845
– Abruzzo	65	355	100	142	39	153	854	33	40
– Molise	106	305	98	71	19	226	825	5	417
– Campania	781	2,025	731	718	628	1,468	6,351	539	489
– Apulia	209	943	431	293	881	681	3,438	98	143
– Basilicata	10	68	27	7	133	70	315	-	3
– Calabria	117	312	139	127	193	268	1,156	190	105
– Sicily	352	1,462	347	816	218	1,153	4,348	801	194
– Sardinia	103	401	63	84	179	235	1,065	165	99
Italy	*4,788*	*21,218*	*6,602*	*7,208*	*9,816*	*16,064*	*65,696*	*7,534*	*4,956*

Source: *AIOP*

4. Spending data

4.1. Economic flow trends over the year

The expenditure for the components analyzed at consolidated values attributed to the National Health Service was also processed for 2020 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. 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 of data provided in Table S/72, which this year concerns the data for the period 2016-2020, is therefore no longer influenced by the methodological break that occurred in 2012 and the methods for defining the various components of healthcare spending adopted by the sources used since 2013 - Court of Auditors, Agenas and MEF - are characterized by their temporal consistency.

The amount of public expenditure attributed to the hospitalization sector is estimated for 2020 at a value of EUR 69.3 billion, compared to 65.9 the previous year, an increase of 5.3%, which is very substantial if compared with the average annual 1.4% reported by the sector between 2015 and 2019 (Table S/72).

This is the first tangible effect of the policies to combat the pandemic emergency, policies mainly translated into system refinancing measures that would have brought the level of healthcare expenditure from 115.7 billion in 2019 (equal to 6.4% of GDP) to 122.7 billion in 2020, corresponding to an expenditure/GDP ratio which thus touches the maximum ceiling of 7.4%, which is then destined to decrease significantly to the 6.1% trend forecast for 2025 (Nadef [Update] November 2022 and Budget Law 2023-2025).

Within the sphere of this financing aggregate, the part attributed to the activity of accredited hospitals only (thus not considering other types of institution that fall under the "accredited Hospital system" expenditure item such as, for example, private IRCCS and religiously-affiliated classified hospitals) is EUR 4.4 billion, equal to 6.3% of total public hospital expenditure; an incidence that shows a slight decrease but which confirms the substantial invariance in absolute terms that emerged after 2014, the last step in the reductions envisaged by the freeze measures contained in the spending review provision (D.L. 95/2012, converted into Law 135/2012) which introduced spending caps *sine die* for specialist assistance and the accredited hospital system.

The analysis at constant prices, which presents the levels of expenditure in real terms (Table S/73), is always based on the calculation on the GDP deflator which, however, is aligned, starting from the comparison three years ago, with the new ISTAT series linked to 2015; the change in total public hospital expenditure between 2016, the new reference year, and 2020 is also in real terms growing strongly (+5.3%) compared to the situation up to 2019, compared to a more limited increase (+3.8%) reported by overall healthcare spending, confirming that the pandemic deposited its greatest critical issues squarely upon the hospital system. In the same period, on the other hand, the expenditure for the entirety of accredited hospitals showed, again in real terms, a more marked decrease (-3.6%), mainly due to the effect of the freezes on the fees assigned to the sector (both in terms of charges and budgets).

The real GDP evaluation continued to affect the generally stable trend of spending data at constant prices up until 2019; according to the estimates confirmed also in the 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 (-9% compared to 2019).

4.2. Health expenditure comparisons

The November 2022 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/74

shows those most commonly indicators used by industry analysts: the incidence of total health expenditure and of public health expenditure compared to GDP.

In 2020, as for most of the countries of the area, a trend towards a marked increase in resources related to the GDP and assigned to the NHS could be observed in Italy, however the gap accumulated over time in Italy remained greater than the average for both OECD Europe countries and those of the G7 group (7.4% compared to 8% and 10.5%, respectively). As previously anticipated, the measures put in place to deal with the dramatic effects that the spread of Covid 19 had on almost all the regional health systems have led the governing bodies that came in after its onset to redraw the financing trends of the system.

During 2020, the DEF (Economic and Financial Document) of April, the two NADEF (Updates) of September and November and the subsequent Budget Law of December 29th, have outlined a less-than-comforting 2022-2025 prospectus, generating doubts about the future stability of the system, doubts also confirmed by the recent memorandum drawn up on the subject by the Court of Auditors. The meeting of personnel needs connected also, but not only, to the reform of local assistance envisaged by the PNRR and the contingencies linked to the increase in energy costs, also appear for the Court of Auditors to be incompatible with the general framework of funding already deemed insufficient before the pandemic. Such a framework envisages increases in absolute value that will end in 2022, the year in which funding will reach 134 billion (corresponding to 7% of GDP), a subsequent decrease of 5.8 billion to 128.2 in 2023, and a slight increase between 2024 and 2025 for a value at the end of the period of 130.7 billion. It is a trend that translates into a dizzying decline in terms of GDP, bringing the indicator from the aforementioned 7.4% in 2020 to 6.1% in 2025, a value not seen since the early 1980s.

Returning our attention to the international comparisons made referring to 2020, also in terms of total healthcare expenditure Italy's ratio to GDP is lower than the average of the G7 countries (9.6% compared to 12.8%) and is still below the average of the European OECD countries (which is equal to 10.1%).

The stabilization of the overall amount (public and private) of Italian healthcare spending reported by the OECD for the three-year period 2017-2019 shows how, faced with the limiting of public contributions, a significant part of health needs continues to be covered by citizens, and partly by businesses, through direct spending and new forms of intermediation; for 2019, the last year not affected by the effects of the pandemic, ISTAT estimated

the amount of private spending to be 40.8 billion, of which 36.5 billion was associated with direct payments by households.

Again in terms of total healthcare spending, Italy still ranks below the values of the most industrialized countries in 2020: in fact, the United States, France, Germany and Canada show values that are 18.8%, 12.2%, 12.8% and 12.9%, respectively). And, albeit with different relative positions, the circumstance manifests itself significantly with respect to 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/75), and again with reference to the year 2020, it can be seen that Italy has:

– a higher proportion (56.6%%) of total public healthcare spending compared to the average for the G7 countries (41.1%), and compared to that of European OECD countries (46.1%);
– a GDP spending ratio slightly below the average of the G7 countries but still higher than that of European OECD countries (4.3% and 3.7%, respectively).

Having reached the end, hopefully, of the most critical phase of the pandemic, it must unfortunately be noted that the greater attention paid to future needs for personnel and structural equipment to adapt the overall response of the system does not seem to correspond at the moment with a real desire to bring the public financial commitment in line with the coverage needed, delegating to other subjects (households and businesses) an increasingly larger share of the related costs. There was the impression that it might have been overcome by virtue of the extreme difficulties experienced, yet it has instead forcefully returned to materialize and bear out, among other things, just how much healthcare continues to be considered an asset that is incapable of following the growth trends of national wealth, despite being one of the most important drivers. It does not therefore properly take into consideration the overall supply chain contribution which, also considering related industries, amounts to 10% of the GDP, and does not sense the strategic role that investments in the public's health can play in the future, also in terms of lower costs for the system and savings for public spending overall.

Table S/72 – Current health spending. Years 2016-2020 (in billions of euro)

	2016	*2017*	*2018*	*2019*	*2020*
Public hospital facilities	54.566	55.226	56.378	57.299	60.808
Accredited hospitals (as a whole)	8.484	8.419	8.493	8.559	8.538
of which: accredited hospitals[1]	*4.351*	*4.321*	*4.359*	*4.387*	*4.384*
Total public hospital system expenditure	63.050	63.645	64.871	65.858	69.346
Other expenditure features	50.681	50.694	50.842	51.070	53.949
Total public healthcare expenditure	*113.731*	*114.339*	*115.713*	*116.928*	*123.295*

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

Source: *processing by Ermeneia of data contained in the "Report on the Coordination of Public Finance" 2017, 2018, 2019, 2020, 2021 and 2022 of the Court of Auditors, in the Agenas Report on the monitoring of healthcare spending of the Regions 2018-2019 and in the MEF Report on healthcare expenditure monitoring 2022*

Table S/73 – Healthcare expenditure at constant prices (*). Years 2016-2020 (in billions of euro)

	2016	*2017*	*2018*	*2019*	*2020*
Public hospital facilities	53.954	54.213	54.759	55.136	57.583
Accredited hospitals (as a whole)	8.389	8.265	8.249	8.236	8.085
of which: accredited hospitals[1]	*4.302*	*4.242*	*4.234*	*4.221*	*4.151*
Total public hospital system expenditure	62.343	62.477	63.008	63.372	65.668
Other expenditure features	50.113	49.764	49.382	49.142	51.088
Total public healthcare expenditure	*112.455*	*112.241*	*112.390*	*112.514*	*116.756*

(*) GDP deflator calculated on the basis of the new ISTAT series in a chained series with reference to 2015, November 2022.

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

Source: *processing by Ermeneia of data contained in the "Report on the Coordination of Public Finance" 2017, 2018, 2019, 2020, 2021 and 2022 of the Court of Auditors, in the Agenas Report on the monitoring of healthcare spending of the Regions 2018-2019 and in the MEF Report on healthcare expenditure monitoring 2022*

Table S/74 – Amount of total healthcare expenditure and public healthcare spending in relation to the GDP

% Values	*Total healthcare expenditure*			*Public healthcare expenditure*		
	2018	*2019*	*2020*	*2018*	*2019*	*2020*
United States	16.6	16.7	18.8	13.8	13.8	15.9
Japan	10.7	11.0	11.1	9.0	9.2	9.3
Germany	11.5	11.7	12.8	9.6	9.8	10.9
France	11.2	11.1	12.2	9.3	9.3	10.3
Italy	**8.7**	**8.7**	**9.6**	**6.5**	**6.4**	**7.4**
United Kingdom	9.7	9.9	12.0	7.7	7.8	9.9
Canada	10.8	11.0	12.9	7.6	7.6	9.7
Average of G7 countries (*)	11.3	11.4	12.8	9.1	9.1	10.5
Australia	10.1	10.2	10.6	7.0	7.4	7.6
Austria	10.3	10.5	11.5	7.7	7.9	8.8
Belgium	10.8	10.7	10.8	8.3	8.1	8.5
Denmark	10.1	10.1	10.5	8.5	8.5	8.9
Finland	9.0	9.2	9.5	7.0	7.1	7.5
Greece	8.1	8.2	9.5	4.8	5.0	5.9
Iceland	8.4	8.5	9.5	6.9	7.0	7.9
Ireland	6.9	6.7	7.1	5.1	5.0	5.6
Luxembourg	5.3	5.4	5.7	4.4	4.6	5.0
Holland	10.0	10.2	11.2	8.2	8.4	9.5
New Zealand	9.0	9.0	9.7	7.2	7.2	7.8
Norway	10.0	10.5	11.3	8.6	9.0	9.8
Portugal	9.4	9.5	10.5	5.8	5.8	6.8
Spain	9.0	9.1	10.7	6.3	6.5	7.8
Sweden	10.9	10.8	11.5	9.3	9.2	9.9
Switzerland	11.2	11.3	11.8	7.3	7.5	8.2
Turkey	4.1	4.4	4.6	3.2	3.4	3.6
Average of European OECD countries (*)	9.2	9.3	10.1	7.1	7.2	8.0
Average of all OECD countries (*)	9.7	9.8	10.7	7.5	7.6	8.4

(*) Averages are calculated as unweighted arithmetic means.
Source: *Ermeneia processing of "OECD Health Data 2022", OECD, Paris, November 2022*

Table S/75 –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*		
	2018	*2019*	*2020*	*2018*	*2019*	*2020*
United States	35.8	36.4	34.6	4.9	5.0	5.5
Japan	43.5	44.0	-	3.9	4.0	-
Germany	31.7	32.3	32.9	3.1	3.2	3.6
France	43.5	43.4	44.2	4.1	4.0	4.6
Italy	**56.4**	**56.9**	**56.6**	**3.6**	**3.6**	**4.2**
United Kingdom	48.7	47.5	47.2	3.7	3.7	4.7
Canada	36.6	36.1	31.1	2.8	2.8	3.0
Average of G7 countries (*)	42.3	42.3	41.1	3.7	3.8	4.3
Australia	44.8	46.0	-	3.1	3.4	-
Austria	46.8	47.0	46.8	3.6	3.7	4.1
Belgium	36.7	40.5	42.0	3.1	3.3	3.6
Denmark	51.5	51.5	52.0	4.4	4.4	4.6
Finland	46.4	45.1	45.7	3.2	3.2	3.4
Greece	47.3	47.9	48.0	2.3	2.4	2.8
Iceland	47.8	47.2	47.8	3.3	3.3	3.8
Ireland	36.7	37.5	38.0	1.9	1.9	2.1
Luxembourg	37.3	37.8	37.0	1.7	1.7	1.8
Holland	37.9	37.3	36.4	3.1	3.1	3.5
New Zealand	-	-	-	-	-	-
Norway	44.3	44.5	44.3	3.8	4.0	4.3
Portugal	54.8	55.3	56.0	3.2	3.2	3.8
Spain	55.5	55.9	56.9	3.5	3.6	4.5
Sweden	44.8	45.1	45.6	4.2	4.2	4.5
Switzerland	44.1	44.5	44.2	3.2	3.4	3.6
Turkey	54.5	53.7	55.0	1.7	1.8	2.0
Average of European OECD countries (*)	45.6	45.8	46.1	3.2	3.2	3.7
Average of all OECD countries (*)	44.7	44.9	44.9	3.3	3.3	3.7

(*) Averages are calculated as unweighted arithmetic means.

Source*: Ermeneia processing of "OECD Health Data 2022", OECD, Paris, November 2022*

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Appendices

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1. Methods applied

The 2022 Report had to see to (and develop) the assessment of the dynamics of the demand and supply of hospital services, taking into account the "forced" approach that had to be taken from 2020 to 2022: this approach involved not only the continuity of the evolution of system but also the discontinuity that occurred due to Covid-19.

The first impact of the pandemic (2020) brought about a serious emergency phase especially in the first six months, but also dragging into the second half of the year, making it necessary to cope with two waves of infection that placed a strain on the provision of healthcare services, specifically hospital-based services.

In 2021, an active reaction in terms of the vaccination campaign took shape (and rapidly spread), and this was accompanied by the implementation of imposed and/or recommended behaviors as well as by the expanding of checks through the use of swabs and above all the introduction of the Green Pass. But again in the second year of the pandemic there were two new waves of the virus, with the inevitable variants and the persistence of substantial difficulties by non-Covid patients to obtain ordinary services, which had previously been interrupted/postponed and only partially recouped.

Finally, in 2022, we gradually found ourselves in a condition that marked a (more or less conscious) real transition to a mixed ordinary and extraordinary operational phase, again this was because there were two further waves of the virus, each with new variants, accompanied by the demand to begin a new vaccination cycle, especially for more fragile individuals and people more advanced in age. But in the meantime, the requests for ordinary services by non-Covid patients had begun to "intertwine" with those of Covid patients who had to deal with illnesses already present before the infection and those caused instead by the consequences of the virus, as well as by changes to their overall health condition.

Taking this changeable situation into account, it was decided to maintain the dual field analysis of the previous year, but with an effort to potentially "render ordinary" the reading, in the sense:

– first of all, of considering the population as a whole, but with a continuous comparison between the two sub-samples: that of people without any Covid experience during the three-year period 2020-2022, and that of people who experienced one or more Covid-19 infections in the same period (see Part Two of the Report);
– and to monitor (in a more synthetic way) the ways in which the virus manifested itself as well as its consequences, as well as the greater or lesser intensity to make use of regular health services, and then explore any changes in the respondents' attitudes towards vaccinations (see Part Three of the Report).

As usual, Part One was prepared and aimed at offering an overview of the performance of the Italian hospital system through:

a) an examination of the phenomena that attest to the average improvement in services over the years, which occurred despite the "extraordinary" impact of the pandemic (see Section 1 of Part One);
b) an assessment of the process of progressive interweaving of the "regular concerns" and the "special needs", which sees a growing demand for healthcare services by a public among whom, 40% have experience with the virus (obviously with reference to only official data, which are accompanied by "undeclared" infections), arising from the situation of services not provided previously and from the new demand linked to the worsening of the health condition among ordinary patients, on the one hand, and from the effects of Long Covid among infected patients, on the other (see Section 2 of Part One);
c) an analysis of the phenomena relating to the resources allocated to the Healthcare System (and hospitals in particular) which experienced a partial re-financing in 2020 under the pressure of the pandemic emergency, although this change in direction runs the risk of experiencing a blowback in the opposite direction as is indeed moreover explicitly envisaged by the Update to the Economic and Financial Document for 2025 (approved by the 2023 Budget Law): in fact, from a ratio of public health expenditure and GDP equal to 7.4% in the aforementioned year, to 7.2% in 2021, 7.0% in 2022, 6.4% in 2023, 6.3% in 2024, it is set to end up at 6.1% in 2025 (arrival point which would be at a level even lower than the 6.4% in 2019). And this is the situation while Italy is aging rapidly and generating a more than substantial additional demand for assistance, while the in-

vestments in infrastructure promoted by the PNRR are threatening to subtract further resources from the system, while having to hire new personnel (who are for that matter difficult to find), and to manage the infrastructures and related services (see Section 4.1, Part One).

Thus, also taking into account the final considerations of point c) above, Section 3 of Part One reports the usual monitoring of the efficiency of the management of public Hospital Centers by comparing the trend of the related Income Statements of 33 these Centers (considering Revenues, Costs and Results for the fiscal year) which, with 2022, compared 9 Fiscal Years, starting from 2013.

Table App. 1 below shows the aggregate values of the items (in thousands of euro) of the Income Statements of each individual public Hospital Center, items which have also been grouped by Regions and by the Territorial District to which they belong. Close to the absolute values, the percentage differences of each individual item of the Income Statement were also calculated, taking into account the increases/decreases relating to the entire period 2013-2019 (i.e. up to the eve of the pandemic), then followed by the two-year period 2019-2020 and the two-year period 2020-2021.

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. It was not possible to carry out a comparison on the total number of Hospital Centers as the Lombardy Region (with 29 Centers) changed its system and incorporated local healthcare activities within them. But this also happened for some other individual Centers, as in the case of the Friuli Venezia Giulia Region, the Sardinia Region and the Emilia Romagna Region.

Some summary comparison tables were subsequently prepared, starting from the table App. 1, which was also commented on in Section 4.2 of Part One.

As regards the two field surveys mentioned at the beginning of this section, dedicated to non-Covid patients and to Covid patients, respectively, a single questionnaire was used which was to be filled in exclusively by those who had one or more Covid experiences over the last three years for the first section, and by people who have not been affected by the virus at all. This questionnaire was structured as follows:

– an initial set of two “filter-questions” at the beginning, dedicated to the entire population and aimed at collecting information both on those who may have had one or more experiences of infection from Covid-19 and who were treated at home and/or by accessing healthcare facilities (with or without an actual inpatient stay or simply by remaining in quarantine

until achieving a negative swab test result), and from those who have not been infected at all and did or did not make use of regular health services; a question was then added aimed at detecting whether the immediate family or the extended family, in the period 2020-2022[1], had experienced one or more cases of Covid-19;

- then a subsequent Section A, reserved for respondents who had one or more personal experiences of infection from Covid-19 during the period 2020-2022 and who were asked other questions about the intensity and duration of the first experience and then of the second experience of infection, as well as the treatment paths tested and the parts of the year in which the Covid-19 symptoms manifested themselves during the three-year period, which were followed by other questions concerning the possible Covid consequences, again with reference to the first and therefore to the possible second experience of infection as well as recourse - following the Covid consequences - to ordinary health services both at local healthcare facilities and at hospitals; the survey then asked respondents about their state of health following their experience or experiences of Covid-19, specifically at the time of the survey, and finally, some questions were asked that had to do with vaccination before the infection and with the inclination to receive further vaccinations;
- a Section B, aimed at all the respondents and dedicated to reporting on the experiences with waiting lists for access to local healthcare services and hospital admissions, also reporting on experiences with any interruptions/postponements of one or more services and the relative duration in the three reference years 2020, 2021 and 2022[1]; furthermore, it was verified whether or not and exactly how the interrupted/postponed services were recouped during the three-year period, also reporting the opinion of the respondents about the reaction capacity of the healthcare facilities in their home Region (or Autonomous Province);
- and finally, a Section C, dedicated to some behaviors and attitudes of the respondents regarding the observation of the rules/suggestions in terms of hygiene and daily sanitation in order to protect themselves from the virus along with an assessment of some statements concerning coexistence with the virus, the opportunity or lack thereof to also receive a fourth dose, perhaps together with the flu vaccine, as well as the need to address the serious problem of ordinary healthcare services which have been postponed or which still need to be fully or partially recouped.

[1] Until the second ten days of September 2022, the period in which the questionnaire was administered.

The survey on the adult population was carried out through the aforementioned questionnaire, and was conducted using a special panel (Telepanel) which is based on a representative sample of the Italian population of 2,000 families. This sample was structured according to a methodology that takes into account a proportional stratification and appropriate "sampling cells" in order to ensure the representativeness of the sample according to the main social-demographic variables and precisely: gender (2 tiers), age (6 tiers), education (4 tiers), employment status (7 tiers), geographical distribution (8 tiers), size of the municipality of residence (5 tiers), for a total of 32 sampling cells. On the basis of ISTAT demographic data, the number of adult Italians present in each of the aforementioned cells was determined both in absolute and percentage terms and with reference to a population of 49,424,499 individuals.

The questionnaire was administered in the second half of September 2022, resulting in the collection of 3,626 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 equal to 95%, is ±1.63%.

Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)

H.C. and Univ. H.C. (1)	Inpatient and Day hospital Admissions (2)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	19,239	18,300	17,050	16,800	16,715	17,032	17,063	-11.3	16,359	-4.1	17,730	8.4
H.C. 2	29,200	28,200	32,590	28,500	32,807	33,675	34,247	17.3	30,480	-11.0	30,088	-1.3
H.C. 3	28,700	27,500	27,500	27,350	27,210	28,050	28,363	-1.2	24,137	-14.9	26,397	9.4
H.C. 4	26,000	25,100	25,600	25,550	25,430	29,476	30,311	16.6	24,446	-19.3	26,150	7.0
H.C. 5	23,300	22,200	22,900	21,000	22,880	22,395	23,555	1.1	19,640	-16.6	22,460	14.4
H.C. 6	100,070	84,150	95,050	94,800	94,325	90,687	92,554	-7.5	76,469	-17.4	83,302	8.9
Piedmont	***226,509***	***205,450***	***220,690***	***214,000***	***219,367***	***221,315***	***226,093***	***-0.2***	***191,531***	***-15.3***	***206,127***	**7.6**
H.C. 7	53,080	52,360	57,100	55,950	*58,765*	*58,618*	*60,310*	13.6	*61,038*	1.2	61,456	0.7
H.C. 8	51,500	51,960	59,260	64,535	*64,312*	*64,855*	*63,933*	24.1	*51,886*	-18.8	54,262	4.6
Veneto	***104,580***	***104,320***	***116,360***	***120,485***	***123,077***	***123,473***	***124,243***	***18.8***	***112,924***	***-9.1***	***115,718***	**2.5**
H.C. 9	47,960	47,438	47,483	47,204	*44,143*	*44,651*	*43,612*	-9.1	37,596	-13.8	38,787	3.2
H.C. 10	33,698	32,574	32,198	31,680	*41,500*	*46,430*	*47,198*	40.1	*42,350*	-10.3	51,832	22.4
H.C. 11	69,833	68,374	67,884	68,736	*68,392*	*68,800*	*61,592*	-11.8	*48,568*	-21.1	52,789	8.7
H.C. 12	32,497	32,104	31,809	31,289	*31,133*	*32,494*	*32,780*	0.9	*29,450*	-10.2	30,098	2.2
Emilia R.	***183,988***	***180,490***	***179,374***	***178,909***	***185,168***	***192,375***	***185,182***	***0.6***	***157,964***	***-14.7***	***173,506***	**9.8**
NORTH	**515,077**	**490,260**	**516,424**	**513,394**	**527,612**	**537,163**	**535,518**	**4.0**	**462,419**	**-13.7**	**495,351**	**7.1**
H.C. 13	26792	31,183	30,183	30,181	32,108	*31,867*	*30,971*	15.6	*22,741*	-26.6	24,143	6.2
H.C. 14	49178	47,919	46,053	46,122	*47,939*	*48,026*	*47,537*	-3.3	*37,851*	-20.4	39,294	3.8
Marche	***75,970***	***79,102***	***76,236***	***76,303***	***80,047***	***79,893***	***78,508***	***3.3***	***60,592***	***-22.8***	***63,437***	**4.7**
H.C. 15	49,610	47,922	38,706	34,599	*38,592*	*38,340*	*38,855*	-21.7	*35,475*	-8.7	35,605	0.4
H.C. 16	25,459	23,227	21,884	19,783	*28,111*	*28,179*	*29,061*	14.1	*24,514*	-15.6	26,414	7.8
H.C. 17	65,373	61,261	52,344	48,843	*59,175*	*54,083*	*51,460*	-21.3	*32,694*	-36.5	36,239	10.8
H.C. 18	27,172	26,600	22,793	21,177	*21,071*	*22,137*	*22,781*	-16.2	*17,832*	-21.7	18,714	4.9
H.C. 19	34,586	35,489	31,272	29,767	*24,001*	*24,000*	*23,728*	-31.4	*16,552*	-30.2	18,372	11.0
Lazio	***202,200***	***194,499***	***166,999***	***154,169***	***170,950***	***166,739***	***165,885***	***-18.0***	***127,067***	***-23.4***	***135,344***	**6.5**
CENTER	**278,170**	**273,601**	**243,235**	**230,472**	**250,997**	**246,632**	**244,393**	**-12.1**	**187,659**	**-23.2**	**198,781**	**5.9**
H.C. 20	74,633	70,926	66,659	66,300	*50,432*	*48,041*	*47,798*	-36.0	*36,181*	-24.3	39,922	10.3
H.C. 21	40,937	38,194	36,511	36,200	*36,020*	*35,739*	*32,327*	-21.0	*24,773*	-23.4	27,330	10.3
Apulia	***115,570***	***109,120***	***103,170***	***102,500***	***86,452***	***83,780***	***80,125***	***-30.7***	***60,954***	***-23.9***	***67,252***	**10.3**
H.C. 22	28,168	26,527	26,083	28,213	26,115	24,796	24,830	-11.9	21,352	-14.0	22,633	6.0
H.C. 23	27,294	25,989	25,746	24,277	*24,160*	*23,850*	*28,043*	2.7	*23,600*	-15.8	24,662	4.5
H.C. 24	10,305	9,830	9,869	9,855	*9,810*	*9,910*	*10,150*	-1.5	*8,850*	-12.8	9,381	6.0
H.C. 25	27,173	25,554	25,022	23,556	*23,450*	*23,750*	*24,455*	-10.0	*20,722*	-15.3	22,894	10.5
Calabria	***92,940***	***87,900***	***86,720***	***85,901***	***83,535***	***82,306***	***87,478***	***-5.9***	***74,524***	***-14.8***	***79,570***	**6.8**
H.C. 26	25,812	21,525	20,377	22,009	*21,243*	*20,536*	*21,656*	-16.1	*17,982*	-17.0	*20,349*	13.2
H.C. 27	34,129	28,738	27,531	32,213	*32,055*	*29,319*	*29,353*	-14.0	*23,349*	-20.5	*23,088*	-1.1
H.C. 28	46,968	40,938	39,860	44,207	*43,986*	*42,359*	*40,660*	-13.4	*32,110*	-21.0	*38,187*	18.9
H.C. 29	19,918	16,538	15,211	16,918	*16,850*	*15,791*	*16,173*	-18.8	*10,626*	-34.3	11,689	10.0
H.C. 30	25,948	23,380	23,242	26,679	*26,552*	*32,847*	*33,221*	28.0	*17,683*	-46.8	*19,082*	7.9
H.C. 31	34,593	29,411	27,965	27,188	*27,150*	*26,729*	*26,278*	-24.0	*20,330*	-22.6	*20,049*	-1.4
H.C. 32	35,437	30,527	27,117	31,202	*31,055*	*28,550*	*27,680*	-21.9	*23,418*	-15.4	*24,755*	5.7
H.C. 33	26,636	23,048	23,775	30,272	*30,150*	*27,598*	*25,530*	-4.2	*21,175*	-17.1	*15,797*	-25.4
Sicily	***249,441***	***214,105***	***205,078***	***230,688***	***229,041***	***223,729***	***220,551***	***-11.6***	***166,673***	***-24.4***	***172,996***	**3.8**
SOUTH	**457,951**	**411,125**	**394,968**	**419,089**	**399,028**	**389,815**	**388,154**	**-15.2**	**302,151**	**-22.2**	**319,818**	**5.8**
ITALY	**1,251,198**	**1,174,986**	**1,154,627**	**1,162,955**	**1,177,637**	**1,173,610**	**1,168,065**	**-6.6**	**952,229**	**-18.5**	**1,013,950**	**6.5**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Revenues from Healthcare Services and Health-Related Social Health Services as per the IS (3)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	106,572	104,135	107,649	108,473	106,711	115,705	124,213	16.6	109,718	-11.7	122,434	11.6
H.C. 2	181,948	183,365	190,873	193,471	196,411	216,567	229,405	26.1	195,206	-14.9	224,226	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	194,686	15.7
H.C. 4	153,780	149,070	154,878	162,387	165,300	174,991	184,651	20.1	165,103	-10.6	178,855	8.3
H.C. 5	125,885	119,436	119,526	124,437	129,356	125,654	133,662	6.2	133,008	-0.5	142,859	7.4
H.C. 6	540,499	529,186	542,128	540,077	537,733	550,225	579,477	7.2	517,805	-10.6	568,071	9.7
Piedmont	***1,283,108***	***1,254,066***	***1,289,839***	***1,308,202***	***1,316,685***	***1,375,199***	***1,447,295***	***12.8***	***1,289,112***	***-10.9***	***1,431,131***	***11.0***
H.C. 7	*420,359*	411,834	417,531	419,487	441,893	446,562	456,570	8.6	514,059	12.6	532,910	3.7
H.C. 8	*394,620*	401,961	429,078	443,432	458,691	473,846	491,491	24.5	451,869	-8.1	473,105	4.7
Veneto	***814,979***	***813,795***	***846,609***	***862,919***	***900,584***	***920,408***	***948,061***	***16.3***	***965,928.0***	***1.9***	***1,006,015***	***4.2***
H.C. 9	*293,863*	299,822	303,994	305,869	306,399	310,592	310,512	5.7	279,444	-10.0	310,345	11.1
H.C. 10	*206,473*	205,873	206,136	205,278	324,698	325,917	329,236	59.5	324,519	-1.4	323,841	-0.2
H.C. 11	*427,878*	432,141	434,604	445,392	457,158	464,286	469,915	9.8	451,254	-4.0	490,895	8.8
H.C. 12	*199,118*	202,904	203,645	202,749	208,151	214,493	218,938	10.0	212,259	-3.1	216,831	2.2
Emilia R.	***1,127,332***	***1,140,740***	***1,148,379***	***1,159,288***	***1,296,406***	***1,315,288***	***1,328,601***	***17.9***	***1,267,476***	***-4.6***	***1,341,912***	***5.9***
NORTH	**3,225,419**	**3,208,601**	**3,284,827**	**3,330,409**	**3,513,675**	**3,610,895**	**3,723,957**	**15.5**	**3,522,516**	**-5.4**	**3,779,058**	**7.3**
H.C. 13	*151,700*	144,679	141,250	145,348	160,829	174,678	180,366	18.9	156,611	-13.2	172,449	10.1
H.C. 14	*278,445*	260,532	257,758	271,644	281,848	298,289	300,348	7.9	266,267	-11.3	293,633	10.3
Marche	***430,145***	***405,211***	***399,008***	***416,992***	***442,677***	***472,967***	***480,714***	***11.8***	***422,878***	***-12.0***	***466,082***	***10.2***
H.C. 15	*241,829*	238,751	232,965	224,195	224,616	232,156	234,085	-3.2	220,600	-5.8	230,868	4.7
H.C. 16	*124,100*	115,718	131,718	128,192	128,269	126,890	158,703	27.9	152,249	-4.1	148,654	-2.4
H.C. 17	*318,664*	305,205	315,050	316,490	324,679	335,899	336,909	5.7	282,974	-16.0	298,009	5.3
H.C. 18	*132,453*	132,524	137,186	140,622	148,428	156,660	162,388	22.6	147,512	-9.2	155,787	5.6
H.C. 19	*168,593*	176,806	188,218	192,885	199,476	205,500	210,304	24.7	171,894	-18.3	188,900	9.9
Lazio	***985,639***	***969,004***	***1,005,137***	***1,002,384***	***1,025,468***	***1,057,105***	***1,102,389***	***11.8***	***975,229***	***-11.5***	***1,022,218***	***4.8***
CENTER	**1,415,784**	**1,374,215**	**1,404,145**	**1,419,376**	**1,468,145**	**1,530,072**	**1,583,103**	**11.8**	**1,398,107**	**-11.7**	**1,488,300**	**6.5**
H.C. 20	*299,652*	305,360	317,373	298,153	282,993	267,378	292,035	-2.5	233,369	-20.1	276,701	18.6
H.C. 21	*164,363*	164,439	173,831	162,790	171,709	165,123	169,137	2.9	144,872	-14.3	172,251	18.9
Apulia	***464,015***	***469,799***	***491,204***	***460,943***	***454,702***	***432,501***	***461,172***	***-0.6***	***378,241***	***-18.0***	***448,952***	***18.7***
H.C. 22	98,057	97,212	96,652	117,375	118,268	125,549	124,945	27.4	132,954	6.4	110,204	-17.1
H.C. 23	*95,012*	95,238	95,405	101,520	110,625	111,850	133,368	40.4	133,249	-0.1	139,244	4.5
H.C. 24	*35,871*	36,024	42,958	46,927	58,102	58,265	70,485	96.5	69,815	-1.0	75,400	8.0
H.C. 25	*94,593*	93,643	92,720	103,693	111,982	127,776	138,727	46.7	128,775	-7.2	142,660	10.8
Calabria	***323,533***	***322,117***	***327,735***	***369,515***	***398,977***	***423,440***	***467,525***	***44.5***	***464,793***	***-0.6***	***467,508***	***0.6***
H.C. 26	*117,627*	113,251	121,004	121,030	131,098	130,198	135,576	15.3	122,276	-9.8	130,231	6.5
H.C. 27	*155,528*	151,207	163,486	177,138	176,793	178,167	182,379	17.3	150,872	-17.3	151,692	0.5
H.C. 28	*214,039*	215,396	236,698	243,093	238,783	249,016	252,030	17.7	230,867	-8.4	265,445	15.0
H.C. 29	*90,768*	87,012	90,324	93,034	90,269	86,352	91,942	1.3	84,545	-8.0	99,819	18.1
H.C. 30	*118,246*	123,015	138,017	146,708	144,996	152,279	158,853	34.3	132,986.0	-16.3	149,800	12.6
H.C. 31	*157,644*	154,744	166,061	174,053	174,303	183,470	173,505	10.1	161,343	-7.0	165,520	2.6
H.C. 32	*161,492*	160,615	161,024	171,581	167,388	177,908	172,192	6.6	153,535	-10.8	120,526	-21.5
H.C. 33	*121,383*	121,264	141,180	166,466	155,068	160,492	153,176	26.2	126,223	-17.6	143,133	13.4
Sicily	***1,136,727***	***1,126,504***	***1,217,794***	***1,293,103***	***1,278,698***	***1,317,882***	***1,319,653***	***16.1***	***1,162,647***	***-11.9***	***1,226,166***	***5.5***
SOUTH	**1,924,275**	**1,918,420**	**2,036,733**	**2,123,561**	**2,132,377**	**2,173,823**	**2,248,350**	**16.8**	**2,005,681**	**-10.8**	**2,142,626**	**6.8**
ITALY	**6,565,478**	**6,501,236**	**6,725,705**	**6,873,346**	**7,114,197**	**7,314,790**	**7,555,410**	**15.1**	**6,926,304**	**-8.3**	**7,409,984**	**7.0**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Revenues from Co-Payment Charges for External Specialist Services as per the IS (Cod. A0940) (4)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	2,601	2,511	2,615	2,569	2,033	2,100	2,190	-15.8	1,284	-41.4	1,271	-1.0
H.C. 2	6,534	6,900	6,564	5,598	5,567	5,875	6,088	-6.8	3,451	-43.3	4,263	23.5
H.C. 3	5,441	5,227	5,067	5,007	5,084	5,349	5,558	2.2	3,261	-41.3	3,258	-0.1
H.C. 4	3,336	3,142	3,297	3,273	3,250	3,174	3,400	1.9	2,125	-37.5	2,415	13.6
H.C. 5	4,035	4,039	3,862	3,738	3,597	4,035	3,580	-11.3	2,071	-42.2	2,233	7.8
H.C. 6	14,648	15,181	13,454	12,178	12,072	12,714	12,455	-15.0	6,925	-44.4	7,224	4.3
Piedmont	***36,595***	***37,000***	***34,859***	***32,363***	***31,603***	***33,247***	***33,271***	***-9.1***	***19,117***	***-42.5***	***20,664***	***8.1***
H.C. 7	8,663	8,821	8,635	8,373	10,847	10,495	11,131	28.5	9,142	-17.9	9,568	4.7
H.C. 8	6,541	6,800	6,974	7,510	9,804	10,208	10,382	58.7	7,416	-28.6	7,783	4.9
Veneto	***15,204***	***15,621***	***15,609***	***15,883***	***20,651***	***20,703***	***21,513***	***41.5***	***16,558***	***-23.0***	***17,351***	***4.8***
H.C. 9	6,669	6,889	6,739	6,794	6,431	6,875	6,273	-5.9	3,525	-43.8	3,447	-2.2
H.C. 10	3,138	3,152	3,255	3,849	5,366	5,769	5,315	69.4	3,096	-41.7	4,299	38.9
H.C. 11	7,777	7,393	6,805	7,103	7,846	7,267	6,851	-11.9	4,913	-28.3	5,935	20.8
H.C. 12	6,094	6,129	6,085	6,043	5,703	5,397	3,579	-41.3	2,492	-30.4	2,962	18.9
Emilia R.	***23,678***	***23,563***	***22,884***	***23,789***	***25,346***	***25,308***	***22,018***	***-7.0***	***14,026***	***-36.3***	***16,643***	***18.7***
NORTH	**75,477**	**76,184**	**73,352**	**72,035**	**77,600**	**79,258**	**76,802**	**1.8**	**49,701**	**-35.3**	**54,658**	**10.0**
H.C. 13	3,286	3,186	3,364	3,607	3,729	3,769	3,791	15.4	2,166	-42.9	2,427	12.0
H.C. 14	4,504	4,422	4,318	4,437	4,441	4,543	4,809	6.8	2,971	-38.2	3,312	11.5
Marche	***7,790***	***7,608***	***7,682***	***8,044***	***8,170***	***8,312***	***8,600***	***10.4***	***5,137***	***-40.3***	***5,739***	***11.7***
H.C. 15	6,418	6,222	5,336	4,743	4,119	4,106	4,062	-36.7	2,912	-28.3	2,324	-20.2
H.C. 16	3,515	3,370	3,179	2,980	2,720	2,780	2,994	-14.8	1,475	-50.7	1,714	16.2
H.C. 17	11,307	10,950	10,188	10,386	10,060	8,152	7,771	-31.3	3,667	-52.8	3,189	-13.0
H.C. 18	4,760	4,464	4,168	4,146	3,784	4,260	4,618	-3.0	2,643	-42.8	3,156	19.4
H.C. 19	6,009	5,580	5,572	5,213	4,528	4,130	4,162	-30.7	1,953	-53.1	2,299	17.7
Lazio	***32,009***	***30,586***	***28,443***	***27,468***	***25,211***	***23,428***	***23,607***	***-26.2***	***12,650***	***-46.4***	***12,682***	***0.3***
CENTER	**39,799**	**38,194**	**36,125**	**35,512**	**33,381**	**31,740**	**32,207**	**-19.1**	**17,787**	**-44.8**	**18,421**	**3.6**
H.C. 20	5,989	5,708	5,675	4,569	4,899	5,284	5,344	-10.8	4,092	-23.4	5,614	37.2
H.C. 21	2,820	2,806	2,793	2,437	2,657	2,858	2,999	6.3	1,710	-43.0	2,177	27.3
Apulia	***8,809***	***8,514***	***8,468***	***7,006***	***7,556***	***8,142***	***8,343***	***-5.3***	***5,802***	***-30.5***	***7,791***	***34.3***
H.C. 22	2,042	2,054	1,849	2,036	1,945	2,767	1,937	-5.1	841	-56.6	947	12.6
H.C. 23	2,560	2,332	2,451	2,510	2,338	2,479	2,578	0.7	1,738	-32.6	2,098	20.7
H.C. 24	1,778	1,610	1,560	1,508	1,564	1,713	1,791	0.7	1,090	-39.1	1,488	36.5
H.C. 25	1,586	1,694	1,695	1,502	1,387	1,495	1,470	-7.3	783	-46.7	855	9.2
Calabria	***7,966***	***7,690***	***7,555***	***7,556***	***7,234***	***8,454***	***7,776***	***-2.4***	***4,452***	***-42.7***	***5,388***	***21.0***
H.C. 26	1,464	1,380	1,366	1,404	1,554	1,459	1,363	-6.9	784	-42.5	787	0.4
H.C. 27	2,430	2,303	2,333	2,335	2,333	2,362	2,388	-1.7	1,405	-41.2	1,500	6.8
H.C. 28	4,248	3,979	3,944	3,917	3,586	3,473	3,220	-24.2	1,483	-53.9	1,710	15.3
H.C. 29	1,322	1,231	1,237	1,161	995	1,045	1,008	-23.8	624	-38.1	803	28.7
H.C. 30	2,639	2,466	2,479	2,371	2,296	2,345	2,380	-9.8	1,280	-46.2	1,395	9.0
H.C. 31	2,033	1,985	1,873	1,744	1,838	1,752	1,765	-13.2	988	-44.0	993	0.5
H.C. 32	2,084	1,890	1,749	1,736	1,633	1,517	1,508	-27.6	947	-37.2	2,098	121.5
H.C. 33	1,884	1,806	1,754	1,715	1,722	1,636	1,629	-13.5	711	-56.4	877	23.3
Sicily	***18,104***	***17,040***	***16,735***	***16,383***	***15,957***	***15,589***	***15,261***	***-15.7***	***8,222***	***-46.1***	***10,163***	***23.6***
SOUTH	**34,879**	**33,244**	**32,758**	**30,945**	**30,747**	**32,185**	**31,380**	**-10.0**	**18,476**	**-41.1**	**23,342**	**26.3**
ITALY	**150,155**	**147,622**	**142,235**	**138,492**	**141,728**	**143,183**	**140,389**	**-6.5**	**85,964**	**-38.8**	**96,421**	**12.2**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Revenues from FSR transfer for "by function" activities reported on the IS (Cod. AA0030) (5)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	36,673	31,600	34,500	40,908	41,647	45,163	42,988	17.2	61,810	43.8	60,520	-2.1
H.C. 2	64,002	66,200	74,041	89,816	67,365	97,021	99,879	56.1	123,298	23.4	113,168	-8.2
H.C. 3	48,028	48,500	49,400	53,977	55,340	53,734	55,934	16.5	76,053	36.0	68,411	-10.0
H.C. 4	62,321	60,010	65,400	72,369	75,350	75,439	74,788	20.0	96,250	28.7	98,962	2.8
H.C. 5	37,884	42,438	42,360	51,755	46,076	50,654	48,686	28.5	62,344	28.1	58,881	-5.6
H.C. 6	366,810	357,400	362,282	369,228	394,630	294,928	302,071	-17.6	467,627	54.8	436,921	-6.6
Piedmont	***615,718***	***606,148***	***627,983***	***678,053***	***680,408***	***616,939***	***624,346***	***1.4***	***887,382***	***42.1***	***836,863***	***-5.7***
H.C. 7	94,209	138,893	136,414	165,421	120,010	111,750	110,609	17.4	112,843	2.0	135,596	20.2
H.C. 8	97,171	107,648	130,392	121,234	107,626	131,529	106,691	9.8	118,900	11.4	121,704	2.4
Veneto	***191,380***	***246,541***	***266,806***	***286,655***	***227,636***	***243,279***	***217,300***	***13.5***	***231,743***	***6.6***	***257,300***	***11.0***
H.C. 9	47,817	62,711	58,155	58,978	63,145	71,374	73,281	53.3	103,962	41.9	100,064	-3.7
H.C. 10	33,897	43,200	44,960	45,929	63,663	58,863	63,940	88.6	92,223	44.2	94,682	2.7
H.C. 11	76,387	89,465	91,752	97,560	103,694	100,959	118,790	55.5	162,626	36.9	173,253	6.5
H.C. 12	36,703	77,290	85,221	73,050	70,575	71,417	79,693	117.1	91,653	15.0	85,811	-6.4
Emilia R.	***194,804***	***272,666***	***280,088***	***275,517***	***237,932***	***302,613***	***335,704***	***72.3***	***450,464***	***34.2***	***453,810***	***0.7***
NORTH	**1,001,902**	**1,125,355**	**1,174,877**	**1,240,225**	**1,145,976**	**1,162,831**	**1,177,350**	**17.5**	**1,569,589**	**33.3**	**1,547,973**	**-1.4**
H.C. 13	56,448	66,451	62,730	72,419	71,190	45,344	44,457	-21.2	60,697	36.5	52,218	-14.0
H.C. 14	73,269	91,200	102,162	94,570	88,831	74,503	77,837	6.2	115,317	48.2	113,668	-1.4
Marche	***129,717***	***157,651***	***164,892***	***166,989***	***160,021***	***119,847***	***122,294***	***-5.7***	***176,014***	***43.9***	***165,886***	***-5.8***
H.C. 15	60,354	69,985	53,605	46,153	49,027	52,080	55,249	-8.5	65,278	18.2	69,067	5.8
H.C. 16	21,463	30,429	20,918	17,432	16,244	17,150	22,468	4.7	30,072	33.8	42,099	40.0
H.C. 17	95,541	106,828	85,192	81,914	81,444	85,428	84,923	-11.1	128,314	51.1	110,921	-13.6
H.C. 18	19,436	23,952	20,043	18,632	18,618	25,684	19,045	-2.0	34,763	82.5	40,623	16.9
H.C. 19	31,207	35,118	34,016	33,981	38,947	40,050	40,880	31.0	57,708	41.2	46,490	-19.4
Lazio	***228,001***	***266,312***	***213,774***	***198,112***	***204,280***	***220,392***	***222,565***	***-2.4***	***316,135***	***42.0***	***309,200***	***-2.2***
CENTER	**357,718**	**423,963**	**378,666**	**365,101**	**364,301**	**340,239**	**344,859**	**-3.6**	**492,149**	**42.7**	**475,086**	**-3.5**
H.C. 20	160,843	188,356	156,616	155,241	160,050	152,643	153,943	-4.3	183,728	19.3	160,331	-12.7
H.C. 21	78,809	81,625	73,454	73,154	78,004	70,138	75,400	-4.3	105,112	39.4	88,037	-16.2
Apulia	***239,652***	***269,981***	***230,070***	***228,395***	***238,054***	***222,781***	***229,343***	***-4.3***	***288,840***	***25.9***	***248,368***	***-14.0***
H.C. 22	84,427	83,950	87,790	66,398	72,140	60,264	57,761	-31.6	62,284	7.8	78,122	25.4
H.C. 23	67,476	66,200	66,222	58,416	43,626	43,626	39,759	-41.1	44,593	12.2	70,370	57.8
H.C. 24	14,849	14,349	444	22,888	17,594	17,594	22,213	49.6	19,651	-11.5	31,440	60.0
H.C. 25	63,996	63,996	58,681	58,579	59,323	49,689	52,203	-18.4	50,550	-3.2	69,850	38.2
Calabria	***230,748***	***228,495***	***213,137***	***206,281***	***192,683***	***171,173***	***171,936***	***-25.5***	***177,078***	***3.0***	***249,782***	***41.1***
H.C. 26	63,525	67,730	67,494	67,685	58,646	56,821	56,503	-11.1	87,620	55.1	80,693	-7.9
H.C. 27	71,728	80,684	74,643	75,078	74,559	76,706	72,906	1.6	119,558	64.0	127,530	6.7
H.C. 28	136,862	139,702	145,198	142,094	128,190	132,712	138,075	0.9	203,612	47.5	189,661	-6.9
H.C. 29	79,450	103,931	88,302	79,646	65,797	62,287	57,447	-27.7	77,398	34.7	73,539	-5.0
H.C. 30	57,758	57,620	54,844	54,525	61,581	73,327	66,434	15.0	149,061	124.4	121,544	-18.5
H.C. 31	117,156	131,790	122,478	109,141	106,019	116,767	117,947	0.7	167,631	42.1	149,994	-10.5
H.C. 32	146,799	167,800	165,573	149,380	130,427	153,134	102,237	-30.4	184,560	80.5	52,549	-71.5
H.C. 33	61,744	93,812	92,770	79,042	78,493	80,718	81,522	32.0	129,734	59.1	120,828	-6.9
Sicily	***735,022***	***843,069***	***811,302***	***756,591***	***703,712***	***752,472***	***693,071***	***-5.7***	***1,119,174***	***61.5***	***916,338***	***-18.1***
SOUTH	**1,205,422**	**1,341,545**	**1,254,509**	**1,191,267**	**1,134,449**	**1,146,426**	**1,094,350**	**-9.2**	**1,585,092**	**44.8**	**1,414,488**	**-10.8**
ITALY	**2,565,042**	**2,890,863**	**2,808,052**	**2,796,593**	**2,644,726**	**2,649,496**	**2,616,559**	**2.0**	**3,646,830**	**39.4**	**3,437,547**	**-5.7**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Other revenues as per the IS (6)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	7,707	8,909	10,756	11,843	14,590	5,881	7,778	0.9	9,347	20.2	21,052	125.2
H.C. 2	10,563	10,730	14,850	14,151	49,751	13,118	11,504	8.9	-978	-108.5	27,519	2,913.8
H.C. 3	8,228	7,249	9,277	7,714	7,555	4,515	6,358	-22.7	8,957	40.9	14,096	57.4
H.C. 4	8,343	8,400	9,790	9,364	8,500	9,181	7,675	-8.0	8,304	8.2	15,836	90.7
H.C. 5	7,635	3,023	5,331	5,342	8,473	-3,456	1,612	-78.9	3,429	112.7	8,317	142.5
H.C. 6	80,607	73,454	94,942	94,845	63,887	84,042	88,727	10.1	64,639	-27.1	106,534	64.8
Piedmont	***123,083***	***111,765***	***144,946***	***143,259***	***152,756***	***113,281***	***123,654***	***0.5***	***93,698***	***-24.2***	***193,354***	***106.4***
H.C. 7	42,946	-6,708	17,972	-11,858	32,525	45,018	44,331	3.2	43,807	-1.2	47,522	8.5
H.C. 8	15,710	10,969	9,347	17,958	31,118	-	23,285	48.2	43,714	87.7	63,821	46.0
Veneto	***58,656***	***4,261***	***27,319***	***6,100***	***63,643***	***45,018***	***67,616***	***15.3***	***87,521***	***29.4***	***111,343***	***27.2***
H.C. 9	28,629	12,199	17,145	15,817	14,260	15,853	20,333	-29.0	277,853	1,266.5	54,132	-80.5
H.C. 10	20,628	8,957	10,375	11,308	18,561	33,690	32,557	57.8	60,164	84.8	71,870	19.5
H.C. 11	46,192	29,029	48,284	29,688	29,095	48,252	57,801	25.1	83,285	44.1	75,417	-9.4
H.C. 12	62,889	21,445	25,967	28,387	26,430	27,725	24,809	-60.6	34,077	37.4	25,877	-24.1
Emilia R.	***158,338***	***71,630***	***101,771***	***85,200***	***88,346***	***125,520***	***135,500***	***-14.4***	***455,379***	***236.1***	***227,296***	***-50.1***
NORTH	**340,077**	**187,656**	**274,036**	**234,559**	**304,745**	**283,819**	**326,770**	**-3.9**	**636,598**	**94.8**	**531,993**	**-16.4**
H.C. 13	8,733	3,514	11,438	173	-3,929	11,692	11,901	36.3	25,195	111.7	20,735	-17.7
H.C. 14	14,683	20,208	18,638	10,794	13,453	18,451	23,877	62.6	40,017	67.6	32,050	-19.9
Marche	***23,416***	***23,722***	***30,076***	***10,967***	***9,524***	***30,143***	***35,778***	***52.8***	***65,212***	***82.3***	***52,785***	***-19.1***
H.C. 15	24,450	15,140	18,058	15,875	15,399	15,902	13,969	-42.9	14,948	7.0	24,176	61.7
H.C. 16	18,157	17,360	20,947	29,177	15,534	38,131	14,548	-19.9	18,480	27.0	19,454	5.3
H.C. 17	31,871	29,370	30,508	38,406	24,373	26,674	25,175	-21.0	28,352	12.6	38,740	36.6
H.C. 18	17,193	14,761	14,351	13,984	20,361	13,024	18,432	7.2	20,880	13.3	13,248	-36.6
H.C. 19	7,965	7,426	9,887	8,324	8,975	5,120	7,412	-6.9	11,439	54.3	27,545	140.8
Lazio	***99,636***	***84,057***	***93,751***	***105,766***	***84,642***	***98,851***	***79,536***	***-20.2***	***94,099***	***18.3***	***123,163***	***30.9***
CENTER	**123,052**	**107,779**	**123,827**	**116,733**	**94,166**	**128,994**	**115,314**	**-6.3**	**159,311**	**38.2**	**175,948**	**10.4**
H.C. 20	6,530	1,858	-	7,969	23,895	31,489	29,676	354.5	22,172	-25.3	57,865	161.0
H.C. 21	3,600	2,975	2,871	7,642	7,375	8,964	10,226	184.1	8,098	-20.8	43,744	440.2
Apulia	***10,130***	***4,833***	***2,871***	***15,611***	***31,270***	***40,453***	***39,902***	***293.9***	***30,270***	***-24.1***	***101,609***	***235.7***
H.C. 22	2,517	5,549	4,765	4,330	4,280	7,917	10,586	320.6	4,997	-52.8	10,004	100.2
H.C. 23	4,165	6,454	12,201	6,109	5,438	3,466	7,467	79.3	4,675	-37.4	4,583	-2.0
H.C. 24	12,731	5,969	9,588	4,996	6,952	6,364	1,859	-85.4	3,032	63.1	-702	-123.2
H.C. 25	4,415	8,886	12,708	6,822	5,760	7,475	8,073	82.9	18,322	127.0	-4,935	-126.9
Calabria	***23,828***	***26,858***	***39,262***	***22,257***	***22,430***	***25,222***	***27,985***	***17.4***	***31,026***	***10.9***	***8,950***	***-71.2***
H.C. 26	6,084	11,715	5,580	10,539	8,203	11,479	12,030	97.7	2,789	-76.8	13,375	379.6
H.C. 27	8,684	4,172	8,629	2,739	10,125	9,890	14,728	69.6	6,406	-56.5	12,872	100.9
H.C. 28	27,166	32,415	19,009	14,562	16,383	40,637	40,297	48.3	45,048	11.8	54,325	20.6
H.C. 29	5,143	5,524	3,641	7,606	11,621	13,918	12,415	141.4	-98	-100.8	5,314	5,522.4
H.C. 30	6,450	5,042	3,505	6,174	3,837	4,426	17,086	164.9	5,123	-70.0	21,300	315.8
H.C. 31	13,994	5,403	4,157	8,624	18,710	17,018	19,670	40.6	505	-97.4	17,469	3,359.2
H.C. 32	23,346	19,446	20,861	36,929	39,298	25,102	13,065	-44.0	7,628	-41.6	4,583	-39.9
H.C. 33	14,122	-	-	8,459	7,017	9,401	11,379	-19.4	6,785	-40.4	19,095	181.4
Sicily	***104,989***	***83,717***	***65,382***	***95,632***	***115,194***	***131,871***	***140,670***	***34.0***	***74,186***	***-47.3***	***148,333***	***99.9***
SOUTH	**138,947**	**115,408**	**107,515**	**133,500**	**168,894**	**197,546**	**208,557**	**50.1**	**135,482**	**-35.0**	**258,892**	**91.1**
ITALY	**602,076**	**410,843**	**505,378**	**484,792**	**567,805**	**610,359**	**650,641**	**8.1**	**931,391**	**43.1**	**966,833**	**3.8**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Total Revenues as per the IS (COD. AZ999) (7)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	153,553	147,155	155,520	163,793	164,981	168,849	177,169	15.4	182,159	2.8	205,277	12.7
H.C. 2	263,047	267,195	286,328	303,036	319,094	332,581	346,876	31.9	320,977	-7.5	369,176	15.0
H.C. 3	236,121	229,850	238,529	246,055	249,153	255,655	263,737	11.7	256,543	-2.7	280,451	9.3
H.C. 4	227,780	220,622	233,365	247,393	252,400	262,785	270,514	18.8	271,782	0.5	296,068	8.9
H.C. 5	175,439	168,936	171,079	185,272	187,502	176,887	187,540	6.9	200,852	7.1	212,290	5.7
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	1,118,750	5.8
Piedmont	***2,058,504***	***2,008,979***	***2,097,627***	***2,161,877***	***2,181,452***	***2,138,666***	***2,228,566***	***8.3***	***2,289,309***	***2.7***	***2,482,012***	***8.4***
H.C. 7	566,177	552,840	580,552	581,423	605,275	613,825	622,641	10.0	679,851	9.2	725,596	6.7
H.C. 8	514,042	527,378	575,791	590,134	607,239	611,827	631,849	22.9	621,899	-1.6	666,413	7.2
Veneto	***1,080,219***	***1,080,218***	***1,156,343***	***1,171,557***	***1,212,514***	***1,225,652***	***1,254,490***	***16.1***	***1,301,750***	***3.8***	***1,392,009***	***6.9***
H.C. 9	376,978	381,621	386,033	387,458	390,235	404,694	410,399	8.9	664,784	62.0	467,988	-29.6
H.C. 10	264,136	261,182	264,726	266,364	412,288	424,239	431,048	63.2	480,002	11.4	494,692	3.1
H.C. 11	558,234	558,028	581,445	579,743	597,793	620,764	653,357	17.0	702,078	7.5	745,500	6.2
H.C. 12	304,804	307,768	320,918	310,229	310,859	319,032	327,019	7.3	340,481	4.1	331,481	-2.6
Emilia R.	***1,504,152***	***1,508,599***	***1,553,122***	***1,543,794***	***1,711,175***	***1,768,729***	***1,821,823***	***21.1***	***2,187,345***	***20.1***	***2,039,661***	***-6.8***
NORTH	**4,642,875**	**4,597,796**	**4,807.092**	**4,877,228**	**5,105,141**	**5,133.047**	**5,304,879**	**14.3**	**5,778,404**	**8.9**	**5,913,682**	**2.3**
H.C. 13	220,167	217,830	218,782	221,547	231,819	235,483	240,515	9.2	244,669	1.7	247,829	1.3
H.C. 14	370,901	376,362	382,876	381,445	388,573	395,786	406,871	9.7	424,572	4.4	442,663	4.3
Marche	***591,068***	***594,192***	***601,658***	***602,992***	***620,392***	***631,269***	***647,386***	***9.5***	***669,241***	***3.4***	***690,492***	***3.2***
H.C. 15	333,051	330,098	309,964	290,966	293,161	304,244	307,365	-7.7	303,738	-1.2	326,435	7.5
H.C. 16	167,235	166,877	176,762	177,781	162,767	184,951	198,713	18.8	202,276	1.8	211,921	4.8
H.C. 17	457,383	452,353	440,938	447,196	440,556	456,153	454,778	-0.6	443,307	-2.5	450,859	1.7
H.C. 18	173,842	175,701	175,748	177,384	191,191	199,628	204,483	17.6	205,798	0.6	212,814	3.4
H.C. 19	213,774	224,930	237,693	240,403	251,926	254,800	262,758	22.9	242,994	-7.5	265,234	9.2
Lazio	***1,345,285***	***1,349,959***	***1,341,105***	***1,333,730***	***1,339,601***	***1,399,776***	***1,428,097***	***6.2***	***1,398,113***	***-2.1***	***1,467,263***	***4.9***
CENTER	**1,936,353**	**1,944,151**	**1,942,763**	**1,936,722**	**1,959,993**	**2,031.045**	**2,075,483**	**7.2**	**2,067,354**	**-0.4**	**2,157,755**	**4.4**
H.C. 20	473,014	501,282	476,073	465,932	471,837	456,794	480,998	1.7	443,361	-7.8	500,511	12.9
H.C. 21	249,592	251,845	252,949	246,023	259,745	247,083	257,762	3.3	259,792	0.8	306,209	17.9
Apulia	***722,606***	***753,127***	***729,022***	***711,955***	***731,582***	***703,877***	***738,760***	***2.2***	***703,153***	***-4.8***	***806,720***	***14.7***
H.C. 22	187,043	188,765	191,056	190,139	196,633	196,497	195,229	4.4	201,076	3.0	199,277	-0.9
H.C. 23	169,213	170,224	176,279	168,555	162,027	161,421	183,172	8.2	184,255	0.6	216,295	17.4
H.C. 24	65,229	57,952	54,550	76,319	84,212	83,936	96,348	47.7	93,588	-2.9	107,626	15.0
H.C. 25	164,590	168,219	165,804	170,596	178,452	186,435	200,473	21.8	198,430	-1.0	208,430	5.0
Calabria	***586,075***	***585,160***	***587,689***	***605,609***	***621,324***	***628,289***	***675,222***	***15.2***	***677,349***	***0.3***	***731,628***	***8.0***
H.C. 26	188,700	194,076	195,444	200,658	199,501	199,957	205,472	8.9	213,469	3.9	225,086	5.4
H.C. 27	238,370	238,366	249,091	257,290	263,810	267,125	272,401	14.3	278,241	2.1	293,594	5.5
H.C. 28	382,315	391,492	404,849	403,666	386,942	425,838	433,622	13.4	481,010	10.9	511,141	6.3
H.C. 29	176,683	197,698	183,504	181,447	168,682	163,602	162,812	-7.9	162,469	-0.2	179,475	10.5
H.C. 30	185,093	188,143	198,845	209,778	212,710	232,377	244,753	32.2	288,450	17.9	294,039	1.9
H.C. 31	290,827	293,922	294,569	293,562	300,870	319,007	312,887	7.6	330,467	5.6	333,976	1.1
H.C. 32	333,721	349,751	349,207	359,626	338,746	357,661	289,002	-13.4	346,670	20.0	179,756	-48.1
H.C. 33	199,133	212,679	233,128	255,682	242,300	252,247	247,706	24.4	263,453	6.4	283,933	7.8
Sicily	***1,994,842***	***2,066,127***	***2,108,637***	***2,161,709***	***2,113,561***	***2,217,814***	***2,168,655***	***8.7***	***2,364,229***	***9.0***	***2,301,000***	***-2.7***
SOUTH	**3,303,523**	**3,404,414**	**3,425,348**	**3,479,273**	**3,466,467**	**3,549,980**	**3,582,637**	**8.4**	**3,744,731**	**4.5**	**3,839,348**	**2.5**
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**	**11,910,785**	**2.8**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Cost for the Purchase of Goods (Cod. BA010) (8)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	46,390	45,969	51,422	55,241	57,241	61,256	68,548	47.8	68,734	0.3	73,158	6.4
H.C. 2	61,468	64,774	74,082	76,095	78,570	85,724	96,743	57.4	105,152	8.7	106,058	0.9
H.C. 3	57,997	57,513	60,922	64,109	65,142	71,931	75,111	29.5	79,640	6.0	77,359	-2.9
H.C. 4	54,787	52,129	55,272	61,916	63,900	68,860	72,179	31.7	77,003	6.7	82,592	7.3
H.C. 5	39,444	37,781	40,423	42,051	44,735	45,025	47,312	19.9	58,368	23.4	58,787	0.7
H.C. 6	216,951	209,926	230,646	229,825	237,212	250,906	262,911	21.2	263,372	0.2	280,101	6.4
Piedmont	***477,037***	***468,092***	***512,767***	***529,237***	***546,800***	***583,702***	***622,804***	***30.6***	***652,269***	***4.7***	***678,055***	***4.0***
H.C. 7	187,067	180,174	204,019	200,265	210,030	214,402	227,219	21.5	246,405	8.4	260,165	5.6
H.C. 8	138,086	145,114	174,411	172,379	186,165	189,677	204,480	48.1	211,901	3.6	218,774	3.2
Veneto	***325,153***	***325,288***	***378,430***	***372,644***	***396,195***	***404,079***	***431,699***	***32.8***	***458,306***	***6.2***	***478,939***	***4.5***
H.C. 9	84,489	90,865	87,417	93,791	99,682	111,471	106,349	25.9	319,033	200.0	124,256	-61.1
H.C. 10	53,030	54,987	58,822	60,574	102,295	101,645	98,961	86.6	126,080	27.4	116,221	-7.8
H.C. 11	127,769	135,059	174,518	164,324	177,786	196,587	211,683	65.7	227,918	7.7	250,771	10.0
H.C. 12	58,801	60,468	69,659	66,769	69,822	76,848	76,794	30.6	88,336	15.0	86,161	-2.5
Emilia R.	***324,089***	***341,379***	***390,416***	***385,458***	***449,585***	***486,551***	***493,787***	***52.4***	***761,367***	***54.2***	***577,409***	***-24.2***
NORTH	**1,126,279**	**1,134,759**	**1,281,613**	**1,287,339**	**1,392,580**	**1,474,332**	**1,548,290**	**37.5**	**1,871,942**	**20.9**	**1,734,403**	**-7.3**
H.C. 13	52,925	54,593	57,104	58,368	65,235	68,065	66,742	26.1	67,257	0.8	69,179	2.9
H.C. 14	105,185	108,958	122,782	120,650	126,471	137,065	139,255	32.4	138,426	-0.6	146,438	5.8
Marche	***158,110***	***163,551***	***179,886***	***179,018***	***191,706***	***205,130***	***205,997***	***30.3***	***205,683***	***-0.2***	***215,617***	***4.8***
H.C. 15	85,856	86,638	84,898	81,706	74,813	82,016	83,779	-2.4	87,919	4.9	92,088	4.7
H.C. 16	39,491	38,729	43,674	45,850	48,172	55,220	61,537	55.8	64,736	5.2	61,325	-5.3
H.C. 17	173,123	170,228	181,357	177,454	189,812	183,018	184,608	6.6	176,934	-4.2	176,619	-0.2
H.C. 18	57,720	62,116	60,353	62,234	72,944	83,812	86,824	50.4	81,772	-5.8	79,455	-2.8
H.C. 19	101,041	106,257	104,687	97,605	98,621	101,700	104,007	2.9	100,706	-3.2	107,047	6.3
Lazio	***457,231***	***463,968***	***474,969***	***464,849***	***484,362***	***505,766***	***520,755***	***13.9***	***512,067***	***-1.7***	***516,534***	***0.9***
CENTER	**615,341**	**627,519**	**654,855**	**643,867**	**676,068**	**710,896**	**726,752**	**18.1**	**717,750**	**-1.2**	**732,151**	**2.0**
H.C. 20	156,332	152,227	175,965	152,259	131,792	139,200	140,024	-10.4	131,798	-5.9	154,441	17.2
H.C. 21	72,117	78,259	82,473	74,060	80,436	70,035	71,781	-0.5	77,683	8.2	78,816	1.5
Apulia	***228,449***	***230,486***	***258,438***	***226,319***	***212,228***	***209,235***	***211,805***	***-7.3***	***209,481***	***-1.1***	***233,257***	***11.3***
H.C. 22	38,241	37,379	40,174	41,988	44,311	48,072	53,489	39.9	49,941	-6.6	52,592	5.3
H.C. 23	34,905	32,756	37,857	36,442	38,300	41,562	43,486	24.6	46,331	6.5	50,758	9.6
H.C. 24	23,373	22,286	22,540	23,150	32,502	37,872	36,971	58.2	41,981	13.6	44,920	7.0
H.C. 25	36,966	39,966	39,705	41,773	47,626	54,692	59,780	61.7	61,540	2.9	64,139	4.2
Calabria	***133,485***	***132,387***	***140,276***	***143,353***	***162,739***	***182,198***	***193,726***	***45.1***	***199,793***	***3.1***	***212,409***	***6.3***
H.C. 26	44,129	44,904	47,546	50,062	54,008	56,727	55,313	25.3	57,410	3.8	56,731	-1.2
H.C. 27	53,451	56,307	68,120	69,107	71,428	76,531	78,380	46.6	83,181	6.1	79,558	-4.4
H.C. 28	111,358	116,388	139,112	139,517	138,094	150,865	159,331	43.1	170,499	7.0	180,618	5.9
H.C. 29	30,986	32,779	35,358	35,998	38,328	38,770	41,927	35.3	45,386	8.3	54,253	19.5
H.C. 30	41,608	43,988	58,936	57,888	63,248	74,333	78,875	89.6	90,143	14.3	105,229	16.7
H.C. 31	69,449	73,519	81,139	78,493	85,622	87,748	90,590	30.4	102,580	13.2	91,844	-10.5
H.C. 32	73,644	76,283	75,215	80,939	78,063	85,576	90,736	23.2	89,107	-1.8	92,671	4.0
H.C. 33	56,170	62,848	83,827	87,994	79,596	81,307	85,659	52.5	90,660	5.8	98,259	8.4
Sicily	***480,795***	***507,016***	***589,253***	***599,998***	***608,387***	***651,857***	***680,811***	***41.6***	***728,966***	***7.1***	***759,163***	***4.1***
SOUTH	**842,729**	**869,889**	**987,967**	**969,670**	**983,354**	**1,043,290**	**1,086,342**	**28.9**	**1,138,240**	**4.8**	**1,204,829**	**5.9**
ITALY	**2,584,349**	**2,632,167**	**2,924,435**	**2,900,876**	**3,052,002**	**3,228,518**	**3,361,384**	**30.1**	**3,727,932**	**10.9**	**3,671,383**	**-1.5**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Cost for the Purchase of Non-Healthcare Services (Cod. BA1570) (9)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	11,267	13,188	11,200	11,094	10,499	11,586	12,268	8.9	11,491	-6.3	11,516	0.2
H.C. 2	23,147	25,817	26,899	27,121	28,120	27,987	29,851	29.0	30,053	0.7	29,515	-1.8
H.C. 3	23,005	23,247	23,804	25,232	27,375	27,982	30,234	31.4	30,216	-0.1	31,423	4.0
H.C. 4	23,023	24,569	23,655	23,471	24,100	25,993	26,437	14.8	26,972	2.0	26,186	-2.9
H.C. 5	13,740	16,597	16,599	16,768	17,396	25,249	26,650	94.0	26,755	0.4	25,195	-5.8
H.C. 6	85,610	80,845	78,423	75,484	71,398	70,917	67,412	-21.3	63,330	-6.1	60,209	-4.9
Piedmont	***179,792***	***184,263***	***180,580***	***179,170***	***178,888***	***189,714***	***192,852***	***7.3***	***188,817***	***-2.1***	***184,044***	***-2.5***
H.C. 7	61,354	60,575	60,297	54,561	52,588	53,272	46,507	-24.2	54,747	17.7	61,882	13.0
H.C. 8	73,027	69,925	67,850	63,866	62,902	61,141	60,480	-17.2	56,904	-5.9	68,833	21.0
Veneto	***134,381***	***130,500***	***128,147***	***118,427***	***115,490***	***114,413***	***106,987***	***-20.4***	***111,651***	***4.4***	***130,715***	***17.1***
H.C. 9	43,662	44,653	43,155	38,961	38,451	37,683	36,541	-16.3	42,065	15.1	38,422	-8.7
H.C. 10	31,037	31,950	30,996	27,073	57,527	62,478	64,040	106.3	54,476	-14.9	54,316	-0.3
H.C. 11	56,997	53,019	51,089	57,562	57,706	55,810	56,449	-1.0	60,124	6.5	65,142	8.3
H.C. 12	46,737	47,169	46,543	44,684	40,817	46,832	48,414	3.6	47,441	-2.0	49,949	5.3
Emilia R.	***178,433***	***176,791***	***171,783***	***168,280***	***194,501***	***202,803***	***205,444***	***15.1***	***204,106***	***-0.7***	***207,829***	***1.8***
NORTH	**492,606**	**491,554**	**480,510**	**465,877**	**488,879**	**506,930**	**505,283**	**2.6**	**504,574**	**-0.1**	**522,588**	**3.6**
H.C. 13	23,821	23,028	23,162	22,406	24,418	24,860	24,834	4.3	25,225	1.6	24,299	-3.7
H.C. 14	24,412	24,831	23,369	23,471	22,306	21,901	21,792	-10.7	22,023	1.1	22,058	0.2
Marche	***48,233***	***47,859***	***46,531***	***45,877***	***46,724***	***46,761***	***46,626***	***-3.3***	***47,248***	***1.3***	***46,357***	***-1.9***
H.C. 15	46,153	45,364	41,604	35,671	34,493	34,629	27,416	-40.6	35,501	29.5	40,643	14.5
H.C. 16	27,622	28,036	30,036	28,705	28,169	25,460	27,492	-0.5	28,224	2.7	29,367	4.0
H.C. 17	60,866	69,566	65,115	70,198	77,214	63,283	62,483	2.7	65,725	5.2	66,249	0.8
H.C. 18	31,187	33,210	32,955	25,706	24,162	24,802	25,305	-18.9	25,251	-0.2	27,201	7.7
H.C. 19	35,443	34,869	32,777	33,014	34,251	33,950	35,477	0.1	33,907	-4.4	36,866	8.7
Lazio	***201,271***	***211,045***	***202,487***	***193,294***	***198,289***	***182,124***	***178,173***	***-11.5***	***188,608***	***5.9***	***200,326***	***6.2***
CENTER	**249,504**	**258,904**	**249,018**	**239,171**	**245,013**	**228,885**	**224,799**	**-9.9**	**235,856**	**4.9**	**246,683**	**4.6**
H.C. 20	60,482	56,000	55,787	53,795	56,674	54,539	55,118	-8.9	60,302	9.4	67,041	11.2
H.C. 21	27,514	27,751	27,667	26,114	28,088	27,733	28,523	3.7	35,239	23.5	38,574	9.5
Apulia	***87,996***	***83,751***	***83,454***	***79,909***	***84,762***	***82,272***	***83,641***	***-4.9***	***95,541***	***14.2***	***105,615***	***10.5***
H.C. 22	25,278	25,728	26,232	27,362	27,170	26,468	20,766	-17.8	20,990	1.1	23,191	10.5
H.C. 23	21,459	21,752	21,978	22,155	20,827	21,152	22,091	2.9	21,981	-0.5	23,839	8.5
H.C. 24	6,456	7,248	7,150	6,988	7,935	7,935	7,151	10.8	7,095	-0.8	7,734	9.0
H.C. 25	15,331	16,676	15,726	16,056	17,409	17,922	17,408	13.5	17,321	-0.5	17,440	0.7
Calabria	***68,524***	***71,404***	***71,086***	***72,561***	***73,341***	***73,477***	***67,416***	***-1.6***	***67,387***	***-0.0***	***72,204***	***7.1***
H.C. 26	20,725	21,458	21,345	21,339	20,149	21,768	23,334	12.6	23,533	0.9	27,860	18.4
H.C. 27	18,513	17,457	16,890	16,472	17,907	19,336	18,654	0.8	20,467	9.7	20,919	2.2
H.C. 28	33,399	28,315	26,611	27,696	28,383	31,077	35,541	6.4	36,805	3.6	43,394	17.9
H.C. 29	15,660	14,171	12,865	13,256	13,860	14,526	14,838	-5.2	11,734	-20.9	13,583	15.8
H.C. 30	23,750	20,430	18,338	18,865	22,030	23,665	23,305	-1.9	24,216	3.9	27,389	13.1
H.C. 31	25,246	24,549	24,050	24,766	24,526	25,510	25,829	2.3	27,896	8.0	32,741	17.4
H.C. 32	28,871	24,950	23,617	19,254	18,243	17,926	18,702	-35.2	19,595	4.8	20,770	6.0
H.C. 33	14,454	13,067	14,543	15,451	14,121	15,856	16,937	17.2	19,546	15.4	23,894	22.2
Sicily	***180,618***	***164,397***	***158,259***	***157,099***	***159,219***	***169,664***	***177,140***	***-1.9***	***183,792***	***3.8***	***210,550***	***14.6***
SOUTH	**337,138**	**319,552**	**312,799**	**309,569**	**317,322**	**325,413**	**328,197**	**-2.7**	**346,720**	**5.6**	**388,369**	**12.0**
ITALY	**1,079,248**	**1,070,010**	**1,042,327**	**1,014,617**	**1,051,214**	**1,061,228**	**1,058,279**	**-1.9**	**1,087,150**	**2.7**	**1,157,640**	**6.5**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Personnel Costs (Cod. BA2080) (10)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	68,257	68,937	68,500	68,242	66,571	68,433	70,550	3.4	75,686	7.3	78,980	4.4
H.C. 2	124,016	124,323	130,325	131,059	133,700	137,482	141,921	14.4	156,545	10.3	156,083	-0.3
H.C. 3	116,907	116,958	118,070	117,977	118,078	120,267	121,825	4.2	126,929	4.2	128,258	1.0
H.C. 4	110,019	108,828	112,093	113,350	113,150	117,297	120,866	9.9	128,337	6.2	128,706	0.3
H.C. 5	92,680	91,428	91,455	91,255	91,112	93,734	95,429	3.0	100,788	5.6	106,403	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	484,631	-1.1
Piedmont	***985,635***	***984,343***	***996,459***	***991,006***	***990,077***	***1,012,971***	***1,030,943***	***4.6***	***1,078,060***	***4.6***	***1,083,061***	***0.5***
H.C. 7	207,052	203,814	208,069	209,295	210,304	214,789	220,183	6.3	275,294	25.0	281,898	2.4
H.C. 8	228,240	220,412	219,722	222,050	221,148	223,719	228,538	0.1	240,188	5.1	253,776	5.7
Veneto	***435,292***	***424,226***	***427,791***	***431,345***	***431,452***	***438,508***	***448,721***	***3.1***	***515,482***	***14.9***	***535,674***	***3.9***
H.C. 9	167,899	167,288	169,137	170,411	171,193	176,035	187,322	11.6	201,273	7.4	208,725	3.7
H.C. 10	109,604	110,715	111,171	111,411	112,214	115,517	122,761	12.0	195,046	58.9	206,337	5.8
H.C. 11	226,774	222,428	217,790	215,994	222,659	229,945	235,706	3.9	251,131	6.5	270,710	7.8
H.C. 12	126,695	124,263	123,733	12,203	123,843	125,724	128,807	1.7	133,501	3.6	138,140	3.5
Emilia R.	***630,972***	***624,694***	***621,831***	***510,019***	***629,909***	***647,221***	***674,596***	***6.9***	***780,951***	***15.8***	***823,912***	***5.5***
NORTH	**2,051,899**	**2,033,263**	**2,046,081**	**1,932,370**	**2,051,438**	**2,098,700**	**2,154,260**	**5.0**	**2,374,493**	**10.2**	**2,442,647**	**2.9**
H.C. 13	102,663	102,813	100,746	101,551	103,301	104,930	105,724	3.0	107,056	1.3	107,177	0.1
H.C. 14	162,827	161,704	159,555	161,828	166,898	172,399	173,664	6.7	182,923	5.3	185,956	1.7
Marche	***265,490***	***264,517***	***260,301***	***263,379***	***270,199***	***277,329***	***279,388***	***5.2***	***289,979***	***3.8***	***293,133***	***1.1***
H.C. 15	242,361	236,001	232,783	231,558	226,686	226,611	222,824	-8.1	228,059	2.3	225,542	-1.1
H.C. 16	127,590	123,966	122,989	123,684	122,805	124,018	126,227	-1.1	136,630	8.2	141,642	3.7
H.C. 17	119,291	116,237	123,581	142,486	141,307	146,019	198,079	66.0	202,481	2.2	189,167	-6.6
H.C. 18	89,239	89,507	90,359	90,553	90,197	91,106	95,639	7.2	108,466	13.4	108,497	0.0
H.C. 19	52,179	51,521	51,892	55,048	58,782	59,055	65,243	25.0	71,237	9.2	78,299	9.9
Lazio	***630,660***	***617,232***	***621,604***	***643,329***	***639,777***	***646,809***	***708,012***	***12.3***	***746,873***	***5.5***	***743,147***	***-0.5***
CENTER	**896,150**	**881,749**	**881,905**	**906,708**	**909,976**	**924,138**	**987,400**	**10.2**	**1,036,852**	**5.0**	**1,036,280**	**-0.1**
H.C. 20	193,950	193,159	197,474	194,126	194,362	195,676	202,042	4.2	211,339	4.6	232,284	9.9
H.C. 21	108,565	108,993	109,989	111,581	112,148	114,682	120,508	11.0	150,204	24.6	169,171	12.6
Apulia	***302,515***	***302,152***	***307,463***	***305,707***	***306,510***	***310,358***	***322,550***	***6.6***	***361,543***	***12.1***	***401,455***	***11.0***
H.C. 22	104,152	102,133	101,131	100,768	101,621	101,159	101,159	-2.9	101,370	0.2	103,426	2.0
H.C. 23	93,112	91,855	92,167	92,110	96,822	99,334	102,123	9.7	107,117	4.9	106,817	-0.3
H.C. 24	32,346	32,281	32,455	32,015	38,050	39,623	40,064	23.9	42,814	6.9	44,527	4.0
H.C. 25	83,682	82,873	81,080	83,613	87,816	89,528	94,551	13.0	96,669	2.2	96,729	0.1
Calabria	***313,292***	***309,142***	***306,833***	***308,506***	***324,309***	***329,644***	***337,897***	***7.9***	***347,970***	***3.0***	***351,499***	***1.0***
H.C. 26	83,756	83,149	83,514	82,904	83,793	85,260	87,144	4.0	89,014	2.1	88,589	-0.5
H.C. 27	114,212	113,964	113,706	114,625	118,696	120,310	122,887	7.6	124,323	1.2	117,312	-5.6
H.C. 28	155,086	151,990	149,678	149,251	151,313	153,565	159,588	2.9	170,389	6.8	177,081	3.9
H.C. 29	98,062	96,926	92,886	86,392	77,257	77,311	77,428	-21.0	77,950	0.7	78,633	0.9
H.C. 30	87,486	87,751	89,983	90,339	66,030	77,026	83,074	-5.0	88,683	6.8	95,318	7.5
H.C. 31	145,249	140,907	141,391	140,780	141,710	142,838	143,515	-1.2	147,339	2.7	152,287	3.4
H.C. 32	164,280	161,480	158,094	154,749	155,264	157,334	153,454	-6.6	157,196	2.4	162,698	3.5
H.C. 33	61,164	60,096	61,179	62,852	63,533	64,731	68,655	12.2	73,540	7.1	82,640	12.4
Sicily	***909,295***	***896,263***	***890,431***	***881,892***	***857,596***	***878,375***	***895,745***	***-1.5***	***928,434***	***3.6***	***954,558***	***2.8***
SOUTH	**1,525,102**	**1,507,557**	**1,504,727**	**1,496,105**	**1,488,415**	**1,518,377**	**1,556,192**	**2.0**	**1,637,947**	**5.3**	**1,707,512**	**4.2**
ITALY	**4,473,151**	**4,422,569**	**4,432,713**	**4,335,183**	**4,449,829**	**4,541,215**	**4,697,852**	**5.0**	**5,049,292**	**7.5**	**5,186,439**	**2.7**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Deferred Costs (Code BA2690) (11)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	2,269	306	350	472	2,337	570	566	-75.1	2,272	301.4	3,013	32.6
H.C. 2	3,546	593	1,906	300	4,137	5,948	2,108	-40.6	1,203	-42.9	5,036	318.6
H.C. 3	1,720	142	169	849	1,628	1,643	991	-42.4	2,927	195.4	5,221	78.4
H.C. 4	2,657	645	1,486	1,301	1,120	1,209	792	-70.2	2,003	152.9	9,276	363.1
H.C. 5	1,740	679	2,129	1,958	1,504	1,389	1,390	-20.1	1,357	-2.4	2,903	113.9
H.C. 6	15,198	13,853	12,236	15,124	20,062	22,737	19,566	28.7	27,908	42.6	32,618	16.9
Piedmont	***27,130***	***16,218***	***18,276***	***20,004***	***30,788***	***33,496***	***25,413***	***-6.3***	***37,670***	***48.2***	***58,067***	***54.1***
H.C. 7	21,015	18,020	10,763	12,781	15,445	15,267	13,899	-33.9	15,218	9.5	35,088	130.6
H.C. 8	5,562	4,741	7,694	17,586	17,776	20,864	20,331	265.5	29,148	43.4	31,824	9.2
Veneto	***26,577***	***22,761***	***18,457***	***30,367***	***33,221***	***36,131***	***34,230***	***28.8***	***44,366***	***29.6***	***66,912***	***50.8***
H.C. 9	3,289	2,622	5,180	8,489	4,831	6,657	5,912	79.8	13,060	120.9	4,635	-64.5
H.C. 10	6,338	3,325	5,346	10,407	9,139	9,498	6,521	2.9	7,430	13.9	7,026	-5.4
H.C. 11	17,485	28,078	21,082	11,648	10,251	8,044	19,018	8.8	11,080	-41.7	13,767	24.3
H.C. 12	3,124	2,587	4,539	4,935	4,671	6,481	5,754	84.2	7,051	22.5	6,438	-8.7
Emilia R.	***30,236***	***36,612***	***36,147***	***35,479***	***28,892***	***30,680***	***37,205***	***23.0***	***38,621***	***3.8***	***31,866***	***-17.5***
NORTH	**83,943**	**75,591**	**72,880**	**85,850**	**92,901**	**100,307**	**96,848**	**15.4**	**120,657**	**24.6**	**156,845**	**30.0**
H.C. 13	6,110	7,983	7,494	9,630	7,934	3,426	6,314	3.3	9,249	46.5	9,415	1.8
H.C. 14	11,254	11,352	9,009	8,415	9,402	9,712	6,300	-44.0	13,272	110.7	16,100	21.3
Marche	***17,364***	***19,335***	***16,503***	***18,045***	***17,336***	***13,138***	***12,614***	***-27.4***	***22,521***	***78.5***	***25,515***	***13.3***
H.C. 15	9,610	10,873	7,486	16,580	15,980	10,258	8,053	-16.2	12,379	53.7	22,594	82.5
H.C. 16	6,114	10,544	17,863	6,455	9,246	8,880	6,061	-0.9	8,298	36.9	11,043	33.1
H.C. 17	45,178	46,443	37,404	40,816	12,488	10,823	14,618	-67.6	16,217	10.9	17,750	9.5
H.C. 18	3,226	6,720	6,462	7,483	8,176	6,663	7,091	119.8	6,135	-13.5	8,133	32.6
H.C. 19	2,841	7,109	9,830	10,640	6,401	5,900	3,896	37.1	7,815	100.6	9,257	18.5
Lazio	***66,969***	***81,689***	***79,045***	***81,974***	***52,291***	***42,524***	***39,719***	***-40.7***	***50,844***	***28.0***	***68,777***	***35.3***
CENTER	**84,333**	**101,024**	**95,548**	**100,019**	**69,627**	**55,662**	**52,333**	**-37.9**	**73,365**	**40.2**	**94,292**	**28.5**
H.C. 20	8,913	14,375	2,014	3,099	8,852	12,619	7,862	-11.8	11,867	50.9	14,712	24.0
H.C. 21	3,154	5,518	4,876	3,753	6,004	7,591	2,361	-25.1	3,644	54.3	6,271	72.1
Apulia	***12,067***	***19,893***	***6,890***	***6,852***	***14,856***	***20,210***	***10,223***	***-15.3***	***15,511***	***51.7***	***20,983***	***35.3***
H.C. 22	3,424	6,403	6,873	4,096	4,982	4,685	11,738	242.8	8,978	-23.5	12,811	42.7
H.C. 23	1,424	1,250	1,289	1,315	1,505	2,079	803	-43.6	22,186	2,662.9	6,731	-69.7
H.C. 24	3,249	2,280	2,295	2,850	551	773	10,015	208.2	16,682	66.6	15,550	-6.8
H.C. 25	3,270	2,943	3,314	2,545	1,903	2,075	471	-85.6	1,025	117.6	4,015	291.7
Calabria	***11,367***	***12,876***	***13,771***	***10,806***	***8,941***	***9,612***	***23,027***	***102.6***	***48,871***	***112.2***	***39,107***	***-20.0***
H.C. 26	6,201	9,047	8,994	15,268	7,801	5,012	5,539	-10.7	6,660	20.2	11,687	75.5
H.C. 27	8,374	10,758	10,026	10,218	7,039	4,940	6,308	-24.7	7,955	26.1	11,296	42.0
H.C. 28	8,345	12,851	17,167	18,468	16,483	7,514	4,133	-50.5	11,887	187.6	12,851	8.1
H.C. 29	3,398	11,283	10,825	17,986	8,837	5,366	3,408	0.3	3,992	17.1	3,318	-16.9
H.C. 30	6,655	8,131	6,010	8,835	4,694	9,155	2,280	-65.7	13,463	490.5	15,175	12.7
H.C. 31	7,167	8,714	12,737	8,353	7,814	12,297	11,788	64.5	12,060	2.3	14,476	20.0
H.C. 32	12,269	18,689	23,436	31,623	15,041	16,288	6,939	-43.4	18,707	169.6	16,880	-9.8
H.C. 33	4,947	3,277	3,708	4,269	3,678	4,232	4,845	-2.1	12,441	156.8	8,657	-30.4
Sicily	***57,356***	***82,750***	***92,903***	***115,020***	***71,387***	***64,804***	***45,240***	***-21.1***	***87,165***	***92.7***	***94,340***	***8.2***
SOUTH	**80,790**	**115,519**	**113,564**	**132,678**	**95,184**	**94,626**	**78,490**	**-2.8**	**151,547**	**93.1**	**154,430**	**1.9**
ITALY	**249,066**	**292,134**	**281,992**	**318,547**	**257,712**	**250,595**	**227,671**	**-8.6**	**345,569**	**51.8**	**405,567**	**17.4**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Other Costs (12)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	24,606	24,951	24,078	23,529	23,167	25,001	26,284	6.8	25,306	-3.7	34,972	38.2
H.C. 2	50,034	55,472	58,841	63,168	76,653	66,799	66,550	33.0	50,171	-24.6	73,647	46.8
H.C. 3	27,644	28,722	26,975	27,634	28,493	27,458	27,342	-1.1	24,125	-11.8	38,255	58.6
H.C. 4	31,425	36,211	39,278	36,888	35,230	43,000	45,779	45.7	42,987	-6.1	51,070	18.8
H.C. 5	23,445	23,111	26,420	26,716	27,896	9,199	11,849	-49.5	18,953	60.0	15,844	-16.4
H.C. 6	197,833	204,449	200,390	206,214	205,000	216,080	228,997	15.8	214,001	-6.5	237,941	11.2
Piedmont	***354,987***	***372,916***	***375,982***	***384,149***	***396,439***	***387,537***	***406,801***	**14.6**	***375,543***	**-7.7**	***451,729***	**20.3**
H.C. 7	98,745	98,716	96,835	98,058	99,209	103,318	91,414	-7.4	93,862	2.7	119,087	26.9
H.C. 8	72,214	74,354	86,775	95,171	99,280	98,143	97,714	35.3	99,092	1.4	108,193	9.2
Veneto	***170,959***	***173,070***	***183,610***	***193,229***	***198,489***	***201,461***	***189,128***	**10.6**	***192,954***	**2.0**	***227,280***	**17.8**
H.C. 9	68,100	65,258	70,544	64,036	64,117	66,859	72,085	5.9	75,678	5.0	81,880	8.2
H.C. 10	55,392	52,335	50,363	48,972	123,848	129,624	137,229	147.7	85,483	-37.7	106,140	24.2
H.C. 11	115,356	109,213	110,857	122,452	117,318	119,894	120,864	4.8	137,417	13.7	160,607	16.9
H.C. 12	61,801	63,570	62,488	172,500	64,599	56,624	58,111	-6.0	55,319	-4.8	65,298	18.0
Emilia R.	***300,649***	***290,376***	***294,252***	***407,960***	***369,882***	***373,001***	***388,289***	**29.2**	***353,897***	**-8.9**	***413,925***	**17.0**
NORTH	**826,595**	**836,362**	**853,844**	**985,338**	**964,810**	**961,999**	**984,218**	**19.1**	**922,394**	**-6.3**	**1,092,934**	**18.5**
H.C. 13	27,434	23,941	23,682	23,441	24,182	27,070	30,395	10.8	29,758	-2.1	35,445	19.1
H.C. 14	56,563	58,639	56,715	57,921	57,164	59,432	65,330	15.5	60,344	-7.6	70,510	16.8
Marche	***83,997***	***82,580***	***80,397***	***81,362***	***81,346***	***86,502***	***95,725***	**14.0**	***90,102***	**-5.9**	***105,955***	**17.6**
H.C. 15	83,525	87,508	76,387	65,353	60,806	59,720	64,144	-23.2	57,736	-10.0	63,727	10.4
H.C. 16	41,312	35,163	43,305	42,627	23,216	36,640	35,122	-15.0	35,529	1.2	35,504	-0.1
H.C. 17	139,328	124,487	125,606	130,571	118,127	127,168	69,639	-50.0	52,757	-24.2	104,084	97.3
H.C. 18	41,957	33,965	37,064	34,093	31,719	26,530	29,183	-30.4	27,399	-6.1	32,176	17.4
H.C. 19	80,348	82,692	77,907	71,573	62,988	63,660	58,488	-27.2	56,874	-2.8	71,703	26.1
Lazio	***386,470***	***363,815***	***360,269***	***344,217***	***296,856***	***313,718***	***256,576***	**-33.6**	***230,295***	**-10.2**	***307,194***	**33.4**
CENTER	**470,467**	**446,395**	**440,666**	**425,579**	**378,202**	**400,220**	**352,301**	**-25.1**	**320,397**	**-9.1**	**413,149**	**28.9**
H.C. 20	54,728	63,037	60,617	70,429	70,985	81,006	81,283	48.5	73,978	-9.0	84,120	13.7
H.C. 21	24,545	20,590	20,363	22,416	23,856	19,803	26,563	8.2	27,430	3.3	47,254	72.3
Apulia	***79,273***	***83,627***	***80,980***	***92,845***	***94,841***	***100,809***	***107,846***	**36.0**	***101,408***	**-6.0**	***131,374***	**29.5**
H.C. 22	10,350	12,275	14,466	14,858	13,264	11,554	14,348	38.6	11,882	-17.2	16,066	35.2
H.C. 23	13,611	14,481	15,356	18,250	18,734	14,457	17,249	26.7	27,417	58.9	15,955	-41.8
H.C. 24	7,418	9,783	14,747	27,016	14,239	11,323	83,184	1,021.4	18,835	-77.4	18,498	-1.8
H.C. 25	18,414	18,438	18,705	19,483	19,914	18,760	22,634	22.9	17,100	-24.4	19,327	13.0
Calabria	***49,793***	***54,977***	***63,274***	***79,607***	***66,151***	***56,094***	***137,415***	**176.0**	***75,234***	**-45.3**	***69,846***	**-7.2**
H.C. 26	24,793	25,011	26,597	25,819	27,343	27,399	28,121	13.4	38,381	36.5	37,443	-2.4
H.C. 27	32,837	28,127	29,951	38,611	40,904	38,579	37,606	14.5	34,044	-9.5	53,122	56.0
H.C. 28	61,783	66,025	60,643	54,748	43,943	76,654	69,559	12.6	78,918	13.5	86,907	10.1
H.C. 29	19,706	28,389	23,549	25,395	23,999	22,314	19,270	-2.2	22,678	17.7	21,766	-4.0
H.C. 30	17,471	19,480	18,052	27,412	49,867	41,099	44,056	152.2	35,201	-20.1	42,754	21.5
H.C. 31	25,967	27,185	23,732	32,002	32,871	37,876	30,134	16.0	28,836	-4.3	32,470	12.6
H.C. 32	41,864	52,845	56,535	61,663	60,262	71,275	60,388	44.2	56,692	-6.1	68,756	21.3
H.C. 33	56,098	62,341	60,564	75,464	73,624	77,061	63,084	12.5	58,616	-7.1	62,056	5.9
Sicily	***280,519***	***309,403***	***299,623***	***341,114***	***352,813***	***392,257***	***352,218***	**25.6**	***353,366***	**0.3**	***405,274***	**14.7**
SOUTH	**409,585**	**448,007**	**443,877**	**513,566**	**513,805**	**549,160**	**597,479**	**45.9**	**530,008**	**-11.3**	**606,494**	**14.4**
ITALY	**1,706,647**	**1,730,764**	**1,738,387**	**1,924,483**	**1,856,817**	**1,911,379**	**1,933,998**	**13.3**	**1,772,799**	**-8.3**	**2,112,577**	**19.2**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	Total Costs (Code BZ999) (13)											
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*% Var. 13-19*	*2020*	*% Var. 19-20*	*2021*	*% Var. 20-21*
H.C. 1	152,789	153,351	155,550	158,578	159,815	166,846	178,216	16.6	183,489	3.0	201,639	9.9
H.C. 2	262,211	270,979	292,053	297,743	321,180	323,940	337,173	28.6	343,124	1.8	370,339	7.9
H.C. 3	227,273	226,582	229,940	235,801	240,716	249,281	255,503	12.4	263,837	3.3	280,516	6.3
H.C. 4	221,911	222,382	231,784	236,926	237,500	256,359	266,053	19.9	277,302	4.2	297,830	7.4
H.C. 5	171,049	169,596	177,026	178,748	182,643	174,596	182,630	6.8	206,221	12.9	209,132	1.4
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	1,095,500	3.5
Piedmont	***2,024,581***	***2,025,832***	***2,084,064***	***2,103,566***	***2,142,992***	***2,207,420***	***2,278,813***	**12.6**	***2,332,359***	**2.3**	***2,454,956***	**5.3**
H.C. 7	575,233	561,299	579,983	574,960	587,576	601,048	599,222	4.2	685,526	14.4	758,120	10.6
H.C. 8	517,129	514,546	556,452	571,052	587,271	593,544	611,543	18.3	637,233	4.2	681,400	6.9
Veneto	***1,092,362***	***1,075,845***	***1,136,435***	***1,146,012***	***1,174,847***	***1,194,592***	***1,210,765***	**10.8**	***1,322,759***	**9.2**	***1,439,520***	**8.8**
H.C. 9	367,439	370,686	375,433	375,688	378,274	398,705	408,209	11.1	651,109	59.5	457,918	-29.7
H.C. 10	255,401	253,312	256,698	258,437	405,023	418,762	429,512	68.2	468,515	9.1	490,040	4.6
H.C. 11	544,381	547,797	575,336	571,980	585,720	610,280	643,720	18.2	687,670	6.8	760,997	10.7
H.C. 12	297,158	298,057	306,962	301,091	303,752	312,509	317,880	7.0	331,648	4.3	345,986	4.3
Emilia R.	***1,464,379***	***1,469,852***	***1,514,429***	***1,507,196***	***1,672,769***	***1,740,256***	***1,799,321***	**22.9**	***2,138,942***	**18.9**	**2,054,941**	**-3.9**
NORTH	**4,581,322**	**4,571,529**	**4,734,928**	**4,756,774**	**4,990,608**	**5,142,268**	**5,288,899**	**15.4**	**5,794,060**	**9.6**	**5,949,417**	**2.7**
H.C. 13	212,953	212,358	212,188	215,396	225,070	228,351	234,009	9.9	238,545	1.9	245,515	2.9
H.C. 14	360,241	365,484	371,430	372,285	382,241	400,509	406,341	12.8	416,988	2.6	441,062	5.8
Marche	***573,194***	***577,842***	***583,618***	***587,681***	***607,311***	***628,860***	***640,350***	**11.7**	***655,533***	**2.4**	***686,577***	**4.7**
H.C. 15	467,505	466,384	443,158	430,868	412,778	413,234	406,216	-13.1	421,594	3.8	444,594	5.5
H.C. 16	242,129	236,438	257,867	247,321	231,608	250,218	256,439	5.9	273,417	6.6	278,881	2.0
H.C. 17	537,786	526,961	533,063	561,525	538,948	530,311	529,427	-1.6	514,114	-2.9	553,869	7.7
H.C. 18	223,329	225,518	227,193	220,069	227,198	232,913	244,042	9.3	249,023	2.0	255,462	2.6
H.C. 19	271,852	282,448	277,093	267,880	261,043	264,265	267,111	-1.7	270,539	1.3	303,172	12.1
Lazio	***1,742,601***	***1,737,749***	***1,738,374***	***1,727,663***	***1,671,575***	***1,690,941***	***1,703,235***	**-2.3**	***1,728,687***	**1.5**	***1,835,978***	**6.2**
CENTER	**2,315,795**	**2,315,591**	**2,321,992**	**2,315,344**	**2,278,886**	**2,319,801**	**2,343,585**	**1.2**	**2,384,220**	**1.7**	**2,522,555**	**5.8**
H.C. 20	474,405	478,798	491,857	473,708	462,665	483,040	486,329	2.5	489,284	0.6	552,598	12.9
H.C. 21	235,895	241,111	245,368	237,924	250,532	239,844	249,736	5.9	294,200	17.8	340,086	15.6
Apulia	***710,300***	***719,909***	***737,225***	***711,632***	***713,197***	***722,884***	***736,065***	**3.6**	***783,484***	**6.4**	***892,684***	**13.9**
H.C. 22	181,445	183,918	188,876	189,072	191,348	191,938	201,500	11.1	193,161	-4.1	208,086	7.7
H.C. 23	164,511	162,094	168,647	170,272	176,188	178,584	185,752	12.9	225,032	21.1	204,100	-9.3
H.C. 24	72,842	73,878	79,187	92,019	93,277	97,526	177,385	143.5	127,407	-28.2	131,229	3.0
H.C. 25	157,663	160,896	158,530	163,470	174,668	182,977	194,844	23.6	193,655	-0.6	201,650	4.1
Calabria	***576,461***	***580,786***	***595,240***	***614,833***	***635,481***	***651,025***	***759,481***	**31.7**	***739,255***	**-2.7**	***745,065***	**0.8**
H.C. 26	179,604	183,569	187,996	195,392	193,094	196,166	199,451	11.1	214,998	7.8	222,310	3.4
H.C. 27	227,387	226,613	238,693	249,033	255,974	259,696	263,835	16.0	269,970	2.3	282,207	4.5
H.C. 28	369,971	375,569	393,211	389,680	378,216	419,675	428,152	15.7	468,498	9.4	500,851	6.9
H.C. 29	167,812	183,548	175,483	179,027	162,281	158,287	156,871	-6.5	161,740	3.1	171,553	6.1
H.C. 30	176,970	179,780	191,319	203,339	205,869	225,278	231,590	30.9	251,706	8.7	285,865	13.6
H.C. 31	273,078	274,874	283,049	284,394	292,543	306,269	301,856	10.5	318,711	5.6	323,818	1.6
H.C. 32	320,928	334,247	336,897	348,228	326,873	348,399	330,219	2.9	341,297	3.4	361,775	6.0
H.C. 33	192,833	201,629	223,821	246,030	234,552	243,187	239,180	24.0	254,803	6.5	275,506	8.1
Sicily	***1,908,583***	***1,959,829***	***2,030,469***	***2,095,123***	***2,049,402***	***2,156,957***	***2,151,154***	**12.7**	***2,281,723***	**6.1**	***2,423,885***	**6.2**
SOUTH	**3,195,344**	**3,260,524**	**3,362,934**	**3,421,588**	**3,398,080**	**3,530,866**	**3,646,700**	**14.1**	**3,804,462**	**4.3**	**4,061,634**	**6.8**
ITALY	**10,092,461**	**10,147,644**	**10,419,854**	**10,493,706**	**10,667,574**	**10,992,935**	**11,279,184**	**11.8**	**11,982,742**	**6.2**	**12,533,606**	**4.6**

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(Continued) *Table App. 1 – Comparison of the different items of the Income Statements of public Hospital Centers from 2013 to 2021 (in thousands of euros)*

H.C. and Univ. H.C. (1)	**Operating Result (Cod. ZZ999) (14)**								
	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	2020	2021
H.C. 1	0	-10,147	-7,716	0	1,926	0	0	-6,603	0
H.C. 2	-5,990	-12,852	-18,864	-6,428	-2,406	-	1,814	-19,419	-9,004
H.C. 3	0	-5,619	0	0	0	1,156	-	-13,741	-5,802
H.C. 4	0	-5,737	-4,486	0	1,180	-	-	-13,978	-9,135
H.C. 5	0	-8,432	-6,568	0	-1,495	-3,818	511	-12,963	-4,258
H.C. 6	-12,750	-30,648	-15,081	-11,040	-17,478	-120,997	-102,504	-31,338	0
Piedmont	***-18,740***	***-73,435***	***-52,715***	***-17,468***	***-18,273***	***-123,659***	***-100,179***	***-98,042***	***-28,199***
H.C. 7	-25,609	-22,835	-17,047	-10,491	0	0	5,637	-24,375	-56,745
H.C. 8	-24,950	-13,451	1,000	0	0	0	1,425	-33,486	-37,982
Veneto	***-50,559***	***-36,286***	***-16,047***	***-10,491***	***-***	***-***	***7,062***	***-57,861***	***-94,727***
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
Emilia R.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
NORTH	**-69,299**	**-109,721**	**-68,762**	**-27,959**	**-18,273**	**-123,659**	**-93,117**	**-155,903**	**-122,926**
H.C. 13	-	0	0	0	0	0	0	0	0
H.C. 14	-	0	0	0	0	0	0	0	0
Marche	***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	-134,586
H.C. 16	-91,594	-102,291	-98,853	-81,733	-83,599	-77,401	-57,726	-83,397	-78,955
H.C. 17	-77,273	-74,610	-92,543	-140,252	-104,166	-87,743	-88,327	-92,648	-127,149
H.C. 18	-102,291	-53,708	-54,160	-49,108	-41,510	-40,432	-48,230	-51,327	-49,325
H.C. 19	-55,349	-73,601	-62,567	-41,794	-24,902	-19,500	-19,589	-34,213	-47,347
Lazio	***-477,781***	***-462,842***	***-469,922***	***-468,605***	***-384,889***	***-341,390***	***-327,591***	***-394,533***	***-437,362***
CENTER	**-477,781**	**-462,842**	**-469,922**	**-468,605**	**-384,889**	**-341,390**	**-327,591**	**-394,533**	**-437,362**
H.C. 20	0	0	-28,102	-19,736	-9,740	-41,114	-14,876	-61,644	-62,154
H.C. 21	0	0	0	0	0	0	0	-45,316	-46,860
Apulia	***-***	***-***	***-28,102***	***-19,736***	***-9,740***	***-41,114***	***-14,876***	***-106,960***	***-109,014***
H.C. 22	-4,584	-6,007	-1,880	0	0	0	-12,231	-666	-15,756
H.C. 23	-1,682	-3,764	-2,265	0	-12,930	-27,743	-14,544	-54,257	5,186
H.C. 24	-15,516	-14,562	-29,858	-42,000	-12,319	-20,942	-101,787	-72,371	-22,550
H.C. 25	-	-17,377	-20,279	0	0	0	0	-	0
Calabria	***-21,782***	***-41,710***	***-54,282***	***-42,000***	***-25,249***	***-48,685***	***-128,562***	***-127,294***	***-33,120***
H.C. 26	0	0	0	0	0	0	0	0	0
H.C. 27	0	0	0	0	0	0	0	0	0
H.C. 28	0	788	0	0	0	0	0	0	0
H.C. 29	0	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	0
H.C. 32	0	0	0	0	0	0	-50,699	0	0
H.C. 33	0	2209	0	1120	0	1,666	0	0	0
Sicily	***-***	***5,453***	***2,680***	***1,120***	***-***	***1,666***	***-50,699***	***-***	***-***
SOUTH	**-21,782**	**-36,257**	**-79,704**	**-60,616**	**-34,989**	**-88,133**	**-194,137**	**-234,254**	**-142,134**
ITALY	**-568,862**	**-608,820**	**-618,388**	**-557,180**	**-438,151**	**-553,182**	**-614,845**	**-784,690**	**-702,422**

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NOTES

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 users sharing the expenditure, 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" which bring them down).
7 The value of the Total Revenues is obtained from Income Statement Code AZ999.
8 The item Purchase of Goods has been reported in the Income Statement, Code BA010.
9 The costs for the Purchase of Non-Healthcare Services mainly represent the outsourced/contracted services referred to in the Income Statement Code BA1570.
10 The item employed Personnel costs was taken from the Income Statement, Code BA2080.
11 The item Costs for Deferred Costs 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, 2022*

The comparison between the universe and the total population sample is contained in Table App. 2 below.

Table App. 2 – Universe-sample comparison, with reference to the population survey (individuals aged 18 years and older)

Social-demographic variables	*Universe*		*Raw respondents*		*Weighted respondents*	
	A.V.	*%*	*A.V.*	*%*	*A.V.*	*%*
GENDER						
Male	23,586,982	47.7	1,734	47.8	1,918	47.7
Female	25,837,517	52.3	1,892	52.2	2,102	52.3
Total	49,424,499	100.0	3,626	100.0	4,020	100.0
TOWN SIZE						
Up to 5,000 inhabitants	8,664,530	17.5	506	14.0	703	17.5
5,001-20,000 inhabitants	14,827,458	30.0	907	25.0	1,210	30.1
20,001-50,000 inhabitants	9,207,758	18.6	707	19.5	748	18.6
50,001-100,000 inhabitants	5,239,541	10.6	582	16.1	426	10.6
Over 100,000 inhabitants	11,485,212	23.2	924	25.5	933	23.2
Total	49,424,499	100.0	3,626	100.0	4,020	100.0
NIELSEN REGION						
Piedmont+Liguria+Aosta Valley	5,150,039	10.4	383	10.6	418	10.4
Lombardy	8,065,824	16.3	636	17.5	656	16.3
Triveneto	5,901,062	11.9	377	10.4	479	11.9
Emilia Romagna	3,657,153	7.4	260	7.2	298	7.4
Tuscany+Marche+Umbria+Sardinia	6,548,538	13.2	450	12.4	531	13.2
Lazio	4,591,716	9.3	326	9.0	374	9.3
Abruzzo+Molise+Campania+Apulia	9,321,821	18.9	709	19.6	761	18.9
Sicily+Calabria+Basilicata	6,188,345	12.5	485	13.4	503	12.5
Total	49,424,499	100.0	3,626	100.0	4,020	100.0
EDUCATION						
No Diploma/Elementary cert.	11,450,263	23.2	60	1.7	933	23.2
Lower middle school cert.	17,545,950	35.5	534	14.7	1,427	35.5
High school diploma	14,724,308	29.8	2,047	56.5	1,198	29.8
Assoc. Deg., Univ. Deg., PhD.	5,703,978	11.5	985	27.2	462	11.5
Total	49,424,499	100.0	3,626	100.0	4,020	100.0
AGE						
18 to 24 years:	4,240,198	8.6	253	7.0	346	8.6
25 to 34 years:	7,057,113	14.3	402	11.1	575	14.3
35 to 44 years:	9,360,064	18.9	669	18.5	760	18.9
45 to 54 years:	8,915,288	18.0	844	23.3	724	18.0
55 to 64 years:	7,467,295	15.1	665	18.3	607	15.1
Over 64 years of age	12,384,541	25.1	793	21.9	1,009	25.1
Total	49,424,499	100.0	3,626	100.0	4,020	100.0
OCCUPATION						
Self-employed	5,624,780	11.4	388	10.7	458	11.4
Salaried employee	9,332,266	18.9	1,136	31.3	760	18.9
Blue-collar worker	7,602,018	15.4	468	12.9	619	15.4
Housewife	8,322,598	16.8	431	11.9	675	16.8
Retiree	11,467,163	23.2	729	20.1	933	23.2
Seeking employment	2,016,961	4.1	288	7.9	165	4.1
Other	5,058,713	10.2	186	5.1	410	10.2
Total	49,424,499	100.0	3,626	100.0	4,020	100.0

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Within the total sample of the population, people who contracted the Covid-19 virus once or more in the period 2020-2022 were questioned in particular. A representative sub-sample was thus obtained, again structured according to the main social-demographic variables mentioned above, which numbered 1,295 raw respondents, who, suitably weighted, numbered 1,396 units (see Table App. 3). The sampling error of this set of respondents, with a 95% confidence interval, was found to be ±2.72%.

Table App. 3 – Sub-sample of individuals with one or more Covid experiences in the period 2020-2022 (individuals aged 18 and over)

Social-demographic variables	*Raw respondents*		*Weighted respondents*	
	A.V.	*%*	*A.V.*	*%*
GENDER				
Male	602	46.5	679	48.6
Female	693	53.5	717	51.3
Total	1,295	100.0	1,396	100.0
TOWN SIZE				
Up to 5,000 inhabitants	155	12.0	240	17.2
5,001-20,000 inhabitants	323	24.9	380	27.2
20,001-50,000 inhabitants	271	20.9	259	18.6
50,001-100,000 inhabitants	216	16.7	173	12.4
Over 100,000 inhabitants	330	25.5	344	24.6
Total	1,295	100.0	1,396	100.0
NIELSEN REGION				
Piedmont+Liguria+Aosta Valley	120	9.3	91	6.5
Lombardy	218	16.8	241	17.3
Triveneto	162	12.5	210	15.0
Emilia Romagna	94	7.3	56	4.0
Tuscany+Marche+Umbria+Sardinia	150	11.6	174	12.5
Lazio	130	10.0	128	9.1
Abruzzo+Molise+Campania+Apulia	250	19.3	245	17.6
Sicily+Calabria+Basilicata	171	13.2	249	17.9
Total	1,295	100.0	1,396	100.0
EDUCATION				
No diploma/Elementary cert.	14	1.1	268	19.2
Lower middle school cert.	157	12.1	466	33.4
High school diploma	749	57.8	472	33.8
Assoc. Deg., Univ. Deg., PhD.	375	29.0	189	13.6
Total	1,295	100.0	1,396	100.0
AGE				
18 to 24 years:	97	7.5	120	8.6
25 to 34 years:	186	14.4	288	20.6
35 to 44 years:	266	20.5	283	20.3
45 to 54 years:	330	25.5	280	20.1
55 to 64 years:	214	16.5	227	16.3
Over 64 years of age	202	15.6	197	14.1
Total	1,295	100.0	1,396	100.0
OCCUPATION				
Self-employed	150	11.6	168	12.0
Salaried employee	455	35.1	305	21.8
Blue-collar worker	204	15.8	304	21.8
Housewife	153	11.8	235	16.8
Retiree	185	14.3	201	14.4
Seeking employment	81	6.3	47	3.4
Other	67	5.2	136	9.7
Total	1,295	100.0	1,396	100.0

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

The social-personal profile of the components of the overall sample of the population is provided in the tables ranging from Table App. 4 to Table App. 10.

Table App. 4 – Gender of the Respondent (% val.)

Gender	*%*
– Male	47.7
– Female	52.3
Total	100.0
A.V.	4,020

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 5 – Age range of the Respondent (% val.)

Years	*%*
– 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 and over	25.1
Total	100.0
A.V.	4,020

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 6 – Highest level of education achieved by the respondent (% val.)

Degree	*%*
– No diploma/Elementary cert.	23.2
– Lower middle school cert.	35.5
– High school diploma	29.8
– Assoc. Deg., Univ. Deg., PhD.	11.5
Total	100.0
A.V.	4,020

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 7 – Occupation of the Respondent (% val.)

Occupation	*%*
– Self-employed	11.4
– Salaried employee	18.9
– Blue-collar worker	15.4
– Housewife	16.8
– Retiree	23.2
– Seeking employment	4.1
– Other	10.2
Total	100.0
A.V.	4,020

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 8 – Social-economic level of the Respondent (% val.)

Level	*%*
– High social-economic level	0.6
– Medium-High social-economic level	11.8
– Medium social-economic level	45.2
– Medium-Low social-economic level	32.2
– Low social-economic level	10.2
Total	100.0
A.V.	4,020

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 9 – Geographic Area of Residence of the Respondent (% val.)

Area	*%*
– Northwest	26.7
– Northeast	19.3
– Center	19.4
– South and Islands	34.6
Total	100.0
A.V.	4,020

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 10 – Town Size of the Respondent (% val. %)

Size	*%*
– 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
– Over 100,000 inhabitants	23.2
Total	100.0
A.V.	4,020

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

The social-personal profile of the respondents of the sub-sample who experienced one or more infections from Covid-19 during the three-year period 2020-2022 is provided in the tables ranging from App. 11 to App. 17.

Table App. 11 – Gender of the Respondent (% val.)

Gender	*%*
– Male	48.6
– Female	51.4
Total	100.0
A.V.	1,396

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 12 – Age range of the Respondent (% val.)

Years	*%*
– 18-24 years	8.6
– 25-34 years	20.6
– 35-44 years	20.3
– 45-54 years	20.1
– 55-64 years	16.3
– 65 years or over	14.1
Total	100.0
A.V.	1,396

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 13 – Highest level of education achieved by the respondent (% val.)

Title	*%*
– No diploma/Elementary cert.	19.2
– Lower middle school cert.	33.4
– High school diploma	33.8
– Assoc. Deg., Univ. Deg., PhD.	13.6
Total	100.0
A.V.	1,396

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 14 – Occupation of the Respondent (% val.)

Occupation	*%*
– Self-employed	12.0
– Salaried employee	21.9
– Blue-collar worker	21.8
– Housewife	16.8
– Retiree	14.4
– Seeking employment	3.4
– Other	9.7
Total	100.0
A.V.	1,396

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 15 – Social-economic level of the Respondent (% val.)

Level	*%*
– High social-economic level	0.7
– Medium-High social-economic level	16.7
– Medium social-economic level	49.8
– Medium-Low social-economic level	24.0
– Low social-economic level	8.8
Total	100.0
A.V.	1,396

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 16 – Geographic Area of Residence of the Respondent (% val.)

Area	*%*
– Northwest	23.8
– Northeast	19.1
– Center	19.2
– South and Islands	37.9
Total	100.0
A.V.	1,396

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

Table App. 17 – Town Size of the Respondent (% val.)

Size	*%*
– Up to 5,000 inhabitants	17.2
– 5,001-20,000 inhabitants	27.2
– 20,001-50,000 inhabitants	18.6
– 50,001-100,000 inhabitants	12.4
– Over 100,000 inhabitants	24.6
Total	100.0
A.V.	1,396

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2022*

The information gathered and subsequently processed were then used to construct simple distribution tables, which were then used to cross-reference groups of variables deemed to be particularly significant, as is described in Chapter 3 of the Appendices below.

The overall results of the two surveys, with reference to the responses obtained through the questionnaire, are placed, with the relative commentary, in Part Two of this Report as regards the overall sample of the population and in Part Three as regards the sub-sample of respondents who have had one or more Covid experiences over the last three years.

Finally, Part Four of the Report was prepared, which relates to the statistical indicators and includes the most recent data available on the Italian hospital system. These relate to the number and type of facilities and data relating to the activities, staff size and expenses.

2. The complete list of contents of the 2022 Report

Part Three
GREATER EXPANSION OF THE VIRUS WITH FEWER CONSEQUENCES, BUT WITH SIGNIFICANT DEMAND FOR REGULAR SERVICES

Part Four
STATISTICAL INDICATORS

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The «Health & Hospitals» Report, in its 20th edition, offers annual monitoring and assessment of the effectiveness and efficiency of the Italian hospital system, recognizable by its mixed nature, comprising a public component and a private component. It is a hospital «machine» that makes a total of 185,000 beds available, of which 129,000 belong to public facilities and 56,000 to accredited facilities, which handled around 8 million inpatient stays per year up until the pandemic hit, dropping down to 6.4 million in 2020 in light of the need to prioritize the Covid-19 emergency.

Despite the decrease in services, especially regular services, due to the pandemic, the National Health Service still provided more than 48 million days of hospitalization, of which 71.7% were in public hospitals and 28.3% in private hospitals. The related public hospital expenditure in 2020 totaled EUR 69.3 billion, representing 56.2% of total public healthcare spending.

The Report has accompanied the National Health Service over the past 20 years of its 44-year lifespan, offering an updated, reasoned analysis based on objective data, ensuring the «third-party nature» of the evaluation, thanks to its being entrusted to an external, autonomous and independent entity, and adopting a dual-assessment perspective that takes into account both the point of view of demand (i.e. users and their healthcare needs) and the point of view of supply (i.e. the healthcare «machine» and its evolution over time).

In the hopes that the 2022 edition represents the closure of the complex three-year period of the pandemic, we wanted to describe this unprecedented interval, the more or less direct effects of which are destined to linger for a long time to come: the extraordinary emergency phase, dealt with in the year 2020; the proactive phase of 2021, characterized by the vast vaccination program and also by the interruption and postponement of services; and, finally, that of the year 2022, in which we found ourselves facing an aggravated phenomenon of postponed or as yet not provided services.

The Report demonstrates a significant increase in the phenomenon of waiting times and unsatisfied demand both through the analysis of current information flows and by means of a survey addressed to users of the NHS, with or without experience of the virus: the consequences are the «reactivity» - manifested essentially in the use of individual professionals and purely private services and the intramoenia services offered by public hospitals - but also the «passivity» of those who were forced to forgo treatment.

Out-of-pocket spending, which has always been a thorn in the side of our National Health Service, not only fails to be reabsorbed, but risks expanding even further, exacerbating inequities on a socio-economic basis between those who can and those who cannot afford it.

A common effort is increasingly necessary, the development of more convinced and transparent «purpose-driven alliances» between the public and private sectors in the NHS, implementing the positive collaboration experienced in the first year of Covid, to respond to the challenges posed by the «extraordinary» pandemic and to the by-now structural critical issues of a «regular system» called upon to renew itself.

Ermeneia – Studi & Strategie di Sistema (System Studies & Strategies) 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 private hospitals that are part of the National Health Service and private healthcare facilities located throughout all Italian Regions, which employ more than 73,000 workers and, accounting for 11% of the operators in the entire system, provide for the healthcare needs of 15% of patients.

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