Ermeneia
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14

Health&Hospitals in Italy

14th ANNUAL REPORT 2016

COLLANA
Aiop
Associazione Italiana
Ospedalità Privata

FrancoAngeli
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This Report has been edited by **Nadio Delai**, in collaboration with Ermeneia – Studi & Strategie di Sistema in Rome and AIOP – Italian Association of Private Hospitals. To this end, a technical work group has been established made up of Angelo Cassoni, Filippo Leonardi, Annagiulia Caiazza, Alberta Sciachì, Stefano Turchi, Fabiana Rinaldi, Peppino Biamonte, Paolo Parente and Nadio Delai (Ermeneia).

Furthermore, an Address Committee has also been created to achieve the project; it is made up of Gabriele Pelissero, Emmanuel Miraglia, and Filippo Leonardi.

We wish to thank the staff at AIOP national and regional offices for their efforts in collecting and organizing data in AIOP's internal system.

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Printed by: Digital Print Service srl – sede legale: via dell'Annunciata 27, 20121 Milano; sedi operative: via Torricelli 9, 20090 Segrate (MI) e via Merano 18, 20127 Milano.

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This text is an abstract of the Report on "Ospedali & Salute", the 14th edition of which was presented to the Senate of the Italian Republic in the Sala Zuccari at the Palazzo Giustiniani on January 12, 2017.

Within this abstract a few footnotes quote the contents that are non mentioned in the text.

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 2016.

Following the introduction written by the President of AIOP, Mr Gabriele Pelissero, 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 14th Report are also provided.

The noose

by Gabriele Pelissero, National President of AIOP

1. A neverending battle

Italy's National Health Service was established in 1978 and was by design intended to create a public monopoly on the provision of all healthcare services, being rooted in the political climate of the 1960's and a similar concept that already existed in the original British model.

Hard realities never permitted this initial aspiration to be fully implemented, though it was only in the early 1990's that the idea of multiple service providers, under the umbrella of a universal healthcare and welfare system strictly governed by the State and Regions, would find suitable legislation with the drafting of Decree Laws 502/92 and 517/92.

On the one hand, the so-called "reform of the reform" introduced the idea of the corporatization of public service providers, and on the other hand the principle of pluralism and equality between public and private service providers in an attempt to inject an element of competitiveness in the NHS as a driver to improve quality and efficiency overall.

Within this reformed context, the number of private operators within the Regional Health Systems grew, albeit in a very disorderly way that varied greatly from Region to Region.

But a few years later, in 1996, the great institutional clash between the Lombardy Region, which wanted to create a true level playing-field between public and private operators, and the national government, where the Ministry of Health was preparing to launch the third, distinctly statist and public reform, made it quite evident that there are two irreconcilable visions of the NHS. This conflict did not come to an end, even after approval of Legislative Decree 229/99, but rather continued to wear on in the everyday reality of a regional government style mostly hostile to the presence of non-public operators, in contrast to the dynamism of private operators and their continued

and growing success among citizens and patients, who, whenever possible, use them and generally appreciate the services offered, in every region.

This situation continued on for more than 10 years with no significant regulatory changes, while the share of hospital services rendered by private operators on behalf of the NHS in Italy reached 25% of the total and, in more than one larger Region (Lombardy, Lazio, Campania) even accounted for 35-40% of the total.

The reaction of the statist mindset and the declining public monopoly on healthcare could not help, sooner or later, to fail, and it would be the great global economic crisis and especially the dramatically emerging crisis in Italy's public finances to offer such an opportunity.

2. The trap

In 2011, the first government response to the growing public finance difficulties took the form of a controversial cut in healthcare spending, but the most radical intervention and a harbinger of more negative effects on the healthcare system would be seen in 2012, with the so-called *spending review* of the Monti Government, in the form of Legislative Decree 95/2012, converted into Law 135/2012.

This issue requires a more in-depth analysis. Starting from the overall view of the NHS cuts made in the period 2011-2014, shown in Table 1, it can be seen that the first two lines of the table in particular show the selective cuts included in Law 135/2012 for private outpatient hospital service and specialist service providers.

The history of this provision contains a matter of record that concerns me personally, because it was up to me, as the newly elected National President of AIOP in May 2012, to deal with the then Minister of Health Renato Balduzzi and his collaborators.

The proposed cut to services provided by private operators was presented to me in those difficult months, as an inevitable sacrifice that, along with many others, was essential for the financial lifeline of the country, while the urgent need to save cash made my basic objection, that taking this way would reduce the services that cost the NHS less money were more appreciated by the people and would result in increased waiting lists and social problems in the short- to mid-term, fall upon the deaf ears of the government.

In fact, the first formulation of the Law included an even heavier cut, equal to 1% in 2012, 2% in 2013 and 4% in 2014.

Table 1 – Healthcare spending: extent of the cuts planned in the period 2012-2014 (Tremonti 2011, Spending review *2012 and Stability Law 2013) (in millions of €)*

Expenditure items	*2012*	*2013*		*2014*	
	Law 135/12	*Law 111/11*	*Law 135/12*	*Law 111/11*	*Law 135/12*
– Accredited hospitals	45.00		90.00		180.00
– Accredited specialist facilities	25.00		50.00		100.00
Total	*70.00*		*140.00*		*280.00*
– Employees and freelance staff		-		163.50	
– Pharmaceuticals	325.00	1,000.00	747.00	1,090.00	747.00
– Goods and services – Procurement and supplies	505.00	750.00	463.00	1,199.00	393.00
– Goods and services – Standard patient beds			20.00		50.00
– Goods and services – Medical devices		750.00	400.00	817.50	500.00
– Private providers – Servicees by function			30.00		30.00
– New co-payment charges				2,180.00	
Total Law111/11 and Law 135/12	*900.00*	*2,500.00*	*1,800.00*	*5,450.00*	*2,000.00*
			Period 2012-2014 (Law 111/11 and Law135/12) →		*12,650.00*
			Stability Law (0.6 bn for 2013 and 1 bn for 2014) →		*1,600.00*
			Total cuts in the period 2012-2014 →		*14,250.00*

Source: *expenditure data as per the measures contained in the laws cited*

I managed to convince the Minister that this would have caused a catastrophe in the NHS's ability to provide benefits in many regions, and the final wording of Legislative Decree 95/2012, subsequently converted into Law 135/2012, included a total cut to private services of 0.5% in 2012, 1% in 2013 and 2% in 2014. The total savings was estimated at 280 million euros, as indicated in the third line of Table 1.

The sacrifice, painful for the hospital centers and for patients, was dutifully accepted by AIOP as the price that had to be paid in the common effort to help the country at a time of extraordinary financial stress, and thus we all fell into the trap.

Table 2 contains the final text converted into Law.

Table 2 – Legislative Decree 95/2012 converted into Law 135/2012, Article 15, paragraph 14

To contracts and agreements in force in the year 2012, pursuant to Article 8-*quinquies* of the Legislative Decree of December 30, 1992, no. 502, for the purchase of healthcare services by private entities accredited for specialist outpatient care and hospital care, applies a reduction of the amount and the corresponding purchase volumes to an extent determined by the Region or by the Autonomous Province, so as to reduce the annual total expenditure, with regard to the actual spending for 2011, by 0.5% in 2012, by 1% in 2013, and by 2% beginning in 2014. (....)

No one, at the time, paused over the final words "beginning in", which appeared in the final text and were loaded with many consequences, and only over time and, in a very different manner from Region to Region, did the underlying design appear with increasing clarity: that of forever blocking any development of the private component in the whole NHS, by fixing the amounts of payable activities to those at Dec. 31, 2011 minus 2%.

It is a noose that, year after year, strangles the prospect of a pluralistic national health service marked by healthy competition between providers with different legal status and built around the patient's central role and right to freely choose a place for care.

3. Disparities

But is this really the correct interpretation of the legislation?

In fact, in all Italian Regions caps and limits on the presence of private providers in the Regional Health Service continued to accumulate throughout the period 2012-2014 and in subsequent years, even exacerbating the

limitations set out by Law 135/2012. This occurred as a result of the general reduction of NHS resources, which regional governments did not attempt to compensate with greater use of the cheaper and faster services provided by private entities.

And indeed, even if they had wanted to they could not have done this without finding a way to get around the legal restrictions that in large part limited organizational maneuvering by the Regional Health Systems and stood as an obstacle even to innovative public-private experiments and any other form of subsidiarity.

The result of this protracted effort to restore an anachronistic public oligopoly could not but lead to an increase in waiting lists and growing social unrest, and these were obviously greater in the weaker territories, and Regions with debt rescheduling plans.

The feeling that this happened and is happening more and more is widespread, and at least one important indicator of the increase of this unrest can be seen in inter-regional mobility for healthcare. And this brings us to another aspect of this complex and messy affair.

4. Inter-regional healthcare mobility

Italy has always been a country with a great amount of healthcare mobility, a phenomenon linked to the qualitative and quantitative differences in the provision of services in the various Italian regions, that have been strongly present since the beginning of the NHS which, not coincidentally, included as one of its objectives "the overcoming of territorial imbalances in the social welfare and healthcare conditions of the country" (Art. 2 of Law 833/1978).

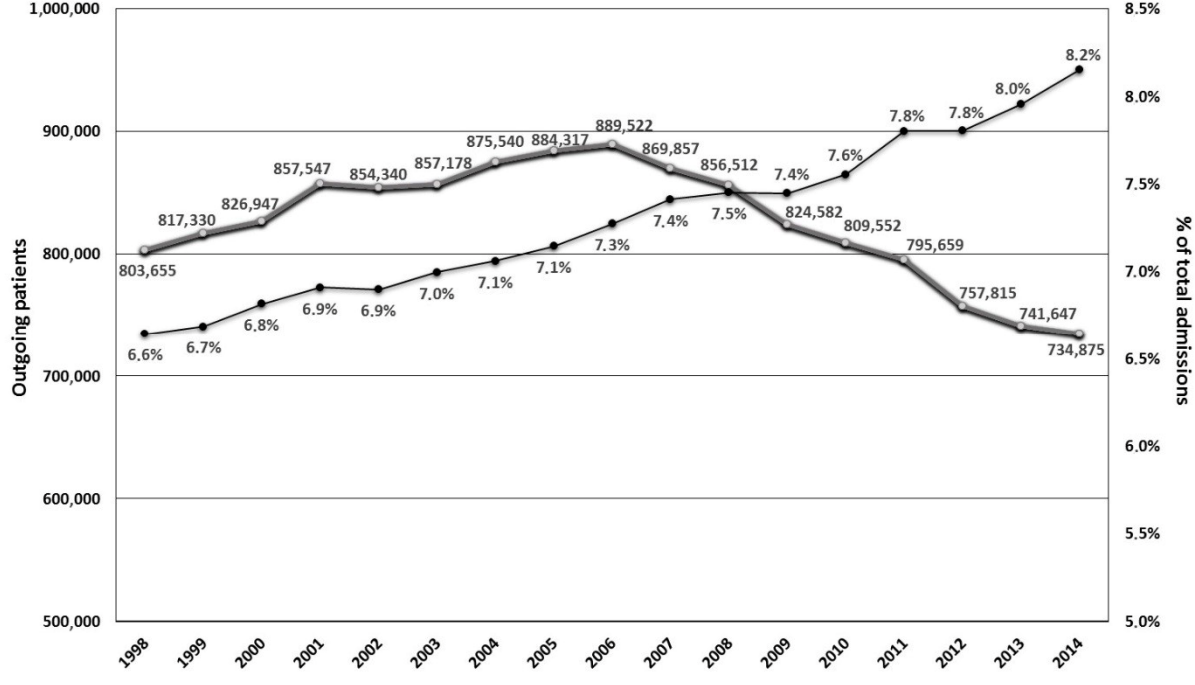
This objective has certainly not been attained if, as shown in Figure 1, two decades after the establishment of the NHS, as many as 803,655 hospitalizations took place in a region other than the one of origin.

But a careful examination of the data in Figure 1 shows some even more relevant phenomena.

First, it confirms that a great amount of inter-regional mobility is a structural component of the Italian healthcare system, which over the 17 years described consistently maintains an extremely high level in absolute terms, never dropping below 700,000 hospitalizations per year. And even the decline seen as starting in 2006 does not show any real decline of the phenomenon.

If, in fact, we more properly focus on the other curve, which shows the percentage of annual mobility calculated on the rate of hospitalization, we

Fig. 1 – Healthcare mobility in the period 1998-2014 (G. Pelissero & N. Bedin 2016)



Note: Ordinary and day hospital admissions.
Source*: Processing by AIOP – data from the Ministry of Health: mobility matrix, 1998-2014*

Table 3 – Level of NHS funding, to which the State contributes. Years 2009-2018

Years	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*
– Requirements of NHS and of regional health-care services (in millions of euros)	103.483	104.614	106.934	107.961	107.004	109.928	109.715	111.000	113.063	114.998
– Percent incidence on GDP	6.81	6.52	6.53	6.69	6.67	6.78	6.68	6.64	6.60	6.51

Source: *State and Region Agreements of the National Health Fund 2009-2018 regarding data on requirements; ISTAT, historic series, and DEF (Economic and Financial Document) 2016 for the consolidated data 2006-2015 and estimates 2016-2018 of GDP*

can clearly see how the phenomenon is experiencing a continuous and steady rise, net of de-hospitalization processes.

Moreover, since the year 2010, the annual increase has tended to double compared to all previous years, an overt expression of the growing difficulty to find adequate responses in the home territory, a result in turn of the more marked suffering of some regional health systems.

The direction of this large and continuous flow is from south to north, resulting from long-standing structural phenomena; but what concerns us here is the undoubted worsening of the mobility dynamics to the detriment of Regions in South and Central Italy precisely because of the provisions of Law 135/2012, rigidly enforced in the Regions with debt rescheduling plans (again, mostly in the Regions of South and Central Italy), through the compulsory administration imposed by the central government.

In fact, the Regions under compulsory administration systematically and implacably block the ability to use all the resources of the territories concerned (especially private capital and management) to invest in quality and increase the provision of services to citizens, who, as a result, increasingly go elsewhere to seek the services they need.

The paradox of an intrinsically flawed healthcare policy thus forms a pincer that stifles any possibility to begin making adjustments to the supply capacity of the Italian Regions.

On the one hand, it keeps the amount of total available resources for the NHS at values lower than those of European countries comparable to Italy, constantly under the monitoring threshold of 7% of GDP and with a tendency towards progressive reduction (Table 3).

On the other hand, Law 135/2012 blocks the ability of the Regions, and especially for those with debt rescheduling plans, to reduce the amount of health emigration, and more generally to redevelop and enhance the service structure of the regional health systems through investment by private operators, the only ones able to act quickly and effectively.

5. What are the answers?

If the increasing difficulty of the NHS to provide adequate answers to the service demands of citizens is and remains the central problem, intimately connected to the unavoidable need to increase the efficiency of the management of the public component of the network of providers, inter-regional mobility and its management has in 2015/2016 emerged as the most acute aspect of this problem. To address the problem – it having become evident

to all that the inability to use private operators, introduced by Law 135/2012, presents a big obstacle to finding even partial solutions – the Minister of Health, Beatrice Lorenzin, in Law 208/2015, paragraph 574 et seq., attempted for the first time, at least partially, to remove the rigid block imposed in 2012, allowing all private operators working in regional health systems to freely offer highly complex services to all patients from other regions without restrictions, also making all the services supplied by private Institutes for Treatment and Research (IRCCS) available.

Thus, another formulation emerged geared towards a more open and pluralistic vision of the NHS, which also tended to confirm what had been done in previous years in the few regions that had not set up any obstacles to mobility. But the text of Law 208/2015 also documents, in an almost emblematic fashion, the coexistence in the same state facilities of different and fundamentally irreconcilable visions.

In fact, apart from the restrictions on solely high-complexity services that opens up all the issues to be explored regarding their quality and appropriateness, the second part of paragraph 574 introduces elements on financial coverage that tend to invalidate the previous openings. There are three main steps contained in the law:

1) *In order to ensure, in any case, invariance of the financial effect connected to the derogation in the previous period, the Regions and the Autonomous Provinces of Trento and Bolzano shall adopt other measures, in particular to reduce the number of inappropriate low-complexity services provided for in outpatient, emergency room, inpatient admission, rehabilitation and long-term care settings, paid to accredited private providers*;
2) *The aforesaid financial goal may also be achieved through the use of alternative measures applied to other areas of healthcare spending*;
3) *Regions shall submit quarterly to the Ministries of Health, Economy and Finance measures falling under their jurisdiction relating to the payment of major regional health expenditures for extra-regional patients cared for by the IRCCS. They shall also notify the patients' regions of residence and regional coordination of health and financial affairs in order to permit the end of fiscal year adjustments relating to the healthcare mobility compensation to be made for allocation of the financial resources of the National Health Service.*

How can this be interpreted?

Can the Regions now take advantage of the attractive offerings of private operators working within their Regional Health Service, yet the services that they provide to the citizens of other regions must be paid for with money taken from the funds used to supply services to their own citizens, even

though the appropriate service may not exist and there are waiting lists everywhere?

Or does it mean that paying for services to citizens of other regions will require cutting services to their own citizens?

Does it then mean that compensation of patient mobility must be allocated at the end of the fiscal year?

The distinct impression is that behind the complication that goes to the limit of these contradictory rules there is, once again, the perennial conflict between a centralist bureaucracy that is substantially indifferent to the quality of services and a more open view that aims at fulfilling needs by promoting quality and efficiency, accepting, if need be, honest competitiveness.

In other words, it must be decided whether to address inter-regional mobility by closing borders and raising bureaucratic walls to stop the people who want/have to move, or by attempting to nurture a convincing and effective quality supply of services in each region, which will inevitably mean making use of private operators.

6. The response of the Regions

And in fact, the data confirm that by using private companies to provide services, the most discerning regional health systems are not only able to curb excess patient outflows, but even become highly attractive to mobile patients.

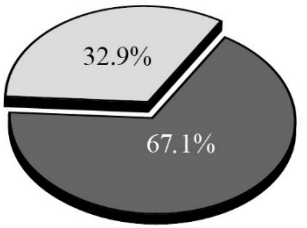
Figures 2 and 3 show the contribution that accredited private operators make to active mobility in the two regions that have always ranked first in the ability to attract patients, Lombardy and Emilia Romagna. The data does not require any comment as the evidence is glaring, but it does stir up at least one specific question: why have other regions not attempted to take the same approach?

But the answers of those who govern the Italian health welfare system are unfortunately not infrequently inadequate, as is clear from the debate on health policy lines. In this instance, it takes place in the State-Regions Conference, and once again shows all the restrictions, rigidities and prejudices that characterize the statist vision of the clear ideological matrix that permeates the NHS.

The agreement signed on September 26, 2016 comes from verification of the legislation paralysis on patient mobility, and the pattern of recent years, which clearly shows an increase in the tendency of citizens to seek services outside their regions.

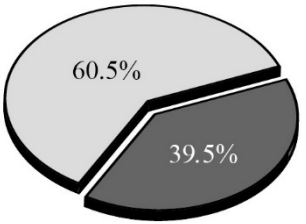
Fig. 2 – Total admissions and attractiveness to extra-regional patients in public and private hospitals in Lombardy – 2015 (NHS inpatient admissions)

Admissions in private hospitals: 485,341



Admissions in public hospitals: 988,456

Attractiveness of private hospitals: 84,944
(Private-hospital average weight 1.6326)

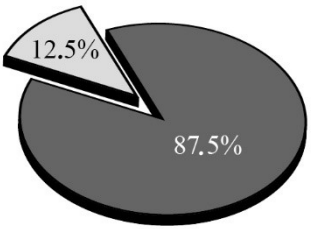


Attractiveness of public hospitals: 55,400
(Public-hospital average weight 1.3015)

Source: *Region of Lombardy publication "Ricoveri in Lombardia anno 2015"*

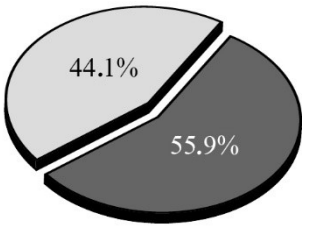
Fig. 3 – Total admissions and attractiveness to extra-regional patients in public and private hospitals in Emilia Romagna – 2015 – Day Hospital and inpatient admissions (NHS)

Admissions in private res. hospitals
83,542



Admissions in public res. hospitals
586,830

Attractiveness of private hospitals
47,579



Attractiveness of public hospitals
60,243

Source: *Region of Emilia Romagna data*

This demand has been answered primarily by private providers with "significant increases" in the services they offer.

The Conference notes, word-for-word, that *while public services (between 2013 and 2015) reported an overall decrease of 3%, the services provided by accredited private operators shows an increase (albeit with significant differences from region to region) of 11%.*

The economic values of mobility are reported in Table 4, which shows that the phenomenon is actually growing, although in absolute terms not worrying for a national health fund of more than 110 billion euro, and with no cost for the state, having to compensate for this expenditure in the regional budgets, in which even this work has already been funded on a per capita basis.

Table 4 – Values of inter-regional healthcare mobility

	2013	*2014*	*2015*
In-hospital stay	2,941,272,669	2,977,126,895	3,022,882,901
Specialist service	591,430,506	612,541,872	629,888,524
Drug administration*	225,178,578	248,871,194	271,623,401
Other	169,691,315	176,527,243	179,940,099
Total	*3,927,573,068*	*4,015,067,204*	*4,104,334,925*

(*) Not including Hepatitis C drugs.
Source: *State-Regions Conference October 29, 2016*

So it would seem logical for the State-Regions Conference to set the goal of fostering the contribution of accredited private providers in order to increase the quality of services with a view to more fully satisfying the choices of citizens.

But the agreement sets out a different view, and states:

The National Mobility Plan will have to overcome the purely financial dimension that has characterized the issue of mobility in recent years and decisively deal with the appropriateness of migratory healthcare flows, placing precise limits on the services of private providers beginning in 2017.

It is a view that speaks for itself, and signifies a rejection of the attempt to qualify the services of both public and accredited private providers, replacing it with the imposition of bureaucratic and regulatory constraints to prevent the question from arising, in the most radical negation of the right to the freedom of choice of place of care.

On the other hand, that this reaction is a kind of conditioned reflex of the declining public monopoly can be read in a proposal contained in the same agreement.

To understand it we have to start by saying that, in a move akin to shooting itself in the foot, the latest public administration regulations have introduced a ban on the use of freelance collaboration by retired civil servants. For healthcare, and probably for many other areas of activity, this is an absurd refusal to make use of highly-capable and universally acclaimed professionals, still perfectly able to provide the nation with valuable work and often very difficult to replace.

In healthcare, these professionals are mostly doctors of recognized value, who find that the greater flexibility of private providers offers them the opportunity to keep treating the numerous patients that continue to turn to them.

Of course, all of this is a hardship for the public hospital network, and basic logic would dictate that the State-Regions Conference, which encompasses the regional governments which are also the owners of the majority of Italian hospitals, forcefully request the abolition of such a useless and harmful law.

The text of the agreement instead, states the exact opposite:

It should be the joint commitment of the regions to address the issue of retired professionals who are no longer able to perform duties in the public system and who have found ample employment in the private sector, also accredited, whose services continue nevertheless to be paid by the public. To this end a special amendment will be prepared for Article 6 of Legislative Decree 90/2014 converted into Law 11 August 2014, no. 114, at the time of the Budget Law, in order to extend the ban to work in the accredited private sector.

Again in this case, comments would be superfluous.

It can only be added that the 2017 Budget Law fortunately did not accept this incredible application, giving everyone more time for further reflection upon what the real interest of the NHS might be and especially that of citizens who wish to freely and confidently exercise the right to healthcare.

But why all these contortions and paradoxes? Is all of this legal?

7. Is all of this legal?

The reduction of NHS funding, the blocking of the contribution of accredited private service providers, the blocking of inter-regional mobility, and the placing of obstacles to employment opportunities for professionals: it is reasonable to ask if all of this is legal, and if it corresponds to the duty of the state and its territorial branches to protect the right to health in the best way possible, and if it respects the dignity of people.

We all know that the very high public debt and the continuing financial difficulties of a State which has to respond to increasing demands from its citizens, not only those regarding healthcare, sometimes mean painful sacrifices, fairness and a sense of responsibility from everyone.

That means everyone. And this must take place with respect to laws and general principles, which must not and cannot be waived.

In our view, the provision which is at the heart of the critical issues we are analyzing, paragraph 14 of Art. 15 of Law 135/2012, which we described a little colorfully as "the noose", that prevents the use of accredited private providers to improve regional health systems by forever limiting the ability to provide services at the values of Dec. 31, 2011, minus 2%, is unlawful and unconstitutional.

Our view is supported by the recent ruling on March 3, 2016 no. 43 of the Constitutional Court, which states that

State interventions on the spending autonomy of the regions is allowed, as principles of public finance coordination, provided that they are temporary, since otherwise they would not correspond to the need to ensure a balance of public finances in a given period of time, marked by special emergencies, but would go too far in structural directives allocating financial resources that the region holds, in the realm of discretionary political choices concerning the organization of offices, functions and services (judgment no. 36 of 2004).

This Court has therefore already declared the unconstitutionality of similar provisions (ruling no. 79 of 2014), for an aspect which does not affect the fiscal measure itself but only involves its temporal dimension, in order to "ensure the temporary nature of the planned measures, and, at the same time, not to upset the balance of public finances, particularly in relation to the current year" (judgment no. 193 of 2012).

In this last respect the Court has already highlighted the necessary multi-year nature of budgetary policies, which are articulated by means of the Stability Law over a period of three-years (judgment no. 178 of 2015 and no. 310 of 2013).

In this case, Legislative Decree no. 66 of 2014 intervened to correct public finances in relation to the three-year period inaugurated by Law 27 of December 2013, no. 147 (Provisions for the preparation of the annual and multi-annual state budget – Stability Law 2014), or, in principle and unless expressly provided otherwise, 2014-2016.

Therefore, this Court must restore constitutional legality bringing back the contested provision to a corresponding temporary period of effectiveness, since it is inherent to the legislative intervention characteristics in which the law is set, and therefore inferred directly and unequivocally by the latter.

Specifically, the Court stated in paragraph 9 of the judgment

Article 14 paragraphs 1 and 2, is deleted with respect to Articles 117, third paragraph, and 119 of the Constitution, also in so far as it provides that preventive measures be applied beginning in 2014, and take on a permanent character.

Therefore, all the rules and provisions that have since 2012 prevented many regions the opportunity to develop effective actions to improve quality by using accredited private operators, which are a valuable resource in the places they are well employed, after the financial crisis should be dropped, in compliance with a strict and exemplary legal ruling so well expressed by the Constitutional Court.

And based on these lofty considerations AIOP recently strongly requested that the Government and Parliament take action to restore legitimacy and remove a major obstacle to the qualitative development of the NHS, which increasingly must be able to make use of a plurality of different providers to ensure sustainability and effectiveness.

Our request was to remove the words "beginning in", which unlawfully – in our opinion – and unreasonably only cause harm to citizens and the Health Service of the Italian Regions, and to do so in a timely manner under the 2017 Budget Law.

8. What now?

Our proposal got lost in the post-referendum political crisis, blocked by an urgent and exceptional parliamentary procedure that led to the approval of the Budget Law in a single Senate session, without amendments and with no time for discussion and clarification, by a parliament and a country all directed at constructing a future, that is as yet uncertain.

As we finish writing this 14th Report to send it to press, the new government is taking its first steps in directions that are not yet clear.

But for us, as for all those in various roles and with the most varied tasks to be dealt with seriously and responsibly, every day we are confronted with real life, every day the sun rises and every day asks for renewed commitment.

The network of AIOP affiliated hospital centers is present in all Italian regions providing tens of thousands of hospitalization and ambulatory services to patients who ask for them with confidence, and have demands that go beyond what the hospitals are allowed to offer.

In all probability more than a few citizens who today have to migrate to other regions to find effective and reliable care could find satisfactory responses in their home territory, if the accredited private providers were put in a position to meet this demand.

But the restoration of the freedom of choice of place of care for all illnesses and for all regions also means triggering a virtuous mechanism that, combined with a real, general application of payment for service in the financing of all public and private providers, may encourage investment, virtuous competition, and the development of excellent centers and networks, contributing decisively to keep the whole NHS in line with the best European health and welfare systems.

Experience around the world shows that this does not happen without a sufficient contribution of capital and human resources by healthcare entrepreneurs, and this is why AIOP's commitment to defending the NHS and the presence of its members is a virtue for the whole country.

Introduction

Making an annual budget of developments in the hospital system requires taking into account the specific factors that have affected the last twelve months and ascertaining whether they are carried in a uniform manner that characterizes the entire system and which develops not only in the present but also in the medium term.

First of all we are faced with a *process of deflation from underfunding*, which, for example, can be seen in the last three years, given that public health spending in Italy is firmly locked at 6.8% of GDP, while that of G7 countries is significantly higher and growing (8.2%). There is also the aggravating circumstance that the Italian GDP has recorded "-" signs year by year, due to the crisis and the consequent policies (except for a + 0.4% in 2015). And this was also true for overall public hospital spending, fixed at 3.9% of GDP in Italy[1].

But there is also *a process of additional deflation from inefficiency*, since the public hospital system cannot "free" resources as it could, if it were able to significantly revise its current organizational and management methods: thereby allowing it to invest the reclaimed resources to improve facilities, equipment and services to users. In this regard, this year the value of the possible "additional revenues" has been estimated (whereas last year the "additional costs" were estimated), with reference to the evaluation of activities "by function", accorded to Hospital Centers (bearing in mind the 2015 Income Statements) and then also estimated for directly managed hospitals. These additional revenues are cautiously estimated to be between 2.6 and 3.2 billion euros[2], making it necessary to proceed with efficiency and greater transparency. But these figures are subject to further increases due to the ap-

[1] See Part I, Section 2.3/Tables 18 and 19, pp. 103 and 104.
[2] See Part I, Section 2.1/Table 14, p. 80.

plication of the lump-sum recognition of the "by function" activities, which could account for up to 30% of total hospital revenues from services[3].

The difficulty of the public hospital system to undertake effective restructuring and reorganization according to a more efficient logic feeds a *further deflation process following the transfer of economic and regulatory burdens to entities offering accredited private hospital services as a whole.*

It is worth mentioning in this regard that the hospital costs for such entities decreased – between 2010 and 2014 – by 4.8% compared to an increase, albeit slight (+ 0.8%), of the costs for public hospital facilities[4].

But it should also be pointed out that the latter account for 86.2% of total public hospital spending, compared to 13.8% for all accredited private hospitals, which, however, provide 28.2% of total hospitalization days[5].

And the objection – sometimes put forward – that accredited private facilities somehow take away resources and for the most part provide low-complexity services, makes it necessary to clarify how in reality:

- these structures contribute in no small part to safeguarding the different territories of the country, given that they provide 23.3% of total admissions for acute cases in Italy (in 2014), and account for much higher shares in individual regions such as Lombardy (30.4%), Puglia (32.4%), Campania (34.1%) and Lazio (45.9%)[6]. Not to mention that it is the public hospital system itself (not just users) that takes the initiative, resorting to accredited private facilities to make up for a shortage of patient beds or in order to free up bed spaces (in highly specialized cases) when dealing with a demand which it has no means to satisfy in acceptable terms and/or in an appropriate manner;
- moreover, private accredited facilities offer services that are on average of higher complexity than those which of public hospitals: 17.5% of hospitalizations at accredited facilities are of this type, compared to 13.9% for public hospitals, to which it must be added that this situation occurs in almost all Italian regions[7].

But it is clear that systematically transferring additional economic burdens to the accredited component would ultimately trigger an erosion of the services it provides to users.

[3] According to the Ministerial Decree implementing Art. 1, Paragraph 526 of the 2016 Stability Law, on the basis of Art. 8-*sexies* of Legislative Decree 502/1992, as amended (see Part I, paragraph 2.1.).

[4] See Part I, Section 2.3/Table 20, p. 105.

[5] See Part I, Section 1.1/Figure 1 and Figure 2, pp. 35 and 36.

[6] See Part I, Section 2.5/Table 24, p. 113.

[7] See Part I, Section 2.5/Table 25, p. 114.

And finally, there *a process of deflation from the de facto rationing of the services offered within the public hospital system*. This system has in fact suffered the impact of the spending review measures that have been applied in these years of crisis (within the context of austerity policies) and has not been able to incorporate significant amounts of efficiency, also due to the well-known rigidity inherent in the public system (starting from legislation relating to personnel). And the result has thus taken the form of a rationing of services aimed at patients in different ways, namely:

- on the one hand, that of supply reduction, seen for example, in the period 2009-2014, in the decrease of the number of patient beds (-9.2%), the decline in the number of hospitalizations (-18.3%), and the decrease in patient in-hospital days (-14.0%); these trends almost certainly include a drive towards greater appropriateness of service and facility reconciliation with international standards, but this was accompanied by a decrease, delay or deterioration of the services provided, also accentuated by the progressive reduction of staff, which decreased by 45 thousand units (-9.0%) between 2010 and 2014 (especially as a result of the failure to replace retired personnel)[8];
- and, on the other hand, to an increase in costs for users (co-payment charges, use of paid *intramoenia* services, use of private services, increase in additional regional income taxes and the lengthening of waiting lists)[9]: with the result of driving patients and their families to seek alternative solutions at accredited hospitals or completely private institutions, going to hospital facilities in regions other than the one they reside in, or even postponing or doing without care[10], the latter – among other things – fuel concerns (to be evaluated) about the possible deterioration in the medium term of the population's health status[11].

In addition to the foregoing information, it appears that debt rescheduling plan have applied the economic and financial logic, which has as its primary objective the reduction of costs. But this has had an even more pronounced impact on the quantity and quality of services. The separation of "financial" and "real" healthcare might have improved the math, but at the expense of the services provided to patients.

At this point we must take note that we are walking a tightrope, as it can not reasonably be expected to permanently manage a model based on a deflationary process that is reinforced by the ongoing accumulation of user dissatisfaction, with the risk of a possible disintegration of the universal and

[8] See Part IV, p. 199 and following pages (*Ospedali & Salute*/2016).
[9] See Part I, Section 1.2/Tables from 5 to 9, pp. 49, 50, 51, 53, 54.
[10] See Part I, Section 1.3/Table 10, pp. 56-57.
[11] See Part I, Section 1.4/Table 12, pp. 70-71.

inclusive principle which – at least formally – continues to be reaffirmed as the basis of the National Health System.

It is thus necessary to repair the latter and render it capable of reinterpreting the aforementioned principle in view of:

- an inevitable growth of demand for services due *primarily* to the progressive aging of the population, but also of other factors associated with greater information flows that create ever larger and widespread expectations (and which are not necessarily always well-founded) among users;
- the availability of hopefully greater economic resources (perhaps more comparable to those of other countries similar to ours), although it is more likely that we are in a situation of non-automatic increase and that it remains consistent with the increase in demand;
- a gap between top facilities, which feature high quality services, and intermediate facilities that do not always manage to ensure acceptable quality and availability of services offered (and a "holding" system that sees the excellent level of some hospitals rest on an acceptable middle ground);
- and finally, the existence of significant internal differences between similar hospital facilities (whether of high or medium quality) as regards their efficiency and capacity on the managerial front and ability to achieve adequate clinical results.

Consequently, we must develop the ability to do more and better with less, thus managing to free up resources, presently "blocked" by the difficulties of undertaking a substantial restructuring and reorganization of public facilities.

In this context, greater transparency of the financial statements of public facilities would help to measure, year by year, the management review commitments actually put in place and allow for more adequate comparisons between the services of public hospital facilities and accredited private ones. Although to date there has been an accumulation of regulatory control, as well as certifiability and certification policies, which are not automatically followed by necessarily consistent behavior[12].

In conclusion, we must rethink the very Healthcare Pact as it relates to the protection and promotion of health, in order to take account of changed conditions, with a more pronounced trend in demand oriented towards continued growth and with a system that is too stiff in the way it operates, as well as the reduced availability of public financial resources.

To do this it will be necessary to take an evolutionary path that, beyond creating efficiency, leads to forms of Neo-Welfare, which brings together the

[12] See Part I, Section 2.2.

responsibilities and resources of the public alongside with the responsibilities and resources of citizens (individuals and groups), businesses (again, individuals and groups), the world of interest groups and non-profit organizations: the aim is to redesign a system to protect and promote health that will continue to respect the universal and inclusive principle, but is also compatible with the conditions in which we live today and that we will live in tomorrow.

As regards the Healthcare Pact, it should be pointed out that 77% of *caregivers*, surveyed for the "Health&Hospitals/2015" report, declared that "it is important to maintain the Health System we have as best as possible, knowing that it will not be able to give everything to everyone, because needs are growing, due to the aging of the population and the patients' expectations, while public resources are certainly not increasing accordingly". Similarly, 71% acknowledged that "it is important to proactively promote a new social welfare system that includes public, individual private insurance, business, professional or local insurance coverage plans, in order to create a better balance between the growing needs of the people and offer the ability to provide fair and ethical solutions to the whole".

We must therefore get out of the deflationary trap that today is punishing the most vulnerable users a1nd undermining the system through its de facto progressive deterioration (as well as in the perception of the people), especially when you consider the services provided by average facilities.

The attempt to bring together the needs of citizens with the (renovated) solutions of the NHS is – and it is worth repeating – a fundamental part of the necessary reconstruction process of the role of institutions, whose adequacy is essential to re-establish consensus and trust between citizens and the ruling classes, which today more than ever seem to be in particularly bad shape.

Nadio Delai
President of Ermeneia – Studi & Strategie di Sistema

Part One

Creating a decrease in demand as opposed to streamlining the supply

1. The risk of "deflating" services along with the attitudes and behaviors of users

1.1. A system which persists despite the difficulties

The critical analysis of what does not work and any proposals for improving what exists relate – and it is good thing to start by saying – to a system that still ranks well in international comparisons, given the restrictions placed on public spending by the major countries and the consequent rethinking of the health coverage provided to citizens.

The specific features of the mixed public/private system that exists in Italy need to be understood in their complexity before looking at the facilities operating within that system.

First of all, its public facilities include hospital centers, hospitals directly managed by local health authorities, and hospital centers integrated with universities; the whole of which accounts for the greater part of current state hospital expenditures (about 76%). In addition to these are other facilities, namely public university polyclinics that are not affiliated with hospitals, public Institutes for Treatment and Research (IRCCS) and Public Foundations, USL Facilities and research agencies, which together account for another 10% of current public hospital expenditures.

The above facilities are augmented by accredited healthcare facilities, private university polyclinics, private IRCCS and religiously-affiliated classified hospitals. These make up the remaining 14% of the current National Health System hospital expenditures.

In 2014 (latest available data), there were a total of 198,904 patient beds, 70.3% (139,739 units) of which were located in public hospital centers and 29.7% (59,165 units) of which were located in accredited private hospitals (fig. 1). Comparing the two groups of patient beds provides an understanding of how the system effectively embodies all the features of a mixed organization that is predominantly public but also has a quite large private component, as was recognized by Legislative Decree 502/1992.

Public and accredited private hospital facilities total 1,069 (2013), with the latter being greater in number (55.4%) than the former (44.6%). Public hospitals are slightly more concentrated in the Center-North (54.1%), while accredited private hospitals are found more in the Center-South (59.3%), as shown in the second part of Figure 1.

But a comparison between the number of hospitals and the number of patient beds reveals more detailed information:

Geographical distributions	*Public hospitals*			*Accredited private hospitals*		
	No. of hospitals	*No. of patient beds*	*Patient beds* / *No. of hospitals*	*No. of hospitals*	*No. of patient beds*	*Patient beds* / *No. of hospitals*
North	152	72,093	474	241	27,588	114
Center	106	25,912	244	132	13,390	101
South	219	41,734	191	219	18,187	83
Total	477	139,739	293	592	59,165	100

Figure 2 depicts aspects relating to in-hospital stay flows and spending flows for the year 2014.

In-hospital days were 61.8 million for the year 2014 compared to 62.9 in 2013 (-1.8%), 65.2 in 2012 and 67.9 in 2011, which represents a decrease of 9.0% in 2011 and in 2014.

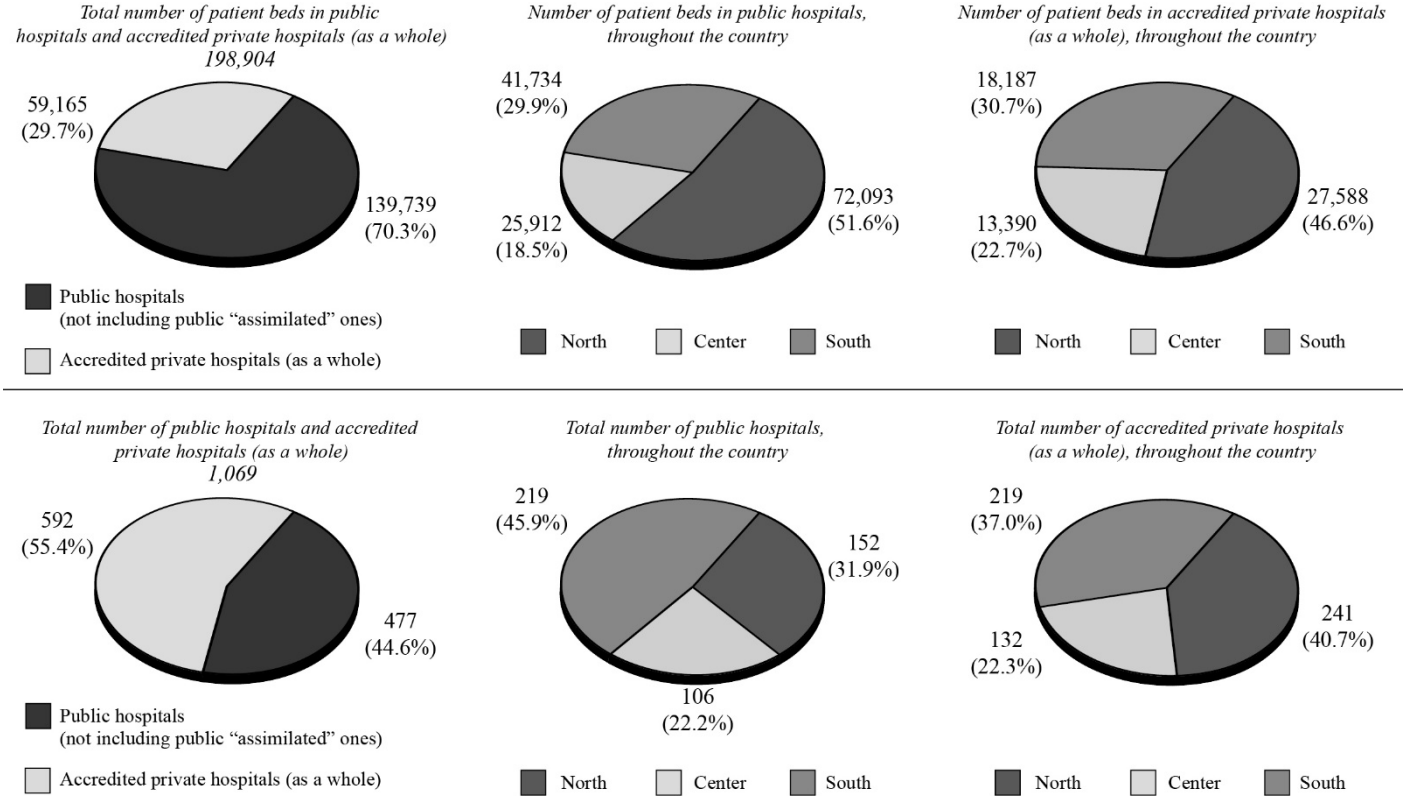
Again, in 2014 71.8% of these days were in public hospitals and the remaining 28.2% were in accredited private hospitals as a whole.

The geographical distribution of in-hospital days, based on the type of facility, is the following:

Geographical distributions	*No. of in-hospital days in public hospitals*		*No. of in-hospital days in accredited private hospitals*	
	In millions	*%*	*In millions*	*%*
North	23.2	52.4	8.1	46.6
Center	8.0	18.0	4.0	22.9
South	13.2	29.6	5.3	30.5
Total	44.4	100.0	17.4	100.0

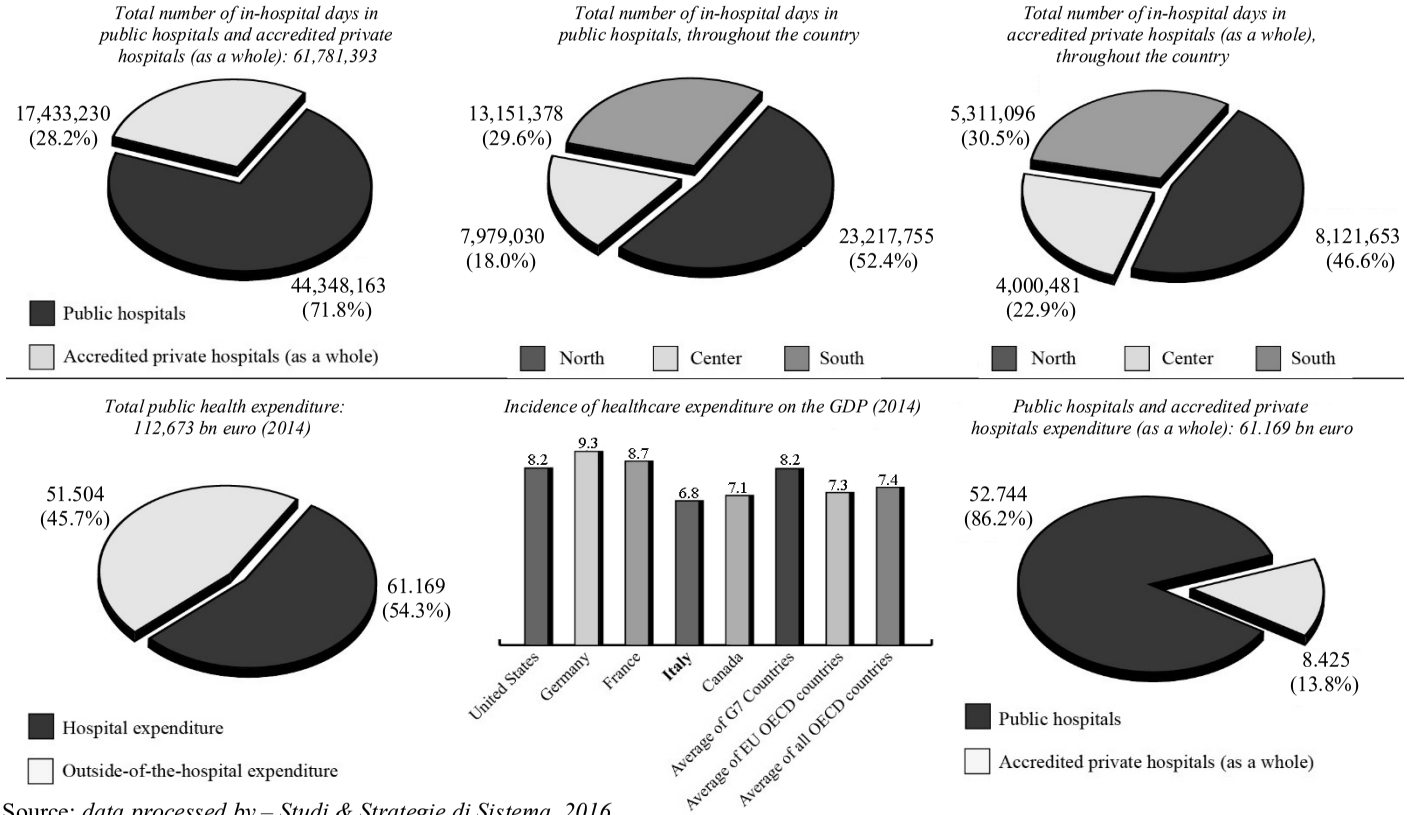
It should also be pointed out that the number of in-hospital days continued to decrease in 2014 compared to 2013, with a decrease in public hospitals (-2.7%) and a slight increase in accredited hospitals (+0.5%). Previously, the decrease of in-hospital days in public hospitals was -4.1%, and 3.5% in accredited hospitals, with reference to 2012, as opposed to 2011, for which the amount was -3.8% in the public hospitals, and a parallel -2.9% was reported in the accredited hospitals in 2013.

Fig. 1 – Executive summary of the aggregates of the Italian hospital system: patient beds and institutions (2013)



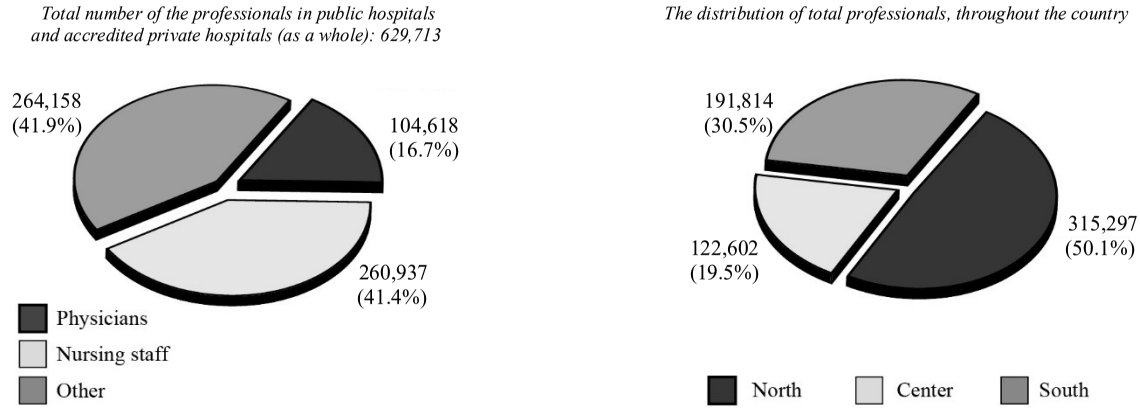
Source: *data processed by Ermeneia – Studi & Strategie di Sistema, 2016*

Fig. 2 – Executive summary of the aggregates of the Italian hospital system: in-hospital days and expenses (2014)



Source: *data processed by – Studi & Strategie di Sistema, 2016*

Fig. 3 – Summary of the aggregates of the Italian hospital system: total employees (2012)



Source: *data processed by Ermeneia – Studi & Strategie di Sistema, 2016*

If we look instead to the flow of resources (see the second part of Figure 2), it is possible to advance the following considerations:

a) the division of total public health expenditure (112.673 billion euros in 2014) proves – as usual – to be more focused on the hospital component (54.3%) than outside the hospital (45.7%): the incidence of hospital expenditure on the total (based on estimates) more or less revolves around similar percentages, as it was 54.5% in 2011, 54.3% in 2012, down to 54.2% in 2013, and up again to 54.3% in 2014;
b) the percent of public health expenditure to the national GDP places Italy in the lowest position (6.8%) compared to the average of the G7 countries (8.2%), the average of European OECD countries (7.3%) and the total of OECD countries (7.4%). But we should also mention that our country remains 2.5 points below the incidence of public health spending to GDP in Germany and 1.9 points that of France. It should also be pointed out that compared to the previous year Italy remains firm at 6.8% (which also appears to be falling steadily, given that it was 7.2% in 2010, 7.0% in 2011 and 6.9% in 2012. And this happened and happens in the presence of first a drop and then a very slight increase of the national GDP over the last few years: this shows how Italy invests much less public resources than the other partners in the OECD area (both by percentage and according to the level of GDP), yet retaining a universal and inclusive system albeit one in progressive deterioration as is pointed out in the following pages of this Report;
c) the total public hospital expenditure (61.169 billion euros 2014) breaks down to 86.2% for public institutions and 13.8% for the accredited private sector as a whole: these shares in 2011 were 85.6%, 14.4% and 86.4% compared to 13.6% in 2013, and thus with a gradual decline in the accredited component compared to the public component. But if one looks specifically at private hospitals (accredited healthcare facilities), the percentage drops from 7.3% in 2010-2011 to 7.2% in 2012 and 7.0% in 2013 and 2014.

This last observation serves to remind us that, when comparing the incidence of spending devoted to accredited private institutions as a whole (13.8% in 2014) with the incidence of hospital stays provided by the same private institutions (28.2% of the total) one cannot help but see how the accredited component of the current mixed system plays an important role, offering virtually twice the services compared to the expense, while effectively operating with lower costs (which are also decreasing over time). Not to mention that a comparison between the level of complexity of the services

provided by the public and, in particular, from accredited healthcare facilities, shows an average increase by the entire hospital system, but with a positioning which often proves better for the accredited healthcare facilities compared to public facilities.

Finally, Figure 3 provides an overall idea of all the human resources that conduct their activities within the mixed hospital system. In 2012 there were 629,713 units (latest data available), showing a 2.1% reduction compared to the year 2011, when there was already a 0.5% reduction compared to 2010. Of this, 16.7% is made up of physicians (104,618 units), 41.4% is made up of nursing staff (260,937 units) and finally, 41.9% comprises the remaining personnel (264,158 units).

The distribution of personnel throughout the country shows the weight of hospital activities in the Central-North, corresponding to 69.6% of professional resources employed (50.1% in the North +19.5% in Central Italy), to which the South is added with 30.5% of the total.

The overview of the Italian hospital system as it has been described in the preceding pages is further confirmed by the citizens' perception regarding it, whose behaviors and opinions show they prefer the mixed public/private hospital system. Moreover, it is rooted in the long-standing Legislative Decree 502/1992, but is primarily a truly mixed system as people report in a very conscious way.

And, in fact, the citizens' opinions, collected in surveys conducted each year specifically for this Report, show that for about 8 out of 10 respondents (See Table 1):

- "accredited private hospitals are part of the overall hospital system and they do not consider whether a facility is a public or accredited private one when an in-hospital stay is necessary, but rather evaluate other factors such as the presence of a specialization, the quality of services, proximity to home, etc." (80.5% agreement in 2016);
- they believe that "the government should make the best use of all the hospitals in the area whether they are public or accredited private facilities, in order to allow citizens the best possible choice according to their needs, opportunities and opinions" (90.6% agreement in 2016);
- and, finally, that "Regional and local healthcare authorities (ASL) should engage in appropriate public information campaigns to encourage free choice, given that little is currently known about the various opportunities offered by the accredited private hospitals" (79.3% consensus in 2016).

It should also be noted that the 2016 survey shows, close to the constant maintenance of a high level of agreement with respect to the statements con-

tained in Table 1, an attitude that hints directly at a greater need for information: there is a slight decline of the percentage of agreement with the first observation (80.5% in 2016 compared to 82.4% in 2015, 83.1% in 2014, and 82.4% in 2013, and even higher percentages previously), whereas that relating to the second statement increased (90.6% in 2016 compared to 88.2% in 2015, 88.7% in 2014, and 88.1% in 2013) as it does substantially with regard to the third statement (79.3% in 2016, 79.7% in 2015, 78.4% in 2014, and 77.1% in 2013).

Beyond possible breakdowns, which it is fair to account for and for which we must work to improve the situation, public and accredited private facilities, however, succeed in providing a good level of services on average, despite the differences between the most qualified and efficient hospitals and less qualified and less efficient hospitals (and this is not only from comparing the North and the South of Italy, but different hospitals within the individual Regions).

To be more specific, it is a good idea to take into account the levels of complexity of the hospital services provided by the different types of facilities, based on two key indicators: that of the *average weight* and that of the *case-mix*.

If we consider the first of the two indicators, namely that of the *average weight*[1], we can compare the services of public institutions to those of private hospitals (accredited healthcare facilities), which shows that (Table 2):

a) the national average indicator of public institutions and accredited private hospitals steadily increased over the period from 2011 to 2014: for public institutions it went from 1.12 in 2011 to 1.20 in 2014 and for the latter group from 1.17 to 1.28 in the same period (with a slight decline in 2014). But we must also add that, since 2015 data is available for AIOP accredited private hospitals, there was a net recovery of the *average weight* indicator, that went from 1.28 in 2014 to 1.32 in 2015;

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

Table 1 – The stable reference to a mixed public/private hospital system by citizens (.%)

Phenomena	*Data*									
– "The accredited private hospital is now a part of the overall hospital system and that they do not consider whether the facility is public or private when a hospital stay is needed, but rather take into account other factors such as the necessary specialization, the quality of the services provided, the proximity to their home, and so on. ("Very + somewhat agree" opinions expressed by citizens not including "do not know" answers)"[1]	..2005..	..2008..	..2009..	..2010..	..2011..	..2012..	..2013..	..2014..	..2015..	..2016..
	86.3	89.7	88.3	89.1	88.6	85.9	82.4	83.1	82.4	80.5
– "The government should make the best use of all the hospitals in the area (public and private), in order to allow citizens the best possible choice according to their needs, opportunities and opinions ("Very + somewhat agree" opinion expressed by citizens not including "do not know" answers)"[1]	..2005..	..2008..	..2009..	..2010..	..2011..	..2012..	..2013..	..2014..	..2015..	..2016..
	89.6	82.8	84.0	90.1	90.1	90.7	88.1	88.7	88.2	90.6
– "Regions or local health authorities should invest in appropriate information campaigns to make citizens aware of their freedom to choose, since little is known about the various opportunities that accredited private hospitals offer" ("Very + somewhat agree" opinions expressed by citizens not including "do not know" answers")"[1]	..2005..	..2008..	..2009..	..2010..	..2011..	..2012..	..2013..	..2014..	..2015..	..2016..
	78.6	80.8	84.3	80.8	80.3	80.4	77.1	78.4	79.7	79.3

(1) See Table 14/Part Two, pp. 152-153 (*Ospedali & Salute*/2016).
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table 2 – The quality of services measured by average weight. 2011-2015

Regions	*Public institutions*				*AIOP Private hospitals (accredited healthcare facilities)*				
	2011	*2012*	*2013*	*2014*	*2011*	*2012*	*2013*	*2014*	*2015*
– Piedmont	1.15	1.28	1.29	1.29	1.54	1.59	1.58	1.61	1.65
– Lombardy	1.11	1.22	1.18	1.19	1.40	1.45	1.47	1.49	1.55
– A.P. of Bolzano	1.00	1.08	1.09	1.09	0.94	0.88	0.86	0.80	0.78
– A.P. of Trento	1.07	1.17	1.19	1.18	0.78	0.78	0.99	0.97	0.97
– Veneto[(a)]	1.13	1.21	1.21	1.23	1.25	1.26	1.35	1.37	1.42
– Friuli Venezia Giulia	1.14	1.23	1.23	1.25	1.05	1.10	1.21	1.26	1.30
– Liguria	1.13	1.22	1.25	1.26	2.45	2.61	2.60	2.64	2.80
– Emilia Romagna	1.10	1.21	1.21	1.22	1.30	1.32	1.34	1.33	1.34
– Tuscany	1.16	1.29	1.30	1.31	1.49	1.49	1.56	1.59	1.69
– Umbria	1.05	1.18	1.19	1.20	1.16	1.16	1.18	1.30	1.43
– Marche	1.10	1.22	1.24	1.24	1.13	1.15	1.26	1.26	1.30
– Lazio	1.09	1.19	1.21	1.22	1.10	1.08	1.10	1.11	1.19
– Abruzzo	1.05	1.12	1.14	1.15	1.32	1.27	1.29	1.28	1.29
– Molise	1.08	1.16	1.03	1.04	1.08	1.08	1.13	1.32	1.19
– Campania	1.03	1.14	1.17	1.17	0.98	1.03	1.04	1.02	1.05
– Apulia	0.99	1.08	1.06	1.08	1.41	1.44	1.54	1.44	1.50
– Basilicata	1.09	1.20	1.22	1.20	-	-	-	-	-
– Calabria	0.95	1.04	1.05	1.07	0.99	1.04	1.31	1.26	1.42
– Sicily	1.04	1.13	1.15	1.15	0.88	1.18	1.20	1.16	1.12
– Sardinia	0.98	1.08	1.09	1.11	0.91	0.84	0.85	0.86	0.88
Italy	*1.12*	*1.18*	*1.19*	*1.20*	*1.17*	*1.25*	*1.29*	*1.28*	*1.32*

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

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

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

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

b) it should also be noted that the indicator appears to get better, year by year, when it refers to AIOP accredited healthcare facilities compared to public hospitals. This confirms that the highest level of complexity does not necessarily belong to public hospitals, as there are accredited private facilities that are equally or even more valuable than public facilities in the territory;
c) then, if we look at the 2014 indicators Region by Region, we can see that the entities that manage to find a place in the public sector above the national *average weight* indicator (1.20) are, in descending order:
   - Tuscany (1.31);
   - Piedmont (1.29);
   - Liguria (1.26);
   - Friuli Venezia Giulia (1.25);
   - Marche (1.24);
   - Veneto (1.23);
   - Emilia Romagna (1.22).

   We can also see that the *average weight* indicators of all the southern regions do not exceed 1.20. Likewise, the *average weight* index exceeds the national average of 1.28 for accredited hospitals in the following regions, again in descending order:
   - Liguria (2.64);
   - Piedmont (1.61);
   - Tuscany (1.59),
   - Lombardy (1.49);
   - Apulia (1.44);
   - Veneto (1.37);
   - Emilia Romagna (1.33);
   - Umbria (1.30).

   As can be seen in as many as 5 regions (Piedmont, Liguria, Emilia Romagna, Tuscany, Veneto) the national *average weight* indicator is exceeded both in the world of accredited facilities and public ones, confirming the fact that a good territorial setting is capable of generating more overall quality in both types of facilities.

   Moreover, it is also necessary to point out that, in the accredited area, Apulia has one of the more significant *average weight* indicators (1.44), alone among the Southern Regions;
d) furthermore, in almost all regions the *average weight* indicator for the year 2014 is higher for accredited private hospitals than for public hospitals, except in the case of the two autonomous provinces of Trento and Bolzano (where the private sector is, however, marginal), as well as in Lazio, Campania and Sardinia;

e) and, finally, higher average weight indicators are typical of the Regions of Central and Northern Italy for both public institutions and private accredited ones (with the exception of Apulia, which is among those of greater quality, despite being located in the South).

At this point we can move on to consider the level of complexity of services measured by the second type of indicator, that of the so-called *case-mix*[2].

The values in Table 3 permit the following considerations to be made (Table 3):

a) this indicator is relatively stable for both types of facilities, as it was 1.00 for public institutions in 2011 and remained so until 2012, decreasing slightly in 2013, and it was 0.98 in 2014; accredited private hospitals on the other hand, have a bit more alternating situation, in the sense that the *case-mix* indicator was at 1.05 in 2011, up to 1.08 in 2012 and then down to 1.07 in 2013, and 1.05 in 2014;
b) the national *case-mix* indicator for accredited private hospitals appears permanently higher than that of the public institutions in all cases, as can be seen by comparing the data of the last line in Table 3;
c) the regional health authorities that exceed the national average (0.98 in 2014) with respect to public institutions are (in descending order):
   – Tuscany (1.08);

[2] 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.

Table 3 – Comparison of AIOP public institutions and private hospitals (accredited healthcare facilities), based on the "case-mix" of the services provided. 2011-2014

Regions	*Public institutions*				*AIOP Private hospitals (accredited healthcare facilities)*			
	2011	*2012*	*2013*	*2014*	*2011*	*2012*	*2013*	*2014*
– Piedmont	1.07	1.07	1.07	1.05	1.39	1.38	1.31	1.32
– Lombardy	1.03	1.02	0.98	0.98	1.26	1.26	1.24	1.24
– A.P. of Bolzano	0.93	0.91	0.90	0.89	0.85	0.77	0.71	0.65
– A.P. of Trento	0.99	0.98	0.99	0.97	0.70	0.68	0.82	0.80
– Veneto [(a)]	1.04	1.02	1.00	1.00	1.12	1.09	1.12	1.12
– Friuli Venezia Giulia	1.05	1.03	1.02	1.02	0.94	0.95	1.01	1.04
– Liguria [(b)]	1.05	1.03	1.03	1.03	2.20	2.24	2.15	2.16
– Emilia Romagna	1.02	1.01	1.00	1.00	1.17	1.16	1.11	1.09
– Tuscany	1.08	1.08	1.07	1.08	1.34	1.30	1.29	1.30
– Umbria	0.98	0.99	0.99	0.98	1.05	1.01	0.98	1.06
– Marche	1.02	1.02	1.02	1.02	1.01	1.00	1.04	1.03
– Lazio	1.00	1.00	1.00	1.00	0.98	0.94	0.91	0.91
– Abruzzo	0.96	0.95	0.94	0.95	1.18	1.10	1.07	1.05
– Molise	0.99	0.98	0.85	0.85	0.97	0.94	0.93	1.08
– Campania	0.95	0.96	0.97	0.96	0.88	0.89	0.86	0.84
– Apulia	0.91	0.91	0.88	0.89	1.27	1.26	1.27	1.18
– Basilicata	1.02	1.01	1.01	0.99	-	-	-	-
– Calabria	0.88	0.87	0.87	0.88	0.89	0.90	1.09	1.03
– Sicily	0.96	0.95	0.95	0.94	0.79	1.02	1.00	0.95
– Sardinia	0.91	0.91	0.90	0.91	0.82	0.73	0.70	0.70
Total	*1.00*	*1.00*	*0.98*	*0.98*	*1.05*	*1.08*	*1.07*	*1.05*

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

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

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

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

Table 4 – The quality of public and private hospital services, as measured by the incidence rates of extremely specialized[(a)] DRGs[(*)]

DRG	*Public institutions (Incidence per 1,000 discharged patients)*			*Private hospitals (accredited healthcare facilities) – AIOP (Incidence per 1,000 discharged patients)*		
	2012	*2013*	*2014*	*2012*	*2013*	*2014*
104 Cardiac valve & oth major cardiothoracic proc w card cath	1.370	1.019	1.061	5.190	5.645	5.273
105 Cardiac valve & oth major cardiothoracic proc w/o card cath	1.602	1.319	1.411	2.562	2.586	2.531
106 Coronary bypass w PTCA	0.031	0.023	0.026	0.117	0.317	0.181
108 Other cardiothoracic procedures	0.591	0.461	0.426	0.868	0.894	0.813
110 Major cardiovascular procedures w cc	1.557	1.407	1.346	1.329	1.233	1.113
111 Major cardiovascular procedures w/o cc	1.460	1.248	1.332	1.866	2.007	2.026
515 Cardiac defibrillator implant w/o cardiac cath	1.509	1.393	1.366	1.657	1.784	1.655
535 Cardiac defib implant w cardiac cath w ami/hf/shock	0.266	0.236	0.266	0.648	0.716	0.550
536 Cardiac defib implant w cardiac cath w/o ami/hf/shock	0.347	0.293	0.323	0.523	0.596	0.556
547 Coronary bypass w cardiac cath w major cv dx	0.119	0.132	0.135	0.251	0.236	0.231
548 Coronary bypass w cardiac cath w/o major cv dx	0.490	0.402	0.366	2.018	1.810	1.364
549 Coronary bypass w/o cardiac cath w major cv dx	0.167	0.156	0.146	0.474	0.430	0.429
550 Coronary bypass w/o cardiac cath w/o major cv dx	0.977	0.745	0.716	2.073	2.001	1.976
551 Permanent cardiac pacemaker impl w maj cv dx or aicd lead or gnrtr	1.510	1.401	1.420	1.434	1.828	1.654
552 Other permanent cardiac pacemaker implant w/o major cv dx	4.469	4.188	4.137	4.630	5.264	4.960
553 Other vascular procedures w cc w major cv dx	0.308	0.263	0.251	0.145	0.157	0.140
Mean Incidence	*25.016*	*22.245*	*22.697*	*29.218*	*30.946*	*28.096*

(*) Inpatient admissions for acute cases.

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

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

- Piedmont (1.05);
- Liguria (1.03);
- Friuli Venezia Giulia and Marche (1.02 for both);
- Emilia Romagna, Lazio and Veneto (all of them with 1.00);
- Basilicata (0.99).

The same process, applied to accredited private hospitals (again for the year 2014) sees an average national *case-mix* of 1.05, while the regions that exceed this value are, in descending order:

- Liguria (2.16);
- Piedmont (1.32);
- Tuscany (1.30);
- Lombardy (1.24);
- Apulia (1.18);
- Veneto (1.12);
- Emilia Romagna (1.09);
- Molise (1.08);
- Umbria (1.06);

d) a *case-mix* higher than the national average is only found in the regions of the Center-North and the same applies to public hospitals, except, just barely, in Basilicata (*case-mix* index of 0.99 compared to the national average of 0.98);
e) and finally the comparison between the *case-mix* index of public institutions and that of accredited private institutions for the best regions of previous c), almost always shows a better position for AIOP facilities compared to public ones.

In any case, in addition to the *average weight* and the *case mix*, other indicators can be used to measure the level of services provided by the different types of hospitals. Table 4 indicates – as usual – 16 highly specialized DRGs and their incidence per 1,000 discharged patients in the two types of hospital facilities considered.

The comparison shows:

a) an average incidence in more pronounced decline for public institutions than for accredited private institutions when looking at the 2012-2014 values, but with a steadily higher level of services for the latter than the former in each of the three years considered (see the last line of Table 4);
b) a stable superiority, even making a comparison of individual DRGs in 2014 among public and private facilities, of the latter, except for DRG 110 (Major cardiovascular procedures w cc) e and the DRG 553 (Other vascular procedures w cc w major cv dx).

In conclusion we can say that the complexity of the services provided by public and accredited private hospitals helps to highlight the good average

capacity of the mixed public/private system presently operating in Italy, but with greater strength, on the complexity level, in the second component compared to the first. Yet there remain significant differences between the facilities of the Center-North and the facilities in the South.

A further, interesting comparison between public hospitals and accredited private hospitals (as a whole) is set out in section 2.5 of Part I, which compares the incidence of high-complexity services out of total services within public hospitals and accredited private hospitals as a whole, showing greater quality in the latter.

1.2. Higher charges and access restrictions as a demand reduction mechanism

The "long march" through the financial crisis by Italian families saw these experience a gradual build-up of access to services charges (such as co-payment charges), the use of paid alternative services (especially for specific tests and specialist visits), as well as increased taxes in the form of the greater additional income tax in the last few years, especially in the Regions with debt rescheduling.

All of this affected not only poor families, but also those of the middle class, which were forced to take a long hard look – along with their consumption habits and lifestyles – at their choices and behavior regarding healthcare and access to treatment, even reaching the point where they had to postpone or forego the latter.

Thus the current situation reflects a sort of combination of the inconvenience experienced by users built up over the years (Table 5):

- including the effects of more controlled or even reduced public spending on healthcare compared to the past (under pressure of the spending review), also to redress the previous deficits, accompanied by a decline in the 2009-2013 period of patient beds (-9.2%), the number of hospitalizations (-18.3%), and the number of in-hospital days (-14.0%), as well as the hiring freeze; all with the parallel difficulty of public hospital facilities to undertake significant work relating to overall efficiency;
- and the dumping of this situation onto patients, creating an actual decrease in demand due to the increase of the direct and indirect costs for patients, especially lengthy waits to obtain services, and even the postponement and/or foregoing of treatment, each experienced by 16.2% and 10.9% of Italian families, respectively (for one or more services and simultaneously for one or more persons, including care-givers and other members of the immediate and/or the extended family).

Table 5 – Trends of patient beds, hospitalizations and in-hospital stays in 2009-2014, plus postponement and/or foregoing of treatment in the 2016 (%)

Phenomena	*Data*
Reduction of patient beds, hospitalizations and in-hospital stays[1]:	2009-2014
▪ Number of patient beds[2]	-9.2
▪ Number of hospitalizations	-18.3
▪ Number of in-hospital stays	-14.0
Postponements and/or foregoings of treatment of Italian families compared to hospital services in 2016 (with reference to care-givers interviewed and/or other members of the immediate and/or the extended family)[2]:	2016
▪ Postponements of treatment	16.2
▪ Foregoings of treatment	10.9

(1) See Tables S/14 and S/20/Part Two, pp. 140 and 145.
(2) The value refers to 2013, as data for 2014 are not available.
(3) See Table 17/Part Three, p. 191 (*Ospedali & Salute*/2016).
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Some specific "objective" indicators in terms of increased costs speak for themselves, when considering:

a) the trend of revenues from co-payments for visits, specialist or other services received by local health authorities between 2009 and 2015 (latest data available): in the last year it was EUR 1,653.3 million compared to 1,176.2 million in 2009 (Table 6), with an increase of 40.6% in the seven years mentioned and an acceleration from 2012 to 2015 when the squeeze on public spending was particularly intense. The following regions show a more pronounced increase in the period 2009-2015:
   – Campania (+58.4%);
   – Veneto (+58.2%);
   – Abruzzo (+54.2%);
   – Umbria (+53.5%);
   – Aosta Valley (+52.3%);
   – Tuscany (+51.8%);
   – Basilicata (+50.5%);
b) a similar trend, again for co-payment charges relating to drugs, including the spread between generic and branded drugs (Tables 7), given that revenues increased from Eur 861 million in 2009 to Eur 1,521 million in 2015, an increase of 76.7% (and thus a much more marked increase than that for the co-payments referred to in Table 6 above). Additionally, there is the parallel decrease in public spending for drugs, which went from Eur 11.4 billion in 2009 to Eur 8.5 billion in 2015, a more than 25% drop;
c) the trend in the use of *intramoenia* services at public hospitals as a way of shortening waiting lists to see a particularly trusted specialist or a sur-

Table 6 – Trend of revenues from co-payment charges for visits, specialist and other services, collected by Health Authorities in different years (millions of euro and I.N.: 2009 = 100.0)

Regions	2009		2010		2011		2012		2013		2014		2015	
	Mil. of euros	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*
– Piedmont	112.1	100.0	113.0	100.8	125.2	111.7	150.7	134.4	156.1	139.3	158.9	141.7	161.4	144.0
– Aosta Valley	4.4	100.0	5.5	125.0	5.7	129.5	5.8	131.8	6.0	136.4	6.2	140.9	6.7	152.3
– Lombardy	183.5	100.0	182.7	99.6	207.7	113.2	238.4	129.9	249.5	136.0	254.8	138.9	265.5	144.7
– Trentino A.A.														
A.P. Bolzano	*16.4*	*100.0*	*16.4*	*100.0*	*17.1*	*104.3*	*17.6*	*107.3*	*18.4*	112.2	18.8	114.6	19.1	116.5
A.P. Trento	*14.2*	*100.0*	*14.2*	*100.0*	*15.3*	*107.7*	*15.2*	*107.0*	*16.3*	114.8	16.7	117.6	16.9	119.0
– Veneto	130.3	100.0	132.9	102.0	141.9	108.9	194.6	149.3	199.5	153.1	203.2	155.9	206.1	158.2
– Friuli V.G.	36.0	100.0	36.2	100.6	39.5	109.7	47.7	132.5	49.7	138.1	51.3	142.5	52.4	145.6
– Liguria	36.1	100.0	37.2	103.0	40.7	112.7	46.1	127.7	47.7	132.1	48.6	134.6	49.2	136.3
– Emilia Romagna	131.0	100.0	136.6	104.3	144.4	110.2	152.3	116.3	156.8	119.7	160.7	122.7	164.4	125.5
– Tuscany	108.2	100.0	112.2	103.7	122.6	113.3	152.9	141.3	157.9	145.9	162.2	149.9	164.2	151.8
– Umbria	21.7	100.0	22.8	105.1	23.9	110.1	27.8	128.1	31.9	147.0	32.8	151.2	33.3	153.5
– Marche	41.0	100.0	40.4	98.5	45.5	111.0	49.0	119.5	50.6	123.4	51.3	125.1	52.7	128.5
– Lazio	116.3	100.0	124.0	106.6	137.6	118.3	144.8	124.5	149.1	128.2	152.0	130.7	154.5	132.8
– Abruzzo	28.4	100.0	31.3	110.2	37.8	133.1	40.9	144.0	41.7	146.8	42.6	150.0	43.8	154.2
– Molise	5.9	100.0	6.2	105.1	6.5	110.2	5.9	100.0	6.1	103.4	6.2	105.1	6.6	111.9
– Campania	40.6	100.0	42.7	105.2	58.0	142.9	58.9	145.1	62.8	154.7	63.7	156.9	64.3	158.4
– Apulia	52.0	100.0	51.8	99.6	57.2	110.0	62.4	120.0	65.3	125.6	66.6	128.1	67.4	129.6
– Basilicata	10.1	100.0	10.2	101.0	12.2	120.8	13.6	134.7	14.5	143.6	14.9	147.5	15.2	150.5
– Calabria	19.3	100.0	21.4	110.9	26.7	138.3	28.1	145.6	25.0	129.5	26.8	138.9	24.1	124.9
– Sicily	41.4	100.0	41.7	100.7	42.2	101.9	51.6	124.6	52.5	126.8	53.7	129.7	54.3	131.2
– Sardinia	27.3	100.0	27.2	99.6	28.5	104.4	28.9	105.9	29.5	108.1	30.1	110.3	31.2	114.3
North	668.8	100.0	674.7	100.9	737.5	110.3	868.4	129.8	900.0	134.6	919.2	137.4	941.7	140.8
Center	300.5	100.0	299.4	99.6	329.6	109.7	374.5	124.6	389.5	129.6	398.3	132.5	404.7	134.7
South and Islands	230.9	100.0	232.5	100.7	269.1	116.5	290.3	125.7	297.4	128.8	304.6	131.9	306.9	132.9
Italy	*1,176.2*	*100.0*	*1,206.6*	*102.6*	*1,336.2*	*113.6*	*1,533.2*	*130.4*	*1,586.9*	*134.9*	*1,622.10*	*137.9*	*1,653.3*	140.6

Source: *Survey by Ermeneia – data from the Ministry of Economy, "General Report on the Economic Situation of the Country" – Various years and National Health System Income Statement (IS) data for 2013 and 2014*

Table 7 – Trend of expenditure (covered) for drugs and co-payment charges + spread between generic and branded drugs, paid for by citizens (in millions of Euro and I.N.:2009 = 100.0)

Year	*Spending on drugs in millions of Euro (covered)*	*I.N.*	*Co-payment charge + spread*	*I.N.*	*% of co-payment charge + spread to covered drugs*
– 2009	11,371	100.0	861	100.0	7.6
– 2010	11,191	98.4	998	115.9	8.9
– 2011	10,023	88.1	1,335	155.1	13.3
– 2012	8,985	79.0	1,406	163.3	15.6
– 2013	8,863	77.9	1,436	166.8	16.2
– 2014	8,598	75.6	1,500	174.2	17.4
– 2015	8,477	74.5	1,521	176.7	17.9

Source: *processing of data from IMS*

geon or to get services closer to home (Table 8). Revenue from *intramoenia* services in public hospitals increased from 1,131.9 million euro in 2009 to 1,380.2 million euro in 2015. The overall national increase in revenues for *intramoenia* services in the period 2009-2015 amounted to 21.9%, despite the financial difficulties of families and parallel aging of the population. Furthermore, in the period 2010-2012 there was a decline or at best a stabilization of these revenues as an immediate reaction to the financial difficulties, whereas starting in 2013 they again increase, probably to make up for what had not been possible to do previously and to compensate for the reduction and/or the worsening of public healthcare services.

The Regions that have seen revenues for *intramoenia* services increase greatly during the period in question are, in descending order:

- the Autonomous Province of Bolzano (+111.1%);
- Basilicata (+61.0%);
- Lazio (+60.4%);
- Molise (+40.6%);
- Umbria (+38.3%);
- Campania (+32.5%);
- Liguria (+30.5%);

d) the trend (weighted over time until 2015), of regional personal income tax rates affects all citizens whether they are patients or not. These surtaxes have clearly moved upward, as shown by the data in Table 9, which reports the average of the rates applied over the years (specifying whether the rates were applied to citizens' entire income or only to certain brackets, in which case the average of the different rates applied to the brackets parts was calculated).

It should immediately be said that there was no change between 2015 and 2016 as a result of the regulations introduced to halt the increase of these rates, but up until 2015 the comparison with six years earlier (2009) shows how the regions which showed a particularly upward movement in surtaxes until 2015 are, in descending order (considering the index number values):

- Piedmont (+124.8%);
- Lazio (+115.0%);
- Tuscany (+77.8%);
- Basilicata (+72.2%);
- Molise (+69.3%);
- Liguria (+62.6%);
- Umbria (+62.0%);

Table 8 – Revenues from intramoenia services in public hospitals (millions of euro and I.N. 2010 = 100.0)

Regions	*2009*		*2010*		*2011*		*2012*		*2013*		*2014*		*2015*	
	Mil. of euros	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*	*Mil. of euros*	*I.N.*
– Piedmont	115.6	100.0	112.9	97.7	113.7	98.4	110.8	95.8	133.9	115.8	136.2	117.8	138.9	120.2
– Aosta Valley	3.4	100.0	3.3	97.1	3.9	114.7	3.2	94.1	3.5	102.9	3.6	105.9	3.9	114.7
– Lombardy	228.7	100.0	218.2	95.4	225.3	98.5	223.8	97.9	256	111.9	272.0	118.9	293.6	128.4
– Trentino Alto Adige														
A.P. of Bolzano	*0.9*	*100.0*	*1.0*	*111.1*	*1.6*	*177.8*	*1.8*	*200.0*	*1.8*	*200.0*	*1.8*	*200.0*	*1.9*	211.1
A.P. of Trento	*9.6*	*100.0*	*9.8*	*102.1*	*9.6*	*100.0*	*9.3*	*96.9*	*9.8*	*102.1*	*10.0*	*104.2*	*10.2*	106.3
– Veneto	109.1	100.0	111.9	102.6	110.6	101.4	107.3	98.4	124.7	114.3	127.0	116.4	128.8	118.1
– Friuli V.G.	26.1	100.0	26.6	101.9	26.4	101.1	28.4	108.8	30.7	117.6	31.6	121.1	32.4	124.1
– Liguria	36.7	100.0	40.0	109.0	40.5	110.4	40.7	110.9	46.4	126.4	47.3	128.9	47.9	130.5
– Emilia Romagna	140.1	100.0	143.8	102.6	140.4	100.2	133.2	95.1	145	103.5	148.9	106.3	154.3	110.1
– Tuscany	128.0	100.0	124.7	97.4	122.7	95.9	114.4	89.4	123.1	96.2	126.8	99.1	128.3	100.2
– Umbria	12.0	100.0	13.1	109.2	15.9	132.5	13.9	115.8	15.5	129.2	15.9	132.5	16.6	138.3
– Marche	36.7	100.0	36.0	98.1	36.0	98.1	34.8	94.8	38.3	104.4	38.9	106.0	40.9	111.4
– Lazio	97.0	100.0	102.8	106.0	113.0	116.5	110.4	113.8	128.3	132.3	142.2	146.6	155.6	160.4
– Abruzzo	14.3	100.0	16.0	111.9	15.8	110.5	16.9	118.2	17.8	124.5	18.2	127.3	18.4	128.7
– Molise	3.2	100.0	1.6	50.0	1.9	59.4	2.9	90.6	4.1	128.1	4.2	131.3	4.5	140.6
– Campania	51.1	100.0	49.1	96.1	45.9	89.8	46.0	90.0	56.1	109.8	67.3	131.7	67.7	132.5
– Apulia	45.8	100.0	45.6	99.6	43.3	94.5	42.0	91.7	45.2	98.7	46.1	100.7	46.7	102.0
– Basilicata	4.1	100.0	4.4	107.3	5.1	124.4	4.8	117.1	6.4	156.1	6.5	158.5	6.6	161.0
– Calabria	7.9	100.0	9.5	120.3	8.0	101.3	8.8	111.4	9.4	119.0	9.4	119.0	9.9	125.3
– Sicily	47.8	100.0	44.7	93.5	41.5	86.8	43.2	90.4	51.9	108.6	53.0	110.9	53.7	112.3
– Sardinia	13.8	100.0	15.0	108.7	14.9	108.0	14.6	105.8	18.1	131.2	18.5	134.1	19.4	140.6
North	670.2	100.0	667.5	99.6	672.0	100.7	658.5	98.3	751.8	112.2	778.4	116.1	811.9	121.1
Center	273.7	100.0	276.6	101.1	287.6	104.0	273.5	99.9	305.2	111.5	323.8	118.3	341.4	124.7
South and Islands	188.0	100.0	185.9	98.9	176.4	94.9	179.2	95.3	209.0	111.2	223.2	118.7	226.9	120.7
Italy	*1,131.9*	*100.0*	*1,130.0*	*99.8*	*1,136.0*	*100.5*	*1,111.2*	*98.2*	*1,266.0*	*111.8*	*1,325.4*	*117.1*	*1,380.2*	121.9

(1) Estimate.

Source: *Survey by Ermeneia – data from the Ministry of Economy, "General Report on the Economic Situation of the Country" – Various years and National Health System Income Statement (IS) data for 2013 and 2014, 2015*

Table 9 – Increase over the years of additional regional income taxes (I.N.: 2009 = 100.0)

Regions	*Year 2009*			*Year 2013*			*Year 2015*			*Year 2016*		
		Average rate	*I.N.*		*Average rate*	*I.N.*		*Average rate*	*I.N.*		*Average rate*	*I.N.*
Piedmont	Per bracket	1.17	100.0	Per bracket	1.50	128.2	Per bracket	2.63	224.8	Per bracket	2.63	224.8
Aosta V.	For entire income	0.90	100.0	For entire income	1.23	136.7	For entire income	1.23	136.7	For entire income	1.23	136.7
Lombardy	Per bracket	1.13	100.0	Per bracket	1.60	141.6	Per bracket	1.60	141.6	Per bracket	1.60	141.6
Liguria	Per bracket	1.23	100.0	Per bracket	1.56	126.8	Per bracket	2.00	162.6	Per bracket	2.00	162.6
A.P. Trento	For entire income	0.90	100.0	For entire income	1.23	136.7	For entire income	1.23	136.7	For entire income	1.23	136.7
A.P. Bolzano	For entire income	0.90	100.0	Per bracket	0.82	91.1	Per bracket	1.23	136.7	Per bracket	1.23	136.7
Veneto	Per bracket	1.15	100.0	For entire income	1.23	107.0	For entire income	1.23	107.0	For entire income	1.23	107.0
Friuli V.G.	For entire income	0.90	100.0	Per bracket	0.97	107.8	Per bracket	0.97	107.8	Per bracket	0.97	107.8
Emilia R.	Per bracket	1.25	100.0	Per bracket	1.58	126.4	Per bracket	1.97	157.6	Per bracket	1.97	157.6
Tuscany	For entire income	0.90	100.0	Per bracket	1.58	175.6	Per bracket	1.60	177.8	Per bracket	1.60	177.8
Umbria	Per bracket	1.00	100.0	Per bracket	1.33	133.0	Per bracket	1.62	162.0	Per bracket	1.62	162.0
Marche	Per bracket	1.23	100.0	Per bracket	1.58	128.5	Per bracket	1.58	128.5	Per bracket	1.58	128.5
Lazio	For entire income	1.40	100.0	For entire income	1.73	123.6	Per bracket	3.01	215.0	Per bracket	3.01	215.0
Abruzzo	For entire income	1.40	100.0	For entire income	1.73	123.6	For entire income	1.73	123.6	For entire income	1.73	123.6
Molise	For entire income	1.40	100.0	For entire income	2.03	145.0	Per bracket	2.37	169.3	Per bracket	2.37	169.3
Campania	For entire income	1.40	100.0	For entire income	2.03	145.0	For entire income	2.03	145.0	For entire income	2.03	145.0
Apulia	Per bracket	1.15	100.0	Per bracket	1.50	130.4	Per bracket	1.58	137.4	Per bracket	1.58	137.4
Basilicata	For entire income	0.90	100.0	For entire income	1.23	136.7	Per bracket	1.55	172.2	Per bracket	1.55	172.2
Calabria	For entire income	1.40	100.0	For entire income	2.03	145.0	For entire income	1.73	123.6	For entire income	1.73	123.6
Sicily	For entire income	1.40	100.0	For entire income	1.73	123.6	For entire income	1.73	123.6	For entire income	1.73	123.6
Sardinia	For entire income	0.90	100.0	For entire income	1.23	136.7	For entire income	1.23	136.7	For entire income	1.23	136.7

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016 (http://www1.finanze.gov.it/finanze2/dipartimentopolitichefiscali/fiscalitalocale/addregirpef/sceltaregione.htm)*

e) and, finally, the evolution of the healthcare expenditure of Italian households, representing 23.0% of total healthcare expenditure (about 33.6 billion euro in 2014, out of a total of 146.3 billion euro). But it should be noted that household healthcare spending appears to alternate along with the trend of the crisis (see the values in billions of euro contained in the diagram below, Source: Istat):
   - 2008 31.2
   - 2009 30.6
   - 2010 30.9
   - 2011 33.3
   - 2012 32.8
   - 2013 32.7
   - 2014 33.6
   - 2015 34.8

   The values shown in fact decline during the most difficult year of the crisis (2009), recover slightly in 2010 and especially in 2011, and then drop again in 2012 and 2013, to then rise once more in 2014 and 2015. This increase is probably due to the active reaction of the families to the build up of inconveniences in the public system, but also the recovery of household savings, in part used to cope in the most appropriate manner to the healthcare needs of care of various immediate family members.

1.3. The perception of loss of integrity in the system and the ensuing behavior

The build up of hardships placed on patients in terms of financial burdens, the wait to obtain services, bureaucratic difficulties, and the sometimes lack in good quality relationships with patients and families fuels a subjective perception of attrition of the Health System and the consequent implementation of alternative and/or adaptive behaviors.

Table 10 shows three types of phenomena.

The first is the "subjective" reporting of the build up of the "objective" difficulties mentioned in the previous section. In fact the same question posed to care-givers in 2015 and 2016 indicates an evident worsening in perception, going from 61.7% to 67.7% of respondent who state that the National Health System has "declined a bit and/or significantly over the past few years". But it is necessary to point out how the most negative opinion ("I think that has declined significantly") is accentuated, doubling from 17.3% in 2015 to 34.8% in 2016 (see the first set of data in Table 10).

Table 10 – The gradual attrition of the National Health Service and in particular public hospitals, with the propensity to use accredited private facilities and turn to hospitals outside the home Region, in the opinion of care-givers (%)

Phenomena	*Data*	
– Perception of the decline of the universal and inclusive National Health System, as a result of the increase in co-payment charges, lengthier waiting lists, the decrease in services, difficulty of access to the services, etc.[1]:	2015	2016
▪ I think that it has gone down somewhat over the past few years	44.4 } 61.7	32.4 } 67.2
▪ I think that it has gone down significantly over the past few years	17.3	34.8
– Deterioration in 2014 and 2015 of public hospital services in the Region of residence ("A little + Much worse" opinions)[2]		2015
		20.7
– Some reasons for the deterioration of the services of public hospitals ("Very serious + Fairly serious" problem)[2]:		2015
▪ The nearly forced need to make use of *intramoenia*, paid, or private services to avoid lengthy waiting lists		94.2
▪ Facility bureaucratic obstacles to get tests, specialist medical examinations, check-ups, hospital admissions, etc.		83.4
▪ Insufficient quality of the human relationship with the patient		81.7
▪ An overall "discouraged patient" situation (due to waiting times, increased costs, reduction of services, difficulty in obtaining services, etc.)		89.5
– Recourse to accredited private hospitals or private clinics by care-givers and/or members of the immediate and/or extended family as a result of inconvenience involved with access to services provided by public hospital facilities[4]:		2015
▪ Yes, accredited private hospitals		40.6
▪ Yes, private clinics		20.3
– Main reasons for the use of accredited private hospitals[5]:		2015
▪ Lower waiting times for services		1st (42.0)
▪ Too long a wait for admission to a public hospital		2nd (30.1)
▪ Hospital's proximity to home		3rd (22.3)
▪ Greater confidence in the hospital and the doctors who work there		4th (20.9)
▪ Advice of relatives, friends and acquaintances		5th (14.3)
▪ A careful and well-thought-out assessment by the family		6th (13.9)

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(cont.) *Table 10 – The gradual attrition of the National Health Service and in particular public hospitals, with the propensity to use accredited private facilities and turn to hospitals outside the home Region, in the opinion of care-givers (%)*

Phenomena	*Data*	
– Use of hospital facilities in other Regions for treatment/procedures in the last twelve months by care-givers and/or immediate/extended family members compared to the parallel trend of total hospitalizations in Italy[3]:	2010	2014
▪ Number of hospitalizations in other regions	810,000	735,000
▪ % of other region hospitalizations out of total hospitalizations	8.2	9.6
▪ Number of total hospitalizations in Italy	9,600,007	8,280,795
▪ % decrease in total hospitalizations in the period 2010-2014		-16.4
– The three main reasons care-givers and/or members of the immediate and/or extended family turn to hospital facilities outside the home Region[4]:		2016
▪ The quality of hospital health services compared to those of the home Region		1st (44.2)
▪ The presence of trusted medical personnel in the hospitals outside the home region		2nd (31.0)
▪ The presence of specializations that do not exist in hospital facilities of the Regional Health Service		3rd (30.4)
– The postponing and/or foregoing of one or more services by care-givers and/or members of the immediate and/or extended family[5]:	2016	
	%	No. of families
▪ Postpone	16.2	4.0 mil.
▪ Forego	10.9	2.7 mil.
– The main reasons for the postponement and/or foregoing of tests, treatment and procedures[6]:		2016
▪ Family financial difficulties to pay for co-payment charges, access, services, etc.		1st (54.6)
▪ Waiting lists for services are too lengthy		2nd (52.1)
▪ Bureaucratic difficulties in gaining access to services		3rd (15.8)
▪ The reduction of services offered to patients		4th (10.2)
▪ The deterioration of services offered to patients		5th (8.9)

(1) See Table 20/Part Three, p. 197 (net percentages of respondents who were unable to give a response) (*Ospedali & Salute*/2016).
(2) See "Health & Hospitals/2015", Table 5/Part One, p. 4.
(3) See the commentary in Part Three and data reported in Table 8, p. 176 (*Ospedali & Salute*/2016).
(4) See Table 10/Part Three, p. 181 (*Ospedali & Salute*/2016).
(5) See Table 17/Part Three, p. 191 (*Ospedali & Salute*/2016).
(6) See Table 19/Part Three, p. 194 (*Ospedali & Salute*/2016).
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

This assessment may be taken together along with that relating to the specific deterioration of public hospital services in 2014 and 2015 (see the second set of data in Table 10). This evaluation was expressed by 20.7% of the care-givers interviewed during the survey carried out last year, and is supplemented by the reasons behind the opinion of a deterioration of public hospital services. These include the "objective" issues already raised in section 1.3 (see the third set of data in Table 10): the nearly forced need to use paid *intramoenia* or private services to remedy the excessively lengthy waiting lists (94.2% agree), bureaucratic hassles relating to tests, specialist medical examinations, exams, and hospitalizations (83.4% agree), and the lack of human relationship with the patient (81.7% agree).

The second phenomena type instead relates to the "active reactions" of the care-givers (for themselves and/or family members and/or the extended family) to deal with the deterioration of public hospital services. And, inevitably:

a) the first reaction was to resort to accredited private hospitals or paid private clinics in 40.6% and 20.3% of the cases, respectively (see the fourth set of data in Table 10), thereby making it clear that the reasons were mainly: less waiting time for services (1st place, with 42.0% agreement), too lengthy a wait for hospitalization in a public hospital (2nd place, with 30.1% agreement), proximity of the hospital to home (3rd place, with 22.3% agreement), and greater confidence in the hospital and the doctors who work there (4th place, with 20.9% agreement, as indicated in the fifth set of data in Table 10);
b) the second reaction was that of resorting, alternatively, to hospital facilities in Italian regions outside that of residence, for which:
   - the contrasting trend appears to shows a particularly significant decrease over time (between 2010 and 2014) of the total number of hospitalizations in Italy (16.4%), but at the same time shows an increased proportion of hospitalizations outside of the home region, going from 8.2% in 2010 to 9.6% in 2014, though simultaneously showing a decrease in the absolute number of hospitalizations outside the home region, dropping from 810,000 to 735,000 (see the sixth set of data in Table 10);
   - and the most important reasons given for this relate to quality and confidence (1st and 2nd place, respectively, with 44.2% and 31.0% agreement), followed by the presence of specializations that were unavailable at hospital facilities in the home Region (see the seventh set of data in Table 10).

The third phenomena type, on the other hand, relates to a "passive" reaction, by discouraged or deprived patients. In fact:

- on the one hand, the care-givers surveyed claim that, in 2016, either they and/or for members of the immediate and/or extended family postponed one or more services in 16.2% of cases (involving approximately 4.0 million households) and did without one or more services in 10.9% of cases (corresponding to 2.7 million Italian families, as indicated in the eighth set of data in Table 10);
- and on the other hand, the care-givers gave the following as the main reasons for postponing and/or foregoing services: family financial difficulties to pay for co-payment charges, access, services, etc. (1st place, with 54.6% agreement), too lengthy waiting lists (2nd place, with 52.1% agreement), followed distantly by bureaucratic difficulties, the reduction and the deterioration of services offered to patients (see the ninth set of data in Table 10).

The set of "objective" and "subjective" factors thus far examined had a more pronounced effect on care-givers, who, play a central role in the family with respect to health and healthcare issues for themselves as well as the other members of the immediate and extended family. Yet even users and citizens seem to have incorporated the effects of the repeatedly mentioned "ongoing build up" of difficulties.

Table 11 reveals three consequences of the above process, namely:

a) a more critical view of hospital services by users and citizens – especially in the last two years – shown by a decline in satisfactory/positive opinions (see the first set of data in Table 11): the evident result of the gradual build up of problems over at least the last five years (in parallel to the gradually implemented actions of the spending review and a more pronounced change in the trends of those who actually used hospital services in the last twelve months (even showing a reversal from the past, so that negative opinions outnumber positive ones, even if the views expressed by both users and citizens continue to be more consistent when relating to accredited private hospitals as opposed to public ones and even private clinics, as evidenced by the second set of data in Table 11);
b) the emergence of a more "conservative" set of propensities in terms of possible alternative choices of hospital facilities, considering that:
   - in 2016 the number of actual users who considered the various types of facilities in the last 12 months decreased, after years of the trend going in exactly the opposite direction, and this is the case for all hospital facilities, public, accredited private and private clinics (see the third set of data in Table 11);

- the future inclination to use the hospital facilities used last declined for public institutions (90.3% in 2016 compared to 93.3% in 2015), while in the case of accredited private hospitals and private clinics the likelihood increases and remains higher (see the fourth set of data in Table 11); and – again, for public facilities – user access in the last twelve months declined, while that for private facilities stayed the same or increased (see the fifth set of data in Table 11);
- there was also a decrease in the tendency to look for hospital facilities outside of people's home municipality, if the first choice of facility type (public, accredited, or private clinic) was not available locally: 59.3% in 2016 compared to 61.6% in 2015, and even higher percentages in 2014 and 2013 (see the sixth set of data in Table 11);
- conversely, the number of patients going to hospital facilities outside of their home region increased, going from 7.6% in 2010, as relates to total hospitalizations in all Italian facilities, to 8.9% in 2014, thus confirming the pronounced quest for more appropriate services to those present in the home region (see the seventh set of data in Table 11);

c) and, finally, less awareness among citizens (again in 2016) regarding existing opportunities for choice, with a change of tendency again in this case, certainly linked to the maturing of the younger generation becoming adults and thus responsible for their own healthcare choices and those of their family, but also to worries of incurring any additional costs related to accompanying the patient. In fact:
   - only 37.4% in 2016 compared to 41.1% in 2015 (with higher rates previously) stated that they were clearly aware of the possibility of using accredited private hospitals as an alternative to public hospitals, without any additional burden for the patients (see the eighth set of data in Table 11);
   - and then, 32.7% in 2016 compared to 36.9% in 2015 (as opposed to 36.7% in 2014 and 35.2% in 2013) stated that they were aware of the possibility to relocate to hospitals outside of their region for care (see the ninth set of data in Table 11);
   - and, finally, 19.1% of citizens in 2016 compared to 21.8% in 2015 (and 20.6% in 2014), stated that they were aware of the possibility of going to the facilities of other EU countries for healthcare and hospital services, with coverage by the National Health Service (see the last set of data in Table 11).

There is thus an altogether more critical and at the same time more conservative attitude by those who have had experiences with hospitalization in the past twelve months and by citizens in general regarding possible hospital choices.

Table 11 – Confirmation of the influence exerted by the accumulation of difficulties accessing the public hospital system in the opinions and the tendencies of users and citizens (%)

Phenomena	*Data*									
A MORE CRITICAL OPINION OF HOSPITAL SERVICES										
– Level of satisfaction among users of hospital services in the last twelve months, according to the type of facility visited ("Very + Somewhat satisfied" opinions)[8]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ Public hospitals	83.4	86.7	87.5	88.7	87.8	88.0	84.7	86.3	82.6	37.6
▪ Accredited private hospitals	94.0	93.2	92.9	91.5	95.3	92.7	91.3	94.3	88.7	49.0
▪ Private clinics	90.7	87.4	92.8	89.0	96.6	83.7	82.3	85.5	90.5	42.3
– Overall assessment of citizens of Italian hospitals ("Very + fairly positive" opinions not including "do not know" answers)[9]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ Public hospitals	66.0	68.8	64.5	67.0	68.5	69.2	65.3	69.8	65.0	64.0
▪ Accredited private hospitals	79.7	80.9	80.2	79.7	82.4	80.2	77.5	79.9	77.1	79.3
▪ Private clinics	65.7	68.2	70.6	70.8	72.5	70.5	68.1	68.3	70.8	71.0
MORE "CONSERVATIVE" TENDENCIES										
– Percent of users of hospital services in the last twelve months who took into account the various possibilities before an in-hospital stay:[4]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ Then choosing a public hospital	21.7	20.2	21.2	19.7	19.8	19.4	28.0	24.7	38.4	33.1
▪ Then choosing an accredited private hospital	26.1	31.0	36.0	30.4	40.4	36.5	45.8	38.5	58.1	47.5
▪ Then choosing a private clinic	41.8	37.4	46.5	46.1	53.8	24.5	47.7	47.5	72.8	64.2
– Facility to which users of hospital services went the last time in the last twelve months[5]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ Public hospital	78.1	81.0	78.6	79.3	82.3	79.5	80.7	82.0	81.2	80.4
▪ Accredited private hospital	21.7	19.1	18.0	19.6	17.8	18.9	19.5	17.7	21.7	21.2
▪ Private clinic	6.7	4.0	8.8	5.1	4.6	4.3	5.7	4.5	9.6	11.8
– Future inclination of users to use the same hospital facility used the last time:[5]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ Public hospitals					91.4	94.6	92.4	94.3	93.3	90.3
▪ Accredited private hospitals					97.1	85.4	89.9	95.1	92.2	93.1
▪ Private clinics					98.6	85.0	82.6	82.5	91.2	91.5
– Facility citizens would use if the first choice of public hospital, accredited private hospital or private clinic was not available in their town[6]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ I would change the type of hospital facility	43.5	47.8	50.5	51.2	51.1	50.8	36.8	35.6	38.4	40.7
▪ I would look outside of my town for the preferred hospital facility	56.5	52.2	49.5	48.8	48.9	49.2	63.2	64.4	61.6	59.3

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(cont.) *Table 11 – Confirmation of the influence exerted by the accumulation of difficulties accessing the public hospital system in the opinions and the tendencies of users and citizens (%)*

Phenomena	*Data*									
– Patients who go to Regions other than their own for healthcare reasons (in thousands of units)[7]						2010 810	2011 796	2012 758	2013 742	2014 735
– Percent of out-of-Region admissions per in-hospital stays in Regions other than that of the patient out of the total of nationwide hospital admissions[7]						7.6	7.8	7.8	8.0	8.9
A CHANGING TREND IN THE AWARENESS OF OPPORTUNITIES										
– Current awareness among citizens of the provisions that permit the use of both public and accredited private hospitals without additional charges:[1]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ Yes, very clear	28.0	31.6	35.5	39.2	42.0	36.8	39.3	40.2	41.1	37.4
▪ Yes, but a little uncertain	41.6	43.1	43.1	37.9	36.5	42.2	40.6	36.8	39.9	42.8
– Awareness among citizens of the opportunity to seek treatment in hospitals outside of their Region[2]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016
▪ I am perfectly aware of this	21.8	28.3	31.9	35.4	39.0	32.5	35.2	36.7	36.9	32.7
▪ I seem to remember that is a possibility	43.2	43.6	41.5	38.9	38.8	44.3	41.0	39.1	38.5	41.2
– Awareness among citizens of the opportunity to travel for healthcare and hospital services at facilities in different European Union countries under the coverage of the National Health Service that reimburses expenses[3]							2013	2014	2015	2016
▪ Yes, I am aware							14.1	20.6	21.8	19.1
▪ Yes, I've heard of it.							29.1	32.5	32.4	33.3

(1) See Table 4/Part Two, p. 130 (*Ospedali & Salute*/2016).
(2) See Table 13/Part Two, pp. 146-147 (*Ospedali & Salute*/2016).
(3) See Table 5/Part Two, p. 133 (*Ospedali & Salute*/2016).
(4) See Table 3/Part Two, p. 126 (*Ospedali & Salute*/2016).
(5) See Table 6/Part Two, p. 134 (*Ospedali & Salute*/2016).
(6) See Table 10/Part Two, p. 142 (*Ospedali & Salute*/2016).
(7) The transfer relates to in-hospital stays and day hospital acute care cases, as well as for rehabilitation and long-term care (processing of data from the Ministry of Health).
(8) See Table 7/Part Two, p. 138 (*Ospedali & Salute*/2016).
(9) See Table 8/Part Two, p. 139 (*Ospedali & Salute*/2016).
(10) See Table 11/Part Three, p. 183 (*Ospedali & Salute*/2016).
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

1.4. The likely negative impact of postponing and foregoing treatment today on future public health*

1.4.1. The importance of the issue, as well as the difficulty of measuring the effects

The relationship between the financial crisis that Europe and the West have experienced in recent years, the reduction of investment in the Health System and, above all, the impact that these events have had on the outcomes of people's health is a well-known national debate. From the point of view of the health of the population the epidemiological transition from communicable diseases (infectious) to non-communicable diseases (chronic degenerative), which occurred in the last century in Italy and in all other industrialized countries, was also accompanied by a transition of the associated risk factors (overall average increase in the age of the population, physical inactivity, overweight/obesity, alcohol and smoking). This scenario, however, has been characterized, in recent years, by a profound crisis of economic and social conditions that marked the final decades of the last century, leading – from 2007 onwards – also to the reduction of financial investments in healthcare, with reduction in services under the banner of austerity. Furthermore, the 2015 Osservasalute Report, states that, in Italy, for the first time there has been a decline in life expectancy, possibly correlated to the decreased investments in health, especially in prevention[3].

Costa et al.[4], explain that the ways in which the economic crisis can impact health conditions are of different degrees: "beginning from the conditions of the context, such as the forces of globalization, demographic and welfare policy changes, which are dimensions less easily influenced by political circumstances. Within this context distal health factors act, those which are more sensitive to the crisis, such as work, social-economic class, and the services which are more frequently affected by the austerity measures linked to the crisis. Thus the proximal determinants (i.e. those risk factors that mediate the effect on the health of distal determinants, and which

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[3] Ricciardi, G., Rapporto Osservasalute 2015. Health conditions and quality of care in Italian regions, Prex, Milan 2016 [http://www.osservasalute.it].

[4] Costa G., Marra M., Salmaso S., Gruppo AIE su crisi e salute: Gli indicatori di salute ai tempi della crisi in Italia, Epidemiol Prev 2012; 36 (6): 3 37-366.

are less frequently considered by the anti-crisis policies) need to be examined. Ultimately this results in effects on health and the social consequences of impaired health". The high degree of complexity of the system also makes the identifiable causal relationships complex, but despite this, it is still possible to describe some interesting aspects. A study performed in the United Kingdom (by Stuckler, et al.) emphasizes the need to avoid large cuts in public health spending, as there is no evidence that the cuts may have an impact on the health of the population in the short term, while they may have medium and long-term effects on social welfare[5].

Studies already made in other countries may be useful to understanding how a reduction in the use of health services can affect health outcomes. For example:

- Ireland and Spain have seen a significant reduction in the number of organs donated;
- in Greece, between 2007 and 2014, there was a more than 20% increase of people who did not go see a doctor even if they needed to and, again in Greece, there was a 40% increase in suicides in 2011 alone;
- Spain reported a 20% and 12% increase of major depression and dysthymia, respectively, between 2006 and 2010[6,7].

Moreover, according to McKee, the impact of the financial and economic crisis on the health of the population leads in the short term to an increase in suicides and deaths related to alcoholism[8].

As for Italy, as reported in the "Economic crisis, health systems and health in Europe. Country experiences" report of the *Observatory on Health Systems and Policies*, between 2007 and 2011, health care spending increased from 13.9% to 14.2%, while the same spending per capita has declined in real terms since 2012[9]. The decline affected both public and private spending, for an overall reduction of 3.5% in real terms in 2013 and a further 0.4% reduction in 2014. As a result, it can be said that the health expenditure

[5] Stuckler D., Reeves A., Karanikolos M., McKee M., The health effects of the global financial crisis: can we reconcile the differing views? A network analysis of literature across disciplines, Health Econ Policy Law 2015; 10(1): 83-99.

[6] Ibid.

[7] Kentikelenis A., Karanikolos M., Papanicolas I., Basu S., McKee M., Stuckler D., Health effects of financial crisis: omens of a Greek tragedy, The Lancet 2011; 378: 1457-8.

[8] McKee M., The consequences of economic crises and the responses to them for population health, Eur J Public Health 2011; 21 (suppl.1): 7.

[9] Ricciardi W., McKee M., Figueras J. et al., Crisi economica, sistemi sanitari e salute in Europa, Health Policy in non-communicable Diseases 2016.

per capita in Italy is lower today than the levels prior to the economic crisis, and below the spending levels of high-income OECD countries[10].

As for the access and use of levels of care in Italy, specialist care and pharmaceuticals appear to have been more sensitive to the constraints of the crisis, due to the large amount of co-payment charges at these levels. Specifically, possible explanations can be given for at least three areas:

1) the effect of the economic crisis, through the reduction in disposable income, leading to difficulties in affording co-payment charges, with the consequence of a decrease in the use of services or doing without them;
2) the effect of the increase of co-payment charges ("*super ticket*"): the super ticket may have made some services more expensive than the price at which they can be purchased from private providers, with the result that the user prefers to pay the private price outside the NHS;
3) the "crisis climate" effect: operators and users take the crisis into account in various ways and try to limit the consumption of services to the most necessary[11]. A similar trend would seem to be that shown by the consumption of drugs, as ISTAT multi-purpose survey data indicates that the percentage of people who report having used drugs in the two days prior to the survey increased steadily in all areas of the country up to 2007 and then leveled off and began to drop in the years of the crisis, which also coincide with an increase of co-payment charges[12].

However, an expected effect of the failure to seek specialist care or use pharmaceuticals due to the costs of the crisis could be accounted for by an increase in the frequency of undesirable consequences, for example the use of an emergency hospitalization to the detriment of a more appropriate access to care by means of inpatient admission or outpatient/specialist treatment.

In fact, at the national level and for the period 2010-2014, the decrease in hospitalizations (-1.75 million, or -15.5%) was 6% higher than in the two-year period 2012-2014 (1.4 million, or -9.2%). Overall, the trend of hospitalization activity at the national level in the period 2001-2012 showed:

– a reduction in the number of discharges (2,679,344 less units) or -20.7% in 11 years with a floating annual trend (between -5% and +2%). This decrease can be explained, at least partially, by the strong push for the

[10] OECD Health Data 2015. A look at health 2015. How does Italy rank? Available at: www.oecd.org/italy/Health-at-a-Glance-2015-Key-Findings-ITALY-In-Italian.pdf. Last access: November 2, 2016.

[11] Costa G., Marra M., Salmaso S., Gruppo AIE su crisi e salute: Gli indicatori di salute ai tempi della crisi in Italia, Epidemiol Prev 2012; 36 (6): 3 37-366.

[12] Ierardi F., Falcone M., Vannucci A. Compartecipazione alla spesa sanitaria e crisi economica in Toscana. Atti del Congresso di Associazione Italiana di Epidemiologia, Epidemiol Prev 2012; 36(5) Suppl 1:1-144.

transfer of services from the hospital setting to that of the territory. In 2012 alone, in fact, admissions were down 4.6% compared to 2011;
- in the period 2001-2012, in-hospital days decreased by 19.5%, in particular, between 2001 and 2003 the days decreased (-5.9%), then increased in the period 2004-2005, and then declined again after 2006. The difference between 2011 and 2012 amounted to -3.9%;
- day-hospital days provided increased gradually from 2001 to 2007, going from an incidence of 13.4% to 19.1% for inpatient admission days[13].

Recently, moreover, the perceived satisfaction with the quality of life and trust in institutions has decreased greatly where the crisis was more serious, having caused stress levels in people to surge. The negative effects in terms of health outcomes for the population (increase in mental disorders, psychosomatic illnesses, unhealthy behaviors such as alcoholism and drug usage, increase in infectious diseases such as HIV, malaria and tuberculosis) measured through a series of indicators have been on the whole relatively small, while the effect of reducing the use of levels of care and access to services for them appears to be more difficult to measure. In the short term, the effects of the crisis will come to bear slowly on the incidence of certain diseases, whereas it is possible to get more timely feedback on individual psychological well-being and the ways in which citizens deal with "good health".

The long-term effects that periods of prolonged economic crisis have on health must then be considered: as mentioned earlier, normal preventive healthcare is reduced to a minimum, because its strategic importance is not perceived. It is also possible that these effects, which affect specific groups in the population, may be invisible in national aggregate statistics[14].

It is therefore possible to see that the ongoing global crisis and a generalized trend of budget cuts to the health system have led to changes in the dimension of the population's daily life, this itself at times triggering a sort of adaptation to the new scenario. One can analyze such data (which are basically output data) in light of the general context of the crisis, but what the impact of the latter is on the quality of care and on health outcomes of Italians is still too early to estimate. This is also because, while financial data is available almost in real time, data relating to morbidity and mortality have a higher latency period (from 2 to 5 years) and thus the real effects of the crisis of recent years may only be described systematically in a few years' time.

[13] Atella V., Borgonovi E., Collicelli C., Kopinska J., Lecci F., Maietta F., Crisi economica, diseguaglianze nell'accesso ai servizi sanitari ed effetti sulla salute delle persone in Italia.

[14] McKee M., The consequences of economic crises and the responses to them for population health, Eur J Public Health 2011; 21 (suppl.1): 7.

It can be assumed that the crisis may have a determinant function on health linked to the reduction of access to healthcare in general and specifically of treatment subject to co-payment charges or other out-of-pocket payment forms. Of course, some treatments are perceived as unavoidable, while others (like dental care) as being easily put off. The basic problem is – in view of present circumstances and as previously mentioned – the inability to clearly define how much impact the postponement and the foregoing of care may have, especially in the medium and long term, on the overall health of the population.

These difficulties arise mainly from the resources in terms of data and indicators available today. Very often healthcare assessments are based on parameters and indicators that measure processes and, sometimes, but not always, these are inferable indications of outcome. Thus, use is made of data sources such as hospital discharge records or DRGs in order to measure clinical outcomes. This makes it difficult to achieve real-time measurements of the impact of the crisis and other related matters on health issues. This scenario, however, could change significantly with access to diversified and more complete databases, such as those that are today known as big data. The analysis of the phenomena using large numbers, even if not specifically described by indicators properly definable as "clinical outcomes", could in fact allow for broader and more accurate analyses.

1.4.2. A forecast of the phenomena of postponement and foregoing of care by Italian families

There is, as noted in section 1.4.1 above, a more general set of objective factors (such as the economic and employment situation, income levels and consumption, the cultural level and austerity measures on the level of public spending) and a set of equally objective factors that relate more specifically to the health system (levels of access to care, additional costs for patients, bureaucratic difficulties, reductions in healthcare costs, decreases and/or deterioration of services). All of this exists alongside the psychological and behavioral factors of patients and their families, who, given the above factors, may – among other things – decide to postpone and/or do without care or certain treatments and not others.

Some of the questions on the questionnaire administered to care-givers in 2016 related to this issue, as well as the issue of inter-regional healthcare mobility[15].

[15] See Part Three, p. 163 et seq. (*Ospedali & Salute*/2016).

However, as was also mentioned in the preceding pages, there is currently (still) no ability to properly measure the relationship that may exist between the presence *today* of some general factors and some specific factors, on the one hand and the health outcomes for citizens in 2-5 years or more, on the other.

Yet, the international examples cited and the same national debate on the subject highlight a specific area of interest to be explored within the broader framework of analyses and prevention policies.

For this reason we have decided to draw – using the necessary estimates – a kind of "map" that at least gives an idea of the number of people who are *today* specifically affected by the postponing and foregoing of care and who may go on to suffer the consequences on their health *tomorrow* (in 2, 5, or more years).

Table 12 contains just such a "map", from which we can see that:

a) the *postponing* of one or more services by individual care-givers and/or other members of the immediate and/or extended family in 2016 was affirmed by 16.2% of the responding care-givers. This percentage amounts to nearly 4 million people that could rise to 8 million, conservatively assuming in the second instance the presence of two subjects instead of one that are affected by the phenomenon of postponing care among the care-givers and or members of the immediate and/or extended family.
   The breakdown of people with serious and mild illnesses is reported in the differentiation data contained in the last two columns (see the first set of data in Table 12);
b) and, similarly, the *foregoing* of one or more services by the care-givers and/or members of the immediate and/or extended family, again in 2016, was estimated – as before – to have affected between 2.6 and 5.3 million people, to which was added the next estimated division among subjects according to serious or mild illness (see second set of data in Table 12);
c) subsequently, we quantified the subjects who, in 2016, both *postponed* and *did without* one or more services as individual care-givers and/or as members of the immediate and/or extended family, resulting in a differentiation data estimate of between 1.2 and 2.4 million people, divided according to serious or mild illness (see the third set of data in Table 12);
d) the potential "accumulation process" of the *renunciations in 2016 and the postponements in both 2015 and 2014* is then indicated (see the fourth set of data in Table 12), with this phenomenon affecting, respectively:
   – 41.6% (between 1.1 and 2.2 million people) who went without care in 2016 and postponed care in 2015;

- and 40.2% (between 1.0 and 2.1 million people) who went without care in 2016 and postponed care in 2014;
- while the internal breakdowns indicating serious or mild illnesses were again placed in the last two columns of Table 12;

e) finally, (last set of data in Table 12), we wanted to provide further detail for point d) above, taking into account the main services it was decided not to use in 2016, the aim this time being to comprehend the quantitative dimensions of those who, having given up one or more services in 2016, also had experience with postponing and/or renunciation of care in 2015 (but without exploring the difference between serious and mild illness in this case, given the more limited absolute value of the initial data, as this was distributed among the different services indicated).

As can be seen, the big picture serves, for now, as a simple description of the postponing/foregoing phenomenon on the basis of statistical and not epidemiological data, as would actually be necessary and, moreover, also possible, if better (and improved through effort) use were made of the big data currently available on morbidity, the course of treatment and patient outcomes.

Still, the retrieved data on the intertwining of postponing and foregoing of care serve to remind us that during these last few years of difficult health system governance the demands to control and reduce spending have prevailed over the (just as important) defense of adequate services spread evenly throughout the land. Which suggests that there may be negative repercussions on health outcomes in a few years' time, exacerbated, among other things, by the aging process of the population.

For the remainder, there does seem to be some indication to the effect that already in 2015 (though a few more years are necessary to verify the trend) life expectancy decreased for the first time, albeit slightly, affecting men and women, as shown in the following chart (Source: i.Stat, Demographic Indicators):

	2012	*2013*	*2014*	*2015*
Life expectancy at birth (males)	79.6	79.8	80.3	80.1
Life expectancy 65 years (males)	18.3	18.6	18.9	18.7
Life expectancy at birth (females)	84.4	84.6	85.0	84.6
Life expectancy 65 years (females)	21.8	22.0	22.3	21.9

Table 12 – Estimate of people who postponed and/or gave up one or more health services in 2016

Phenomena of postponing and/or foregoing care	*Summary data*	*Estimated data for people experiencing serious and mild illness*[7]	
		Serious illnesses	*Mild illnesses*
– Care-givers and/or members of the immediate and extended family who postponed one or more services in 2016[1],	16.2%	-	-
amounting in absolute terms to 24.6 million families x 16.2% (1 person)	3,988 thou.	654 thou.	3,334 thou.
but, with a multiplication factor equal to 2 (corresponding to 2 people)[2]	7,976 thou.	1,308 thou.	6,668 thou.
– Care-givers and/or members of the immediate and extended family who did without one or more services in 2016[1],	10.9%		
amounting in absolute terms to 24.6 million families x 10.9% (1 person)	2,683 thou.	440 thou.	2,243 thou.
but, with a multiplication factor equal to 2 (corresponding to 2 people)[2]	5,366 thou.	880 thou.	4,486 thou.
– Care-givers and/or members of the immediate and extended family who both postponed and did without one or more services in 2016[3],	5.0%		
amounting in absolute terms to 24.6 million families x 5.0% (1 person)	1,235 thou.	203 thou.	1,032 thou.
but, with a multiplication factor equal to 2 (corresponding to 2 people)[2]	2,470 thou.	405 thou.	2,065 thou.
– Care-givers and/or members of the immediate and/or extended family who did without one or more *services* in 2016 and who also did without or postponed one or more services in 2015 and 2014:			
▪ in 2015[4],	41.6 %		
amounting in absolute terms to 2,683,000 families x 41.6% (1 person)	1,116 thou.	183 thou.	933 thou.
but, with a multiplication factor equal to 2 (corresponding to 2 people)[2]	2,232 thou.	366 thou.	1,866 thou.
▪ in 2014[5],	40.2%		
amounting in absolute terms to 2,683,000 families x 40.2% (1 person)	1,079 mil.	177 thou.	902 thou.
but, with a multiplication factor equal to 2 (corresponding to 2 people)[2]	2,157 mil.	354 thou.	1,803 thou.

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(cont.) *Table 12 – Estimate of people who postponed and/or gave up one or more health services in 2016*

Phenomena	*Total data*					
		A.V. postponements (in thousands)			*A.V. of foregoing (in thousands)*	
– Care-givers and/or members of the immediate and/or extended family who did without one or more services in 2016 and who also did without or postponed one or more of the following services in 2015[6]:	*% of postponements*	*Mult. factors 1*	*Mult. factors 2*	*% of foregoing*	*Mult. factors 1*	*Mult. factors 2*
▪ Hospitalizations	7.9	212	424	82.0	2,200	4,400
▪ Emergency call services	7.9	212	424	80.9	2,171	4,341
▪ Emergency room	11.0	295	590	76.9	2,063	4,126
▪ Visits to the family doctor	30.0	804	1,610	60.0	1,610	3,220
▪ Laboratory exams	16.0	429	859	56.0	1,502	3,005
▪ Diagnostic tests	21.3	571	1,143	55.0	1,476	2,951
▪ Specialist visits	28.4	762	1,524	53.1	1,425	2,849
▪ Home healthcare	16.7	448	896	52.1	1,398	2,796
▪ Dental care	22.0	590	1,181	51.0	1,368	2,737
▪ Assisted living homes	30.2	810	1,621	44.2	1,986	2,372

(1) See Part Three/Table 17, p. 191 (*Ospedali & Salute*/2016).

(2) The absolute values shown may actually refer to one or more persons, including the care-giver interviewed, or one or more members of the immediate and/or extended family. This means that we must identify a reasonable (even conservative) multiplication factor to weight these absolute values upwards, in order to define any differentiation data. This can go:
- from a minimum of *Factor 1* to cover postponements and renunciations for a single subject (the care-giver or a single member of the immediate/extended family);
- to a maximum (more than conservative) *Factor 2* which can be regarded as the average factor for all other situations (the care-giver alone or the care-giver plus a member of the immediate family or even the care-giver plus a member of the extended family or one member of the immediate family and one member of the extended family, etc.). Moreover, if one considers the use of one or more services in 2016, it can be seen that the mean relative percentage of care-givers (78.6%) is almost identical to the average number of the members of the immediate family and the extended family (76.1%), as shown in Table 2/Part Three, p. 169 (*Ospedali & Salute*/2016).

(3) On the basis of the appropriate intersections, starting from the care-giver survey data (referred to in Part Three), which shows that 208 did without one or more services for themselves and/or other members of the immediate/extended family in 2016, and that 108 care-givers also postponed one or more services for themselves and/or for members of the immediate and/or extended family in 2016: this amounts to 48.1% of those who did without (108 out of 208 sample care-giver units considered) accounting for 5.0% of total care-giver respondents.

(4) See Part Three/Table 18, p. 193 (*Ospedali & Salute*/2016): 41.6% (estimated median value for the various services), applied to 2,683,000 or, alternatively, to 5,366,000 Italian families. With an overall total of between 1,116,000 and 2,232,000 households.

(5) See Part Three/Table 18, p. 193 (*Ospedali & Salute*/2016): 40.2% (estimated median value for the various services), applied to 2,683,000 or, alternatively, to 5,366,000 Italian families. With an overall total of between 1,079,000 and 2,152,000 households.

(6) See data processed for the care-giver survey, referred to in Part Three, p. 163 et seq. (*Ospedali & Salute*/2016).

(7) Assuming that the proportion of serious hardship for those who postponed or forfeited the services is equal to that of those who effectively used hospital facilities for tests, procedures or treatment, as explained in Table 3/Part Three, namely: 8.0% for the care-giver out of the total for serious + mild illnesses/procedures, equal to 16.4%; 9.7% for members of the immediate family out of the total use for serious + mild illnesses/procedures at 50.5%, thus equal to 19.2%; 11.8% for members of the extended family out of the total use for serious + mild illnesses/procedures at 48.8%, with a ratio or 24.2%. A conservative estimate of the lowest percentage was used for serious illnesses and procedures, at 16.4%, estimating, by difference, the absolute values for mild illnesses/procedures (used to calculate the lowest percentage of 16.4%).

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

2. The persistent difficulty in decreasing the supply

2.1. Additional revenues contributing to "freeze" the existing system

This Report has for seven years now monitored public hospital spending using different analysis methods which, however, lead to a single conclusion: that of the permanent difficulty of restructuring and reorganizing the provision of public hospital services, given that the existing rigidity (as relates to cost reduction, the closure of a number of hospitals, overhaul of the "machine", greater flexibility in the use of personnel, etc.) defies attempts to make changes. All this, however, prevents the "freeing up" of resources that could otherwise be devoted to upgrading structures and improving their operation, as well as the improvement of services for patients.

The dialectic, long since described in this Report, between the "financial" and "real" Hospital System has over the past few years ended up being narrowed down to the former, with the consequential impact being placed on external stakeholders: firstly, patients (in terms of less and/or worse services), and secondly, on accredited private entities (in terms of cost reduction).

The oversight carried out by the Report has, over time, selected subjects for analysis (in this case, within the "financial" hospital system), that are different yet contribute to highlighting areas of "blockage" caused by the rigidity of the items and the related financial flows[1]. More precisely:

– what has been defined as the "implicit inefficiency rate" of public hospital facilities was estimated, with increasing precision, starting from data reported in six Regions and gradually all the Italian Regions (this was done in the 8th, 9th and 10th "Health & Hospitals" Report);

[1] At the same time we have taken into account the effects on patients and citizens (dealt with this year in the sections of the previous part "The risk of deflating services … and behaviors of users").

– then, the so-called "labyrinth of fees" was taken into account by analyzing the different methods of payment for services provided by accredited private facilities and compared with the financing granted to public facilities (in the 10th and 11th "Health & Hospitals" Report);
– thinking then shifted to aggregate terms of all Revenue and Cost items in a specially selected, but sufficiently representative group of Hospital Centers, in order to calculate potential implicit system deficits (in the 12th "Health & Hospitals" Report);
– while the 13th Report went a step further into detail, taking into account the Income Statements of all Italian Hospital Centers, and not just a select group of them as before, focusing on the specifics of various types of costs[2], in order to estimate the presence of any "additional costs" which might constitute an indicator of inefficiency and, at the same time, result in implicit budget coverage.

All of this, of course, underlines an as yet completely inadequate level of transparency of public hospital facility budgets (including Hospital Centers), despite the all too numerous regulatory provisions that have gradually been imposed over the years[3]. This is true also in that they still do not yield an understanding of the real point of balance (or imbalance) of the Income Statements (of Hospital Centers and, in perspective, of directly managed hospitals), upon which appropriate action may be taken through a realistic efficiency-creation process that is also capable of changing operating conditions. This is to prevent the improper use of emergency line cuts that also result in the reduction/deterioration of services for users, as well as unfairly penalize the facilities that work better than others. Add to this the fact that without budget transparency it becomes impossible to compare the levels of efficiency and adequacy of the payment of the services performed by the public hospital and accredited private hospital facilities, respectively.

If the past year saw an emphasis placed on detailing Costs, this year the desire is to move on to consider, in just as thorough a manner, Revenues, examining in detail a particularly extensive item-container relating to "by function" activities[4], which may involve payment forms that at times are too

[2] Purchase of pharmaceuticals, other healthcare goods, cafeteria services and food, performance or purchase of laundry and cloakroom materials, performance or purchase of cleaning services and waste disposal, payment of insurance premiums, costs for telephone and electricity, operating costs and other costs. To all this was added the specific additional costs (explicit and implicit) of personnel and a comparison on the level of depreciation costs (again, explicit and implicit).

[3] For more on this, see section 2.2, which is dedicated specifically to this issue.

[4] To give a better idea please note that the Legislative Decree of Dec. 30, 1992 no. 502 (Art. 8-*sexies*) indicate the broad categories of "by function" activities, as:

broad and include improper revenues, which – as such – would inevitably lead to the implicit covering of budgets.

The decision to examine the above activities was further motivated by the fact that according to a specific Ministerial Decree[5] they are already covered by the 2016 budget for Hospital Centers under a global assessment variable (which, however, it may be all too easy to interpret "upward").

This estimate can indeed account for up to 30% of Revenues, taking into account, however, that the latter are gross revenues. Thus the calculation is inevitably magnified as it refers to an item of conventional Revenues, based on a calculation under 100, starting from health services, in addition to the co-payment charges and the extra basic levels of assistance (LEA) contributions.

It is evident that the provisions on accounting balance and transparency of financial statements, contained in the 2016 Stability Law have favored the establishment of a mechanism tending to force achievement of that balance. It should be added that the above provisions are exacerbated by the 2017 Stability Law regarding the regulation of the deficit reduction of public health facilities. In fact, the adoption of debt rescheduling plans for those facilities which present a deviation greater than or equal to 7% of Costs and Revenues or an absolute value of at least Eur 7 million (while these criteria were 10% and at least Eur 10 million, respectively, under the 2016 Stability Law).

This has driven the analysis to shed more light through appropriate simulations, based on the data presented in the Income Statements of all Italian Hospital Centers. More precisely:

– on the one hand, we processed the item-container for "by function" activities exactly as it was valued in the most recent Income Statements available (2015), evaluating the possible presence of what has been defined as Additional Revenue/1;

- programs that strongly integrate hospital and community care, health and social care, with special reference to lengthy or recurrent chronic illnesses;
- assistance programs with a high degree of customization of the service or the service rendered to the person;
- activities carried out by participating in prevention programs;
- assistance programs for rare diseases;
- activities with significant waiting costs, including the First Aid and emergency transport system;
- experimental assistance programs;
- organ, bone marrow and tissue transplant programs, including maintenance and monitoring of the donor, the removal of organs, transport activities, coordination and organization of the network of removal and transplants, and preliminary testing on donors.

[5] See the Ministerial Decree implementing Art. 1, Paragraph 526 of the 2016 Stability Law, on the basis of Art. 8-*sexies* of Legislative Decree 502/1992, as amended.

– and on the other, we examined this item within in a scenario, which takes into account the provisions of the Ministerial Decree mentioned earlier (see note 5), which opens up prospects for further evaluation of "by function" activities, in order to fuel what has been defined as Additional Revenue/2[6].

The first simulation for Additional Revenue/1 has been described in detail in Section 1 of the Appendices and refers to Table App. 1 and the comments contained therein. In any case, it is a good idea to here summarize the exam process and its conclusions from Table 13.

Here is an easy-to-read summary of the procedures:

a) the amounts of "by function" activities as reported in the Income Statements of the individual Hospital Centers (Column 1) were compared to the amounts determined on the basis of the resolutions adopted initially by the Regional Administration (Column 2), thereby constituting a theoretical Additional Revenue/1 (Column 3);
b) it was, however, taken into account that this theoretical Additional Revenue/1 comes in part from Administration resolutions for the initial allocation of resources and in part to the final accounting maneuver through which the Regional Health System can pay for additional "by function" activities, performed downstream of the initial allocation. But the theoretical Additional Revenue/1 may also include an additional amount that does not always fully correspond to reality: on the basis of results of specific qualitative interviews and the experience gained in this regard during the examination conducted in previous "Health & Hospitals" Reports on expenditures for the Public Hospital system of the different Regions as well as on the Income Statements of the Hospital Centers, it was deemed possible to assume a differentiation between 20% and 30% of theoretical Additional Revenue/1, whose incidence on total Revenues is contained in Columns 4 and 5 of Table 13[7];

[6] Moreover, at present a special commission is working with the Ministry of Health to define the criteria for determining the percentages of lump-sum payment amounts of "by function" activities, in order to take into account what actually is and will be carried out by hospital facilities, while the concrete application of these criteria will refer to the individual Regional Health Systems.

[7] Please note – by way of example – that the 20% -30% differentiation assumed has already been noted in the simulation carried out for the "2010 Health & Hospitals" Report, when it was estimated, without any well-founded criticism by the various Regional Health Systems, that the rate of implicit inefficiency in the public hospital system was between 20.5% for hospital facilities in the North and 34.7% for hospital facilities in the South.

*Table 13 – Differentiation estimate of Additional Revenue/1 received from the potentially excessively high amount accorded to "by function" activities, with reference to Italian Hospital Centers grouped by geographical area and to all the directly managed hospitals**

Hospital Centers (1)	1 *Revenues from FSR transfer for "by function" activities reported on the IS (Code AA0020)*	2 *"By function" activities recognized by Regional Administration resolutions*	3 *Estimate of Additional Revenue/1 resulting from excessive funding of "by function" activities compared to allocation by Resolution or from major Losses resulting in less funding for said activities*	4 *% "Minimum" Additional Revenue/1 (at 20% of the amounts in Column 3)*	5 *% "Maximum" Additional Revenue/1 (at 30% of the amounts in Column 3)*	6 *Deficit % of the Total Revenues*	7 *Differentiation % of Total Additional Revenue/1 (conservatively estimated) out of total Revenues*	
							Min.	*Max.*
H.C. 1	31,735,000	14,105,000	17,630,000	2.3	3.4	1.7	4.0	5.1
H.C. 2	68,212,000	26,725,000	41,487,000	2.9	4.4	0.4	3.3	4.8
H.C. 3	45,863,000	26,602,000	19,261,000	1.6	2.4	2.3	3.9	4.7
H.C. 4	61,100,000	24,146,000	36,954,000	3.0	4.5	1.8	4.8	6.3
H.C. 5	41,894,000	19,635,000	22,259,000	2.4	3.6	-	2.4	3.6
H.C. 6	396,728,000	125,475,000	271,253,000	5.1	7.6	0.4	5.5	8.0
H.C. 7	63,867,000	31,100,000	32,767,000	1.7	2.5	-	1.7	2.5
H.C. 8	36,399,000	13,044,000	23,355,000	2.9	4.3	-	2.9	4.3
H.C. 9	55,525,000	28,217,000	27,308,000	1.8	2.7	-	1.8	2.7
H.C. 10	128,197,000	41,504,000	86,693,000	2.5	3.8	-	2.5	3.8
H.C. 11	31,702,000	8,698,000	23,004,000	3.4	5.1	-	3.4	5.1
H.C. 12	42,490,000	16,947,000	25,543,000	2.1	3.1	-	2.1	3.1
H.C. 13	48,399,000	23,543,000	24,856,000	1.9	2.9	-	1.9	2.9
H.C. 14	23,828,000	9,181,000	14,647,000	2.2	3.4	-	2.2	3.4
H.C. 15	88,900,000	30,973,000	57,927,000	3.4	5.1	-	3.4	5.1
H.C. 16	26,049,000	26,049,000	-	-	-	-	-	-
H.C. 17	106,078,000	20,993,000	85,085,000	3.5	5.3	-	3.5	5.3
H.C. 18	40,572,000	18,418,000	22,154,000	2.5	3.7	-	2.5	3.7
H.C. 19	17,241,000	15,172,000	2,069,000	0.2	0.3	-	0.2	0.3
H.C. 20	111,254,000	26,350,000	84,904,000	4.0	6.0	-	4.0	6.0
H.C. 21	36,557,000	16,158,000	20,399,000	1.5	2.2	-	1.5	2.2
H.C. 22	143,169,000	23,804,000	119,365,000	4.4	6.6	-	4.4	6.6
H.C. 23	34,897,000	34,897,000	-	-	-	-	-	-
H.C. 24	60,719,000	13,757,000	46,962,000	5.0	7.5	-	5.0	7.5
H.C. 25	45,931,000	13,731,000	32,200,000	2.7	4.1	-	2.7	4.1
H.C. 26	34,226,000	1,913,000	32,313,000	5.1	7.6	-	5.1	7.6

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(cont.) *Table 13 – Differentiation estimate of Additional Revenue/1 received from the potentially excessively high amount accorded to "by function" activities, with reference to Italian Hospital Centers grouped by geographical area and to all the directly managed hospitals**

Hospital Centers (1)	1 *Revenues from FSR transfer for "by function" activities reported on the IS (Code AA0020)*	2 *"By function" activities recognized by Regional Administration resolutions*	3 *Estimate of Additional Revenue/1 resulting from excessive funding of "by function" activities compared to allocation by Resolution or from major Losses resulting in less funding for said activities*	4 *% "Minimum" Additional Revenue/1 (at 20% of the amounts in Column 3)*	5 *% "Maximum" Additional Revenue/1 (at 30% of the amounts in Column 3)*	6 *Deficit % of the Total Revenues*	7 *Differentiation % of Total Additional Revenue/1 (conservatively estimated) out of total Revenues*	
							Min.	*Max.*
H.C. 27	100,365,000	13,052,000	87,313,000	4.4	6.6	-	4.4	6.6
H.C. 28	93,499,000	32,212,000	61,287,000	3.1	4.7	-	3.1	4.7
H.C. 29	107,748,000	23,009,000	84,739,000	5.9	8.9	-	5.9	8.9
H.C. 30	100,781,000	13,995,000	86,786,000	6.3	9.4	-	6.3	9.4
H.C. 31	63,257,000	36,762,000	26,495,000	1.5	2.2	-	1.5	2.2
H.C. 32	42,711,000	19,958,000	22,753,000	1.4	2.0	-	1.4	2.0
H.C. 33	63,355,000	14,206,000	49,149,000	4.6	6.9	-	4.6	6.9
H.C. 34	52,013,000	20,496,000	31,517,000	1.6	2.5	-	1.6	2.5
H.C. 35	63,491,000	20,639,000	42,852,000	3.7	5.6	-	3.7	5.6
H.C. 36	83,433,000	54,120,000	29,313,000	1.1	1.6	14.3	15.4	15.9
H.C. 37	94,042,000	55,880,000	38,162,000	1.5	2.2	-	1.5	2.2
H.C. 38	93,721,000	25,960,000	67,761,000	4.9	7.4	-	4.9	7.4
H.C. 39	121,636,000	43,120,000	78,516,000	3.9	5.8	-	3.9	5.8
H.C. 40	58,150,000	42,000,000	16,150,000	0.8	1.3	-	0.8	1.3
H.C. 41	30,311,000	18,000,000	12,311,000	0.8	1.3	-	0.8	1.3
H.C. 42	44,960,000	31,000,000	13,960,000	1.1	1.6	-	1.1	1.6
H.C. 43	91,752,000	63,000,000	28,752,000	1.0	1.5	-	1.0	1.5
H.C. 44	85,220,000	32,146,000	53,074,000	3.3	5.0	-	3.3	5.0
North Italy Total	***3,211,977,000***	***1,210,692,000***	***2,001,285,000***	***2.8***	***4.2***	***0.7***	***3.5***	***4.9***
H.C. 45	147,828,000	63,054,000	84,774,000	3.0	4.5	-	3.0	4.5
H.C. 46	88,039,000	31,866,000	56,173,000	3.5	5.2	-	3.5	5.2
H.C. 47	183,787,000	111,720,000	72,067,000	2.3	3.5	-	2.3	3.5
H.C. 48	31,930,000	11,074,000	20,856,000	3.6	5.4	-	3.6	5.4
H.C. 49	70,763,000	23,052,000	47,711,000	3.9	5.8	-	3.9	5.8
H.C. 50	*80,319,000*	46,782,000	33,537,000	1.7	2.5	-	1.7	2.5
H.C. 51	37,548,000	34,000,000	3,548,000	0.2	0.3	-	0.2	0.3

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(cont.) *Table 13 – Differentiation estimate of Additional Revenue/1 received from the potentially excessively high amount accorded to "by function" activities, with reference to Italian Hospital Centers grouped by geographical area and to all the directly managed hospitals**

Hospital Centers (1)	1 *Revenues from FSR transfer for "by function" activities reported on the IS (Code AA0020)*	2 *"By function" activities recognized by Regional Administration resolutions*	3 *Estimate of Additional Revenue/1 resulting from excessive funding of "by function" activities compared to allocation by Resolution or from major Losses resulting in less funding for said activities*	4 *% "Minimum" Additional Revenue/1 (at 20% of the amounts in Column 3)*	5 *% "Maximum" Additional Revenue/1 (at 30% of the amounts in Column 3)*	6 *Deficit % of the Total Revenues*	7 *Differentiation % of Total Additional Revenue/1 (conservatively estimated) out of total Revenues*	
							Min.	*Max.*
H.C. 52	45,251,000	21,000,000	24,251,000	2.6	3.9	-	2.6	3.9
H.C. 53	53,604,000	57,122,000	- 3.518.000	1.1	1.1	52.7	53.8	53.8
H.C. 54	30,429,000	31,096,000	- 667.000	0.4	0.4	49.1	49.5	49.5
H.C. 55	88,896,000	57,798,000	31,098,000	1.4	2.1	21.0	22.4	23.1
H.C. 56	23,263,000	26,026,000	- 2.763.000	1.4	1.4	27.7	29.1	29.1
H.C. 57	37,438,000	34,476,000	2,962,000	0.3	0.4	30.6	30.9	31.0
Central Italy Total	***919,095,000***	***549,066,000***	***383,925,000***	***1.9***	***2.8***	***11.1***	***13.0***	***13.9***
H.C. 58	110,668,000	62,650,000	48,018,000	2.3	3.4	-	2.3	3.4
H.C. 59	73,480,000	28,702,000	44,778,000	3.5	5.3	-	3.5	5.3
H.C. 60	108,894,000	66,900,000	41,994,000	2.3	3.5	-	2.3	3.5
H.C. 61	39,210,000	21,600,000	17,610,000	2.4	3.5	-	2.4	3.5
H.C. 62	95,000,000	59,200,000	35,800,000	2.3	3.5	-	2.3	3.5
H.C. 63	77,935,000	61,600,000	16,335,000	1.0	1.6	-	1.0	1.6
H.C. 64	43,807,000	32,300,000	11,507,000	1.2	1.9	2.1	3.3	4.0
H.C. 65	33,768,000	28,400,000	5,368,000	0.8	1.2	-	0.8	1.2
H.C. 66	46,085,000	29,900,000	16,185,000	1.8	2.7	4.2	6.0	6.9
H.C. 67	37,224,000	24,432,000	12,792,000	1.7	2.6	-	1.7	2.6
H.C. 68	62,430,000	45,900,000	16,530,000	1.2	1.7	-	1.2	1.7
H.C. 69	63,301,000	25,764,000	37,537,000	3.3	4.9	-	3.3	4.9
H.C. 70	*88,598,000*	15,576,000	73,022,000	7.6	11.5	0.9	8.5	12.4
H.C. 71	65,364,000	15,021,000	50,343,000	5.9	8.9	1.8	7.7	10.7
H.C. 72	9,226,000	5,276,000	3,950,000	1.4	2.0	51.5	52.9	53.5
H.C. 73	63,952,000	14,795,000	49,157,000	5.8	8.8	-	5.8	8.8
H.C. 74	68,619,000	22,500,000	46,119,000	4.7	7.1	-	4.7	7.1
H.C. 75	71,925,000	28,500,000	43,425,000	3.5	5.3	-	3.5	5.3
H.C. 76	139,004,000	41,250,000	97,754,000	5.0	7.4	-	5.0	7.4

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(cont.) *Table 13 – Differentiation estimate of Additional Revenue/1 received from the potentially excessively high amount accorded to "by function" activities, with reference to Italian Hospital Centers grouped by geographical area and to all the directly managed hospitals**

Hospital Centers (1)	1 *Revenues from FSR transfer for "by function" activities reported on the IS (Code AA0020)*	2 *"By function" activities recognized by Regional Administration resolutions*	3 *Estimate of Additional Revenue/1 resulting from excessive funding of "by function" activities compared to allocation by Resolution or from major Losses resulting in less funding for said activities*	4 *% "Minimum" Additional Revenue/1 (at 20% of the amounts in Column 3)*	5 *% "Maximum" Additional Revenue/1 (at 30% of the amounts in Column 3)*	6 *Deficit % of the Total Revenues*	7 *Differentiation % of Total Additional Revenue/1 (conservatively estimated) out of total Revenues*	
							Min.	*Max.*
H.C. 77	87,000,000	19,000,000	68,000,000	6.9	10.3	1.0	7.9	11.3
H.C. 78	54,069,000	21,750,000	32,319,000	3.3	4.9	-	3.3	4.9
H.C. 79	118,164,000	30,250,000	87,914,000	5.7	8.6	-	5.7	8.6
H.C. 80	161,146,000	30,750,000	130,396,000	7.5	11.2	-	7.5	11.2
H.C. 81	94,500,000	21,500,000	73,000,000	6.6	9.8	-	6.6	9.8
H.C. 82	35,000,000	19,436,000	15,564,000	1.9	2.9	17.2	19.1	20.1
H.C. 83	37,329,000	16,046,000	21,283,000	3.0	4.5	12.8	15.8	17.3
H.C. 84	28,000,000	15,000,000	13,000,000	1.8	2.7	9.7	11.5	12.4
South Italy Total	***1,913,698,000***	***803,998,000***	***1,109,700,000***	***3.6***	***5.4***	***1.8***	***5.4***	***7.2***
Hospital Center Total	***6,044,770,000***	***2,563,756,000***	***3,494,910,000***	***2.8***	***4.2***	***2.7***	***5.5***	***6.9***

(*) For details of individual Hospital Centers, see Table App. 1 in Section 1 of the Appendices, p. 190-196.
(1) Includes Hospital Centers integrated with Universities (AOU).
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table 14 – Differentiation estimate in millions of Euros of potential Additional Revenue/1, including any operating losses

Geographical area	*Total Revenues (Mil. €)*[1]	*Differentiation Additional Revenue/1*[2]			
		A.V. (Mil. €)		*%*	
		Min.	*Max.*	*Min.*	*Max.*
– North Italy Hospital Centers	14,437	505	707	3.5	4.9
– Central Italy Hospital Centers	4,139	538	575	13.0	13.9
– South Italy Hospital Centers	6,122	330	440	5.4	7.2
– Total Hospital Centers	24,698	1,373	1,722	5.5	6.9
– Total Directly managed hospitals	21,757	1,197	1,501	5.5	6.9
– Total Hospital Centers + Directly managed hospitals	46,455	2,570	3,223	-	-

(1) See Table App. 1, Column 8 in Section 1 of the Appendices, p. 190 et seq. (for the expenditure figures for the Hospital Centers; the methods for estimating the expenditure for directly managed hospitals are described in the notes contained in Section 1 of the Appendices).
(2) See Table App. 1 and its description of the calculations in Section 1 of the Appendices, p. 190 et seq.
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

c) then, to the percentages contained in Columns 4 and 5 was added the incidence (Column 6) of any operating Losses[8] on Total Revenues, thereby arriving at the differentiation of "real" Additional Revenue/1 (Column 7).

The final results of amounts for the first simulation is summarized in Table 14, which also includes the (national) estimate of the corresponding amount of the directly managed Hospitals[9].

As can be seen the amount of "real" Additional Revenue/1 for the entire public hospital system is between Eur 2,570.000 and 3,223.000, figures corresponding to an incidence on total Revenues that varies between 5.5% and 6.9%.

The second simulation performed about a possible scenario that takes into account the application of the aforementioned Ministerial Decree[10] for whose implementation a special Ministerial Commission is defining the criteria that individual Regional Health Systems must take into account when allocating the lump sum coverage of "by function" activities and, which, in fact, may not exceed 30% of the total theoretical Revenues, generously determined through a calculation under 100[11].

In operational terms it was not possible to make large assumptions and thus the following was done (see Table 15)[12]:

[8] It should be remembered that any operating losses present in the Income Statements (especially in the Hospital Centers of Central and South Italy, as shown in Table App. 1 in the Appendices) must however be rescheduled and are therefore comparable, within the framework of the logic adopted, to de facto Additional Revenue.

[9] The detail of the calculations, performed for each Hospital Center and the criteria adopted for the estimates are illustrated by Table App. 1 and the corresponding comments in Section 1 of the Appendices.

[10] The Ministerial Decree implementing Art. 1, Paragraph 526 of the 2016 Stability Law, on the basis of Art. 8-*sexies* of Legislative Decree 502/1992, as amended. It states that "the total amount of payment for "by function" activities may not in any case exceed 30% of the already assigned payment limit". Please also note that already in the 2016 budget the Hospital Centers were supposed to incorporate this provision, while directly managed Hospitals should incorporate it starting in 2017.

[11] The formula used to define the amount on the basis of the 30% scenario is as follows:

$$\frac{\begin{array}{c}Revenues\ for\ health\ and\ social\ health\ services \\ + Collections\ of\ co-payment\ charges\ from\ patients \\ + Extra\ basic\ levels\ of\ assistance\ (LEA)\ contributions\end{array}}{70} * 30\%$$

N.B.: The above formula is used for the maximum scenario (that of 30%), and it is thus only necessary to replace the 30% (maximum), used in the above formula with 20% (minimum).

[12] For details of the calculations for each individual Hospital Center, see Table App. 2, and the comments in Section 1 of the Appendices.

a) first, (according to the formula in note 11) the percentage of total revenues in 2015 was calculated corresponding to the amount of "by function" activities effectively reported by each Hospital Center on its 2015 Income Statement: and this was done for two scenarios, one for 30% and one for 20% (see Column 2 and Column 6). Already here the comparison between Hospital Centers in North, Central and South Italy clearly shows the probable presence of Additional Revenue/2, if we consider the percentage of Hospitals that have reported an amount of "by function" activity, up to 20%, more than 20%, up to 30%, more than 30%, or even over 40%, respectively, as shown in the following chart summary:

Hospital Centers	*A.V.*	*% of "by function" activities out of Total Revenues 2015*				
		Up to 20%	*Over 20% and up to 30%*	*Over 30%*	*Over 40%*	*Total*
H.C. in North Italy	44	43.0%	36.0%	21.0%	-	100.0%
H.C. in Central Italy	13	39.0%	46.0%	15.0%	-	100.0%
H.C. in South Italy	27	4.0%	40.0%	30.0%	26.0%	100.0%
Total H.C.	84	-	-	-	-	100.0%

Thus Hospital Centers in North Italy are concentrated in the medium-low range (43% + 36%), Hospital Centers in Central Italy are also in the medium-low range (39% and 46%), while Hospital Centers in South Italy are concentrated in the medium-high and high range (40% and 56%).

As can be seen from the data in the chart above, Hospital Centers that already presently declare an amount of "by function" activity in excess of the 30% set out by the Ministerial Decree (the maximum scenario) are:

- 21% of those in North Italy;
- 15% of those in the Central Italy;
- and as many as 56% of those in South Italy.

It is therefore evident that the amount of Revenues that exceeds 30% (and are not automatically attributed, since they must take into account the criteria established by the Ministerial Commission) can only create additional losses to the affected Hospital Centers;

b) after this the theoretical value of "by function" activities was calculated for scenarios of a maximum of 30%, an average of 25%, and a minimum of 20% and this result was compared with what was already indicated in the Income Statement, to detect any positive or negative differences. But the calculation of the percentages of theoretical Additional Revenue/2 did not contain any positive values of this difference for the obvious reason that generating surpluses due to the overvaluation of "by function" activities is unthinkable. Conversely, if the scenario adopted (that of 30%

Table 15 – Simulation of the possible Additional Revenue/2 coming from the application of the funding of "by function" activities as per Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum scenario of 30% and minimum scenario of 20% (in millions of euro)

	1	2	3	4	5	6	7	8	9	10	
		30% SCENARIO				**20% SCENARIO**					
Hospital Centers (1)	*Revenues from FSR transfer for "by function" activities reported on the IS (Code AA0020)*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*Differentiation of Additional Revenue/2 (in millions of euro)*	
										Min.	*Max.*
H.C. 1	31,735,000	21.8	8.2	17,187,286	0.0	21.8	-1.8	879,857	0.0	0.0	0.0
H.C. 2	68,212,000	25.1	4.9	18,823,571	0.0	25.1	-5.1	-10,188,286	3.6	0.0	3.6
H.C. 3	45,863,000	19.6	10.4	34,752,571	0.0	19.6	0.4	7,880,714	0.0	0.0	0.0
H.C. 4	61,100,000	25.7	4.3	14,669,286	0.0	25.7	-5.7	-10,587,143	4.3	0.0	4.3
H.C. 5	41,894,000	22.6	7.4	19,573,429	0.0	22.6	-2.6	-915,714	0.5	0.0	0.5
H.C. 6	396,728,000	39.3	-9.3	-134,342,000	12.5	39.3	-19.3	-221,804,000	20.7	12.5	20.7
H.C. 7	63,867,000	17.8	12.2	62,442,429	0.0	17.8	2.2	20,339,286	0.0	0.0	0.0
H.C. 8	36,399,000	22.8	7.2	16,285,286	0.0	22.8	-2.8	-1,276,143	0.8	0.0	0.8
H.C. 9	55,525,000	19.2	10.8	44,502,286	0.0	19.2	0.8	11,159,857	0.0	0.0	0.0
H.C. 10	128,197,000	20.2	9.8	89,399,429	0.0	20.2	-0.2	16,867,286	0.0	0.0	0.0
H.C. 11	31,702,000	24.3	5.7	10,565,429	0.0	24.3	-4.3	-3,523,714	2.6	0.0	2.6
H.C. 12	42,490,000	17.9	12.1	40,877,857	0.0	17.9	2.1	13,088,571	0.0	0.0	0.0
H.C. 13	48,399,000	20.0	10.0	34,386,429	0.0	20.0	-0.0	6,791,286	0.0	0.0	0.0
H.C. 14	23,828,000	19.1	10.9	19,531,000	0.0	19.1	0.9	5,078,000	0.0	0.0	0.0
H.C. 15	88,900,000	29.6	0.4	1,885,571	0.0	29.6	-9.6	-28,376,286	8.3	0.0	8.3
H.C. 16	26,049,000	12.1	17.9	54,699,000	0.0	12.1	7.9	27,783,000	0.0	0.0	0.0
H.C. 17	106,078,000	24.1	5.9	37,369,571	0.0	24.1	-4.1	-10,446,286	2.1	0.0	2.1
H.C. 18	40,572,000	23.3	6.7	16,800,000	0.0	23.3	-3.3	-2,324,000	1.3	0.0	1.3
H.C. 19	17,241,000	10.4	19.6	46,157,571	0.0	10.4	9.6	25,024,714	0.0	0.0	0.0
H.C. 20	111,254,000	29.4	0.6	3,490,857	0.0	29.4	-9.4	-34,757,429	8.2	0.0	8.2
H.C. 21	36,557,000	14.0	16.0	59,634,571	0.0	14.0	6.0	27,570,714	0.0	0.0	0.0
H.C. 22	143,169,000	30.7	-0.7	-4,470,429	0.8	30.7	-10.7	-50,703,286	9.3	0.8	9.3
H.C. 23	34,897,000	19.1	10.9	28,505,857	0.0	19.1	0.9	7,371,571	0.0	0.0	0.0
H.C. 24	60,719,000	33.6	-3.6	-9,183,714	4.9	33.6	-13.6	-26,362,143	14.0	4.9	14.0
H.C. 25	45,931,000	22.9	7.1	20,306,857	0.0	22.9	-2.9	-1,772,429	0.7	0.0	0.7
H.C. 26	34,226,000	28.3	1.7	2,941,000	0.0	28.3	-8.3	-9,448,000	7.4	0.0	7.4

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(cont.) *Table 15 – Simulation of the possible Additional Revenue/2, coming from the financing of "a tool" activities as per Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum of 30% and minimal hypothesis of 20% assumption (in millions of euro)*

	1	2	3	4	5	6	7	8	9	10	
		30% SCENARIO				**20% SCENARIO**					
Hospital Centers (1)	*Revenues from FSR transfer for "by function" activities reported on the IS (Code AA0020)*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement. but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*Differentiation of Additional Revenue/2 (in millions of euro)* Min.	Max.
H.C. 27	100,365,000	26.4	3.6	19,352,143	0.0	26.4	-6.4	-20,553,571	5.2	0.0	5.2
H.C. 28	93,499,000	25.1	4.9	26,181,714	0.0	25.1	-5.1	-13,711,857	3.5	0.0	3.5
H.C. 29	107,748,000	39.2	-9.2	-36,009,000	12.5	39.2	-19.2	-59,922,000	20.9	12.5	20.9
H.C. 30	100,781,000	37.6	-7.6	-28,970,857	10.4	37.6	-17.6	-52,907,571	19.1	10.4	19.1
H.C. 31	63,257,000	18.8	11.2	53,691,571	0.0	18.8	1.2	14,708,714	0.0	0.0	0.0
H.C. 32	42,711,000	14.0	16.0	69,537,429	0.0	14.0	6.0	32,121,286	0.0	0.0	0.0
H.C. 33	63,355,000	31.7	-1.7	-4,864,429	2.3	31.7	-11.7	-24,361,286	11.4	2.3	11.4
H.C. 34	52,013,000	15.1	14.9	72,954,143	0.0	15.1	4.9	31,298,429	0.0	0.0	0.0
H.C. 35	63,491,000	30.8	-0.8	-2,381,857	1.0	30.8	-10.8	-22,751,571	9.8	1.0	9.8
H.C. 36	83,433,000	16.4	13.6	98,563,714	0.0	16.4	3.6	37,898,143	0.0	0.0	0.0
H.C. 37	94,042,000	18.6	11.4	81,764,429	0.0	18.6	1.4	23,162,286	0.0	0.0	0.0
H.C. 38	93,721,000	37.0	-7.0	-25,252,000	9.2	37.0	-17.0	-48,075,000	17.4	9.2	17.4
H.C. 39	121,636,000	32.1	-2.1	-11,274,571	2.8	32.1	-12.1	-48,061,714	11.8	2.8	11.8
H.C. 40	58,150,000	17.6	12.4	58,229,429	0.0	17.6	2.4	19,436,286	0.0	0.0	0.0
H.C. 41	30,311,000	10.9	19.1	75,432,143	0.0	10.9	9.1	40,184,429	0.0	0.0	0.0
H.C. 42	44,960,000	17.7	12.3	44,778,571	0.0	17.7	2.3	14,865,714	0.0	0.0	0.0
H.C. 43	91,752,000	17.2	12.8	97,423,286	0.0	17.2	2.8	34,364,857	0.0	0.0	0.0
H.C. 44	85,220,000	28.9	1.1	4,664,286	0.0	28.9	-8.9	-25,297,143	7.9	0.0	7.9
North Italy Total	***3,211,977,000***	***24.0***	***6.0***	***1,654,108,857***	***1.8***	***24.0***	***-4.0***	***1,146,001,571***	***5.0***	***1.8***	***5.0***
H.C. 45	147,828,000	27.5	2.5	19,224,429	0.0	27.5	-7.5	-36,459,714	6.4	0.0	6.4
H.C. 46	88,039,000	28.5	1.5	6,641,857	0.0	28.5	-8.5	-24,918,429	7.7	0.0	7.7
H.C. 47	183,787,000	31.1	-1.1	-9,170,286	1.5	31.1	-11.1	-67,375,857	10.9	1.5	10.9
H.C. 48	31,930,000	30.3	-0.3	-472,000	0.4	30.3	-10.3	-10,958,000	9.5	0.4	9.5
H.C. 49	70,763,000	29.6	0.4	1,325,286	0.0	29.6	-9.6	-22,704,143	9.2	0.0	9.2
H.C. 50	*80,319,000*	21.0	9.0	49,477,714	0.0	21.0	-1.0	6,212,143	0.0	0.0	0.0
H.C. 51	37,548,000	11.5	18.5	86,259,000	0.0	11.5	8.5	44,990,000	0.0	0.0	0.0

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(cont.) *Table 15 – Simulation of the possible Additional Revenue/2, coming from the financing of "a tool" activities as per Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum of 30% and minimal hypothesis of 20% assumption (in millions of euro)*

	1	2	3	4	5	6	7	8	9	10	
		30% SCENARIO				**20% SCENARIO**					
Hospital Centers (1)	*Revenues from FSR transfer for "by function" activities reported on the IS (Code AA0020)*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement. but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement. but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*Differentiation of Additional Revenue/2 (in millions of euro)* Min.	Max.
H.C. 52	45,251,000	24.5	5.5	14,590,429	0.0	24.5	-4.5	-5,356,714	2.9	0.0	2.9
H.C. 53	53,604,000	18.4	11.6	48,525,000	0.0	18.4	1.6	14,482,000	0.0	0.0	0.0
H.C. 54	30,429,000	20.0	10.0	21,674,143	0.0	20.0	-0.0	4,306,429	0.0	0.0	0.0
H.C. 55	88,896,000	21.5	8.5	50,491,714	0.0	21.5	-1.5	4,029,143	0.0	0.0	0.0
H.C. 56	23,263,000	13.7	16.3	39,420,286	0.0	13.7	6.3	18,525,857	0.0	0.0	0.0
H.C. 57	37,438,000	17.3	12.7	39,503,857	0.0	17.3	2.7	13,856,571	0.0	0.0	0.0
Central Italy Total	***919,095,000***	***23.4***	***6.6***	***386,776,000***	***0.2***	***23.4***	***-3.4***	***274,175,000***	***4.1***	***0.2***	***4.1***
H.C. 58	110,668,000	26.8	3.2	18,641,429	0.0	26.8	-6.8	-24,461,714	5.8	0.0	5.8
H.C. 59	89,544,000	31.7	-1.7	-6,943,286	2.4	31.7	-11.7	-34,476,857	12.0	2.4	12.0
H.C. 60	108,894,000	32.0	-2.0	-9,844,286	2.7	32.0	-12.0	-42,860,857	11.8	2.7	11.8
H.C. 61	39,210,000	29.4	0.6	1,085,571	0.0	29.4	-9.4	-12,346,286	8.3	0.0	8.3
H.C. 62	95,000,000	31.8	-1.8	-7,700,000	2.5	31.8	-11.8	-36,800,000	11.8	2.5	11.8
H.C. 63	77,935,000	27.6	2.4	9,812,857	0.0	27.6	-7.6	-19,436,429	6.2	0.0	6.2
H.C. 64	43,807,000	26.2	3.8	9,068,000	0.0	26.2	-6.2	-8,557,000	4.6	0.0	4.6
H.C. 65	33,768,000	28.0	2.0	3,468,429	0.0	28.0	-8.0	-8,943,714	6.7	0.0	6.7
H.C. 66	46,085,000	28.7	1.3	2,978,286	0.0	28.7	-8.7	-13,376,143	7.5	0.0	7.5
H.C. 67	37,224,000	27.3	2.7	5,237,571	0.0	27.3	-7.3	-8,916,286	6.0	0.0	6.0
H.C. 68	62,430,000	23.0	7.0	27,136,714	0.0	23.0	-3.0	-2,718,857	1.0	0.0	1.0
H.C. 69	63,301,000	29.1	0.9	2,782,143	0.0	29.1	-9.1	-19,245,571	8.4	0.0	8.4
H.C. 70	*88,598,000*	47.4	-17.4	-46,383,286	24.3	47.4	-27.4	-60,454,857	31.6	24.3	31.6
H.C. 71	65,364,000	40.1	-10.1	-23,462,143	13.8	40.1	-20.1	-37,429,429	22.0	13.8	22.0
H.C. 72	9,226,000	19.3	10.7	7,265,857	0.0	19.3	0.7	1,768,571	0.0	0.0	0.0
H.C. 73	63,952,000	40.4	-10.4	-23,557,857	14.0	40.4	-20.4	-37,022,571	22.0	14.0	22.0
H.C. 74	68,619,000	36.1	-6.1	-16,559,571	8.5	36.1	-16.1	-33,912,714	17.3	8.5	17.3
H.C. 75	71,925,000	30.6	-0.6	-1,869,000	0.8	30.6	-10.6	-25,221,000	10.3	0.8	10.3
H.C. 76	139,004,000	36.9	-6.9	-37,266,714	9.5	36.9	-16.9	-71,179,143	18.1	9.5	18.1
H.C. 77	87,000,000	45.3	-15.3	-41,943,429	21.2	45.3	-25.3	-56,962,286	28.8	21.2	28.8

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(cont.) *Table 15 – Simulation of the possible Additional Revenue/2, coming from the financing of "a tool" activities as per Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum of 30% and minimal hypothesis of 20% assumption (in millions of euro)*

	1	2	3	4	5	6	7	8	9	10	
		30% SCENARIO				**20% SCENARIO**					
Hospital Centers (1)	*Revenues from FSR transfer for "by function" activities reported on the IS (Cod, AA0020)*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement. but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement. but calculated according to the Ministerial Decree*	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value*	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities*	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario*	*Differentiation of Additional Revenue/2 (in millions of euro)*	
										Min.	*Max.*
H.C. 78	54,069,000	30.3	-0.3	-711,429	0.4	30.3	-10.3	-18,497,286	9.3	0.4	9.3
H.C. 79	118,164,000	40.1	-10.1	-42,366,429	13.8	40.1	-20.1	-67,632,286	22.0	13.8	22.0
H.C. 80	161,146,000	48.4	-18.4	-87,565,000	25.0	48.4	-28.4	-112,092,000	32.0	25.0	32.0
H.C. 81	94,500,000	44.5	-14.5	-44,069,143	19.8	44.5	-24.5	-60,879,429	27.4	19.8	27.4
H.C. 82	35,000,000	22.4	7.6	17,050,000	0.0	22.4	-2.4	-300,000	0.2	0.0	0.2
H.C. 83	37,329,000	30.9	-0.9	-1,485,429	1.1	30.9	-10.9	-13,433,286	9.5	1.1	9.5
H.C. 84	28,000,000	23.1	6.9	11,852,857	0.0	23.1	-3.1	-1,431,429	1.0	0.0	1.0
South Italy Total	***1,929,762,000***	***33.3***	***-3.3***	***508,106,714***	***6.4***	***33.3***	***-13.3***	***830,356,000***	***13.5***	***6.4***	***13.5***
Hospital Center Total	***6,060,834,000***	***26.3***	***3.7***	***2,548,991,571***	***2.7***	***26.3***	***-6.3***	***2,250,532,571***	***7.0***	***2.7***	***7.0***

(*) For details of individual Hospital Centers, see Table App. 2 and Table App. 2B and the commentary in Section 1 of the Appendices, p. 200-220.

(1) Includes Hospital Centers integrated with Universities (AOU).

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table 16 – Differentiated estimate in millions of euro of theoretical Additional Revenue/2, according to a maximum amount (30%) and minimum amount (20%) calculation scenario of "by function" activities, based on the provisions of the Ministerial Decree setting out allocation amounts[1]

Geographical area	*Total Revenues (Mil. €)*[2]	*Differentiation of theoretical Additional Revenue/2*[3]			
		A.V. (Mil. €)		*%*	
		Min.[4]	*Max.*[5]	*Min.*[4]	*Max.*[5]
– North Italy Hospital Centers	14,437	260	722	1.8	5.0
– Central Italy Hospital Centers	4,139	8	169	0.2	4.1
– South Italy Hospital Centers	6,122	394	831	6.4	13.5
– Total Hospital Centers	24,698	662	1,722	2.7	7.0
– Total Directly managed hospitals	21,757	588	1,524	2.7	7.0
– Total Hospital Centers + Directly managed hospitals	46,455	1,250	3,246	-	-

(1) See the Ministerial Decree implementing Art. 1, Paragraph 526 of the 2016 Stability Law, on the basis of Art. 8-*sexies* of Legislative Decree 502/1992, as amended.
(2) See Table App. 1, Column 8 in Section 1 of the Appendices, p. 190 et seq. (for the expenditure figures for the Hospital Centers; the methods for estimating the expenditure for directly managed hospitals are described in the notes contained in Section 1 of the Appendices).
(3) See Table App. 2 and App. 2B and its description of the calculations in Section 1 of the Appendices, p. 200 et seq.
(4) Amounts arising from a 30% allocation to "by function" activities, calculated as per the cited Ministerial Decree.
(5) Amounts arising from a 20% allocation to "by function" activities, calculated as per the cited Ministerial Decree.
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

as well as those of 25% and 20%) contained a lower value than that already indicated in the 2015 Income Statement, it would create a further deficit, which – as such – would completely fuel Additional Revenue/2[13];

c) in order to simplify the examination of the scenarios – as already mentioned – two methods were selected: that relating to a maximum of 30% (Column 4 and Column 5 of Table 15) and that relating to a minimum of 20% (Column 8 and Column 9 of Table 15), in order, once again here, to identify the differentiation, as shown in the last column of Table 15. The relative differentiation percentages, applied to the Total Revenues, yield the following absolute values (Table 16):
   - from Eur 662,000,000 to Eur 1,722,000,000 for Hospital Centers;
   - from Eur 588,000,000 to Eur 1,524,000,000 for directly managed hospitals;
   - for a total of between Eur 1,250,000,000 and Eur 3,246,000,000.

   Thus, the following observations can be made at the end of this section:

1) the amounts of "real" Additional Revenue/1 for "by function" activities were estimated from actual data from the 2015 Income Statement, according to a quite conservative scenario (mentioned at the beginning of this section), leading to an overall Additional Revenue for Hospital Centers and directly managed hospitals of between Eur 2,570,000,000 and Eur 3,223,000,000, corresponding to 5.5% and 6.9% of their total Revenues (see Table 14 above);
2) the amounts of "theoretical" Additional Revenue/2 resulting from the calculation of "by function" activities based on the provisions of the oft-cited Ministerial Decree, offer an opportunity to integrate the Revenues pertaining to that item, but in this regard it is necessary to stress that:
   a) first of all, the "real" Additional Revenue/1 already accounted for in the amounts of "by function" activities reported on the 2015, Income Statement was detected, this would also be strengthened by the many Hospital Centers, especially those in North and Central Italy, that close out the fiscal year with a perfectly balanced budget, which means that there is probably an implicit budget coverage, regardless of any subsequent adjustments, resulting from the allocation of lump-sum payments for "by function" activities;
   b) moreover, it proves difficult to imagine how suddenly the amount of the latter could increase significantly as a result of applying the lump

[13] The set of calculations based on the three assumptions of 30%, 25%, and 20%, respectively, is set out in Tables App. 2, App. 2A and App. 2B and the commentary in Section 1 of the Appendices, p. 200 et seq.

sums (under the mentioned Ministerial Decree), since fairly "generous" accounting maneuvers have already been applied to the Final Income Statement and, it is thus equally hard to believe that the Hospital Centers are able to steadily bolster their "by function" activities with any greater lump-sum payments from one year to the next just because its accounting valuation changes (although we must wait to see what criteria will be defined by the special Ministerial Commission in this regard);

c) thus, only a restructuring and reorganization effort would make a potential recovery of production capacity by the Hospital Centers in terms of additional "by function" activities credible;
d) not to mention that recognizing more resources for the Income Statement item in question would probably take away resources from other items or increase the operating losses, given the current limited possibilities of existing funding;

3) in any case, even the most favorable lump-sum simulation for "by function" activities (that of 30%) would end up "punishing" nine Hospital Centers in North Italy (out of 44), two Hospital Centers in Central Italy (out of 13), and as many as 15 Hospital Centers in South Italy (out of 27), as these Hospital Centers are already beyond the 30% ceiling and thus any reduction created by the cited Ministerial Decree would ultimately increase the operating losses over those at present;
4) thus we limited ourselves in the estimate of Additional Revenues 1 and 2 to considering only the first of the two (described in point 1 above), as it refers to a simulation based on 2015 Income Statement data. The simulation for Additional Revenues/2 is a parallel (and theoretical) exercise, aimed at disclosing, in aggregate terms, about what might give rise (see Table 16 above):
   - to, on the one hand, the allocation of a generalized (and impractical) maximum amount (30%) to "by function" activities that would generate Eur 1,249,000,000 in Additional Revenue/2, resulting solely from additional losses, given the fact that many Hospital Centers already exceed the maximum recognizable amount of 30%, which should be reduced;
   - and, on the other hand, the allocation of a minimum amount (20%) of recognition to "by function" activities, which would not further exacerbate the losses previously calculated, given that as many as 59 out of 84 Hospital Centers taken into consideration would exceed the lump-sum amount of 20%, again calculated on the basis of the cited

Ministerial Decree: in which case the Additional Revenue/2 would increase up to Eur 3,246,000,000 among Hospital Centers and directly managed Hospitals.

In both cases there would therefore be a further increase of Additional Revenues, that may (inevitably) be seen as a form of implicit budget coverage;

5) it is therefore necessary to use the opportunity presented by the Ministerial Decree, as it relates to the calculation of the amount of "by function" activities, to take a step forward in terms of greater transparency of the financial statements, as indeed is set out in a broad regulation that has grown gradually over time but is still infrequently applied, as is noted in the following Section 2.2.

In conclusion, it should be emphasized that improving statements through the use of accounting tricks simply means continuing to postpone structural problems, whereas, on the contrary, there is a need to courageously deal with the reduction of services, in order to effectively "free up" resources to be used to modify the organization, to improve the equipment and software, to adopt e-Health strategies (whose progress is still quite slow), and in particular to give greater and more adequate services to patients. Otherwise, the perverse game of "financial" healthcare, which ends up gradually worsening "real" healthcare, runs the risk of recurrence, while the "machine" remains what it is, penalizing patients and private service providers, with the end result increasingly eroding the universal and inclusive principle on which our National Health System is based – or should be based –.

2.2. The (much too) lengthy path towards the transparency and certification of public health facility financial statements

The assessment of the levels of efficiency of public and private healthcare facilities requires an analysis and a comparison of their financial statements, an operation made difficult by the lack of transparency and insufficient disclosure of data relating to public hospitals.

Past "Health & Hospitals" Reports have already highlighted the inadequacy of the procedures used for the compilation of the financial statements of public facilities, with specific reference to the timing of the preparation, standardization of the items and performance evaluation parameters, as well as the publication of the budgets.

In particular, the *2009 Report*[14] examined the first national provisions for the preparation of the financial statements of Hospital Centers and directly-managed Hospitals (Art. 5 of Legislative Decree no. 502/1992, subsequently amended by Legislative Decree no. 229/1999 and the Ministerial Decree of October 20, 1994, later amended by the Ministerial Decree of February 11, 2002). With this law, the national legislature emphasized, on the one hand, the need to keep analytical accounting for cost centers, to allow comparative analyses and, on the other, the obligation of the local health authorities and Hospital Centers to publish annual budgets and the results of theirs analyses of costs, revenues and results achieved. Those requirements, however, were and are strengthened by the previous Law no. 241/1990 on administrative procedure and the right of access to government documents, applicable to all government agencies.

Again in 2009, there was also proposed an overview of legislation relating to the preparation, publishing and access of hospital budgets, in force in some European countries (France, Belgium and England), where, however, different approached not easily comparable with that of Italy, were taken[15].

More recently, the 2013 Report described the main changes introduced by the national legislature and the regional administrations to ensure greater transparency and publicity of the budgets of public hospitals, even dealing with the need to reduce public healthcare spending. There has been in recent years an attempt at a comprehensive reform of the reporting system in order to bring the accounting model of the health authorities in line with to that of private enterprises, through the introduction of the institute for auditing procedures to ensure the reliability of accounting data[16].

In this perspective, the work done at the central level has been focused on the desire to ensure the so-called certifiability of hospital budgets, following similar principles to those used for most private entities, against which, civil regulations impose a system of checks entrusted not only to the internal board of auditors, but also to external auditing firms.

In this regard, it seems useful to clarify that the concept of the certifiability of the budgets of Local Health Authorities, Hospital Centers, public institutes for treatment and research, experimental veterinary institutes and

[14] See Ermeneia, *Health & Hospitals, Eleventh Annual Report 2009,* Rome, FrancoAngeli, p. 25 et seq.

[15] See Ermeneia, *Health & Hospitals, Eleventh Annual Report 2009,* Roma, FrancoAngeli, p. 29 et seq.

[16] See Ermeneia, *Health & Hospitals, Eleventh Annual Report, 2013,* Roma, FrancoAngeli, p. 64 et seq.

University Hospital Centers, was, indeed, already introduced by Art. 1, paragraph 291, of the Law of December 23, 2005, no. 266 (2006 Finance Act), which provision provided that "[...] by Decree of the Minister of Health, in consultation with the Minister of Economy and Finance, in agreement with the Permanent Conference for relations between the State, Regions and the Autonomous Provinces of Trento and Bolzano, the criteria and procedures are determined for the certification of the financial statements" of these entities.

The regulatory action was also submitted by the regions of Tuscany, Piedmont and Liguria for examination by the Constitutional Court, which, in judgment no. 121 of 21 March 2007, declared the invalidity of the issues raised by the local authorities, stating that the certification of financial statements of the National Health Service entities has a legal basis in the need to ensure the clarity, truthfulness and correctness of the financial statements and that, therefore, "[...] it is a legislative measure to be ascribed to matters related to the alignment of public accounts and coordination of public finance".

An express reference to the certifiability of financial statements is, however, apparent for the first time in Art. 11 of the 2010-2012 Healthcare Agreement, as set out in the agreed Framework by the Permanent Conference for relations between the State, the Regions and the autonomous Provinces of Trento and Bolzano, in its meeting of December 3, 2009. That provision, entitled 'Quality of accounting, facility and activities' data, sets out, in fact, that "Pursuant to the need to ensure coordination in the health sector of the function of government spending and improving the quality of its accounting and management data and the underlying processes for their production and representation, also in relation to the implementation of fiscal federalism, the Regions and Autonomous Provinces commit to ensuring the quality assurance of the administrative and accounting procedures underlying the correct accounting of corporate events, as well as the quality of accounting data. To this end [...] the Regions commit to initiate procedures to authenticate financial statements".

After the introduction of the certifiability of budgets in the hospital accounting system, a further key step towards the implementation of this reform is represented by the Legislative Decree of June 23, 2011, no. 118, which, in accordance with the Law of May 5, 2009, no. 42, on the issue of fiscal federalism, introduces regulations on the harmonization of accounting systems and the financial statements of the Regions, Local Authorities and their agencies. In particular, Title II of the Decree lays out "General and ap-

plied accounting standards for the healthcare sector", prescribing, for the entities involved in the management of healthcare expenditure, a series of coordinated and organic rules, introducing a common balance sheet for the estimated and annual budget and a minimum content of the chart of accounts, establishing that each of its items must correspond to ministerial models.

Article 22 of the Decree also grants the Regions the opportunity to choose to directly manage a share of the healthcare funding to which they are entitled, by identifying, within their own organizational structure, a specific management office, known as the Centralized Healthcare Management office (GSA, Gestione Sanitaria Accentrata). To this management office is entrusted "[...] the implementation and maintenance of an accounting department aimed at detecting, in a systematic and continuous manner, economic, capital and financial relations existing between the individual Region and the State, other Regions, health authorities, other public bodies and various third parties, relating to transactions financed by resources allocated to the respective regional health services". By opting for this choice, the Regions are also required to identify a person responsible for the centralized management in charge of the preparation of their financial statements and of the consolidated regional health budget, and a regional manager, so-called external certification authority, to certify the regular bookkeeping and accounting, reconciliation of the centralized healthcare management office (GSA) data with the results of the financial statements, reconciliation of cash data, the consistency of the data included in the ministerial accounting models with the accounting results.

The set of rules intended to ensure the harmonization and comparability of financial statements was further implemented by the Decree of the Minister of Health of September 17, 2012, adopted in agreement with the Minister of Economy and Finance in agreement with the Permanent Conference on relations between the State, the Regions and the autonomous Provinces of Trento and Bolzano, containing the on "Provisions on certifiability of the budgets of the national health service agencies". Article 2, paragraph 1, of the measure in question requires, in fact, public healthcare facilities to ensure the certifiability of their data and their own budgets, specifically defined as the application of accounting rules and a system that would make such institutions capable of successfully undergoing the accounting audits set out in Art. 5 at any time.

To facilitate the regional work, the same Decree also approved the so-called case series application related to the implementation and the keeping of economic and financial accounts of the centralized healthcare management office (GSA), and the application of specific valuation principles to

which the entities of the NHS must conform. It is basically a series of examples on the accounting treatment, the internal control system or on the evaluation of specific items or statement items which, due to the specificity of the field of application, were not immediately received from national accounting standards.

Also, in order to allow the Regions and Autonomous Provinces to implement the provisions of the aforementioned provision, the Ministry of Health intervened again with the Decree of March 1, 2013 entitled "Definition of the Certifiability Implementation Process", dictating in the first instance, the directions and guidelines for the phases of preparation, submitting, approval and verification of implementation of the Certifiability Process (P.A.C., Percorso Attuativo della Certificabilità), and then pointing out the obligations for every Region in the approval and verification phases during implementation of the process.

In 2015, even the National Anti-Corruption Authorities, in the document updating the National Anti-Corruption Plan, stressed the importance of implementing the work program set out in the certifiability implementation process (P.A.C.), understood as "[...] a fundamental instrument for control and reduction of the risk of administrative and accounting fraud in healthcare", useful for ensuring traceability and transparency of accounting and financial flows. The National Anti-Corruption Authorities therefore recommend that, "[...] the recipients provide evidence, through their institutional web sites, of the certifiability process of financial statements, including an indication of the specific phase of the process in progress in order to acknowledge the progress being made towards its completion".

This legislative framework has recently been addressed by the Decree of the Ministry of Health of June 21, 2016, on "Plans set out in Art. 1, paragraph 528, of the Law of December 28, 2015, no. 208, for Hospital Centers [AO in Italian], University Hospital Centers (AOU), institutes for treatment and research (IRCCS), or other public entities" for the implementation of paragraphs 524 ff., Art. 1 of the 2016 Stability Law (Law of December 28, 2015, no. 208), which reinforced the need for greater transparency of the budgets of public healthcare facilities.

The measure in fact imposes the adoption of debt rescheduling plans upon the entities of the NHS which have shown inefficient management, such measure being "[...] tools for achieving operating efficiency in these hospitals". The recipients of this obligation are the aforementioned healthcare facilities, identified in each Region, that meet one or both of the following conditions:

a) a deviation equal to or greater than 10% of costs and revenues or of an absolute value of at least Eur 10,000,000;

b) failure to adhere to the parameters for volumes, quality and outcomes of care.

In the event these conditions are detected, the Decree sets out that, within 90 days from the issue of the measure of identification, the Hospital Centers involved must submit to their Region a plan not exceeding three years in length, which sets out measures aimed at achieving or re-establishing economic and financial balance and to improving the quality of care or the adaptation of services, in order to correct each of the detected shortfalls. Recalling paragraph 533, Art. 1, of the 2016 Stability Law, it also points out that, "[...] the Region or the Acting Commissioner, if appointed, shall inspect the adoption and implementation of the measures included in the plans referred to in paragraphs 529 and 530 every three months in accordance with the timetable indicated therein. In the event the quarterly inspection is passed, the centralized healthcare management office may disburse an advance portion of the resources listed, pursuant to paragraph 531, in its financial statements, in order to safeguard the financial stability of the local agencies concerned. In the event the quarterly inspection is failed, the Region or the Acting Commissioner, if appointed, shall adopt measures to bring the management back in line, in accordance with the levels of assistance, as identified in the institution's plan. At the end of each fiscal year, the Region shall publish on its website the economic results achieved by the individual entities concerned compared with the performance targets set out in the plan".

The Decree also contains two annexes, the first of which sets out the criteria for the identification of costs and the determination of revenues, for the purposes of verifying the deviations referred to in letter *a)* above.

There are also quarterly verification and monitoring requirements set out for the activities carried out in implementation of the debt rescheduling plans. To this end, each Hospital Center must identify centers of responsibility (Departments and/or operational units) and cost centers.

For failure to meet the above obligations, the Ministerial measure, citing paragraph 533, Art. 1, of the 2016 Stability Law, states that, "[...] the Region or the Acting Commissioner, if appointed, shall inspect the adoption and implementation of the measures included in the plans referred to in paragraphs 529 and 530 every three months in accordance with the timetable indicated therein. In the event the quarterly inspection is passed, the centralized healthcare management office may disburse an advance portion of the resources listed, pursuant to paragraph 531, in its financial statements, in order to safeguard the financial stability of the local agencies concerned. In the event the quarterly inspection is failed, the Region or the Acting Commissioner, if appointed, shall adopt measures to bring the management back in

line, in accordance with the levels of assistance, as identified in the institution's plan. At the end of each fiscal year, the Region shall publish on its website the economic results achieved by the individual entities concerned compared with the performance targets set out in the plan".

It seems appropriate to mention that according to paragraph 534 of the 2016 Stability Law, "[...] all of the General Directors' contracts, including those in force, provide for the automatic removal of the General Director [...] in the event of non-submission of the debt rescheduling plan to the institution concerned, or in the event of a failure of the annual verification of the implementation of the debt rescheduling plan". In the implementation of the measure, the Decree of the Ministry of Health sets out that "The Region shall annually verify the status of implementation of the plan and the achievement of targets. Failure to achieve the targets set in the corporate plan shall be grounds for the automatic removal of the General Director"[17].

The 2017 Budget Bill does, however, include a tightening of the rules on the debt rescheduling plans of public healthcare facilities[18]. The new legislation, in fact, sets out that "In order to improve performance and to pursue the efficiency of production factors and the allocation of resources of Hospital Centers, University Hospital Centers, institutes for treatment and research (IRCCS), or other public entities providing services of hospitalization and treatment, Article 1, paragraph 524, letter a) of the Law of December 28, 2015, no. 208, the words: "greater than or equal to 10% of these revenues, or, in absolute terms, at least Eur 10,000,000" are replaced by the following: "greater than or equal to 7% of these revenues, or, in absolute terms, at least Eur 7,000,000".

From this brief overview it is clear that the past few years have seen the introduction of detailed national regulations for increasingly precise and stringent hospital budgets (see Table 17), the implementation of which, however, was left to the individual Regions and autonomous Provinces.

Already at times in the past, some local agencies have undertaken audit paths, though for the most part these were isolated and sporadic experiments.

At present, despite the regulations imposed over the years, an examination of different regional situations still reveals a very non-uniform picture, both in terms of timing or implementation method, namely the type of instruments used.

[17] It should be remembered that, pursuant to Art. 1, paragraph 535 of the 2016 Stability Law, starting from 2017, similar provisions, which will be defined in a specific measure, cover the local health authorities and their directly managed facilities.

[18] In November 2016, a specific amendment to the 2017 Stability Law was definitively approved.

Among the regions considered, the two that seem to have achieved the best results are Basilicata and Tuscany, which in 2015 were the only ones to have the financial statements of all their health authorities certified by an auditing company.

Moreover, the Basilicata Region has not only committed to the Regional Certifiability Implementation process (P.A.C.), approved in 2013 and then integrated in 2015, as requested by the Ministry, but also to guidelines and a manual for the management of administrative and accounting procedures. As specifically relates to publishing, however, it must be noted that of the four regional Hospital Centers, only three published 2015/2016 budgets on their corporate website[19].

More precise it would appear in this respect is the system in Tuscany, whose estimated annual, multi-year and final budgets for health authorities and healthcare institutions are published on the corporate website, together with the consolidated financial statements of the Regional Health Service[20]. The Region also set up a Centralized Healthcare Management Office (GSA) in 2012.

In the Region of Lombardy, on the other hand, the implementation of Legislative Decree no. 118/2011, has seen the organizational unit that handles the economic and financial resources of the health and social welfare system set up special internal offices to manage the certifiability process and budgetary harmonization and coordination of control activities and evaluation of estimated and final budgets of the hospitals. Moreover, its regional site only contains only the estimated 2016 budgets for entities and health authorities, approved by resolution of the Regional Government[21]; while only a few of the facilities publish their updated budgets, on their respective sites.

In 2011, the Region of Umbria set up a centralized healthcare management office (GSA) and, in 2013, it approved the Certifiability Implementation Process (P.A.C.) and, in 2014, it adopted a document containing the guidelines for the preparation of the financial statements for health authorities and Hospital Centers. Moreover, Art. 69, paragraph 2, of the Regional

[19] See http://www.regione.basilicata.it/giunta/site/giunta/department.jsp?dep=100061&area=2971240&level=1, last accessed on November 10, 2016.

[20] See http://www.regione.toscana.it/-/bilanci-delle-aziende-sanitarie-e-degli-enti-del-sst, last accessed on November 10, 2016.

[21] See http://www.regione.lombardia.it/cs/Satellite?c=Page&childpagename=Regione%2FRegioneLayout&cid=1213835710067&p=1213835710067&pagename=RGNWrapper, last accessed on November 10, 2016.

Law of April 9, 2015, no. 11, entitled "Protection and Conservation of Accounting Records", provided that "the General Director shall, by formal resolution, adopt a regulation for the accounting and the administration of contractual property and activity, in compliance with the standards set by the Certifiability Implementation Process (P.A.C.)".

Regions that, in addition to introducing their own P.A.C., have opted for the establishment of a centralized healthcare management office (GSA), include Emilia-Romagna, Calabria and Apulia. In 2014, the latter also published a manual of administrative and accounting procedures for the Regional Health System.

Already in 2013, also the region of Sicily adopted the P.A.C. and a centralized healthcare management office (GSA), as well as seeing to the establishment of a Technical Committee to supervise the relevant preparatory activities. In 2016, however, the Region took note of the non-uniform condition of the timing with which the different Health Authorities undertook the implementation of individual actions contained in the corporate Certifiability Implementation Process (P.A.C.). Consequently, there arose the need to standardize the deadline for the definition of certain actions in order to attempt to achieve uniformity of corporate processes. Thus, new Certifiability Implementation Processes were adopted, along with rescheduling of the timing for their implementation, for the Centralized Healthcare Management Office (GSA), and the consolidated financial statements for the Region of Sicily.

The Region of Lazio, on the other hand, under its healthcare debt rescheduling plan, launched a Certifiability Implementation Process (P.A.C.), and also developed an analytical accounting system that enables timely tracking of the costs and revenues generated by the health authorities, identifying them by cost (administrative and medical) cost, medical and surgical specialties, and job or project for the IRCCS.

The picture outlined so far shows how, despite the numerous interventions by the national legislature to introduce (and often reiterate) more stringent regulations and criteria in order to achieve proper certification and the utmost transparency of the financial statements of public healthcare facilities, the results achieved in practice are still far from satisfactory. In particular, it can be observed that, at the regional level – except for some isolated cases – the Certifiability Implementation Processes for budgets are often not in place or otherwise provided for only on a theoretical level, but without the identification and availability of instruments and methods useful for full implementation. In short, there is a process of "over-regulation" taking place along with a permanent process of "under-application" of the regulations.

Table 17 – Changes in national legislation governing the preparation of the financial statements of Hospital Centers and directly managed Hospitals by local health authorities

Legislative Decree No. 502/1992, as amended by Legislative Decree, no. 229/1999	The regions lay down rules for the economic and financial management of the local health authorities and Hospital Centers, informed by the principles set out in the Civil Code, providing for: a) keeping a book of resolutions of the General Director; b) adopting the use of multi-year budget estimates as well as the annual budget statement for the following fiscal year; c) the allocation of any surplus, and methods to cover any operating deficits; d) maintaining a cost accounting system for cost centers, enabling comparative analysis of costs, returns and results; e) obliging local healthcare units and hospital centers to annually publish the results of their analyses of the costs, returns and results for cost centers; f) the plan for the evaluation of real estate assets including any divestitures and contributions. In order to provide a uniform structure to the items of the multi-year and annual financial statements and annual final accounts, as well as consistency for the values entered in these items and to enable the Agency for Regional Health Services comparative measurements of cost, performance and results, a special balance sheet was designed, with a Ministerial Decree issued jointly between the Ministers of the Treasury and Health, subject to agreement with the Permanent Conference for relations between the State, Regions and Autonomous Provinces.
Ministerial Decree of October 20, 1994, as amended by the Ministerial Decree of February 11, 2002	Local health authority and Hospital Center balance sheet.
Art. 1, paragraph 291, of the Law of December 23, 2005, no. 266 (2006 Finance Act)	By Decree of the Minister of Health, in consultation with the Minister of Economy and Finance, in agreement with the Permanent Conference for relations between the State, Regions and the Autonomous Provinces of Trento and Bolzano, to be issued by March 31, 2006, the criteria and procedures for the certification of the budgets of the local health authorities, Hospital Centers, IRCCS, experimental veterinary institutions and University Hospital Centers are defined.
Title II, Legislative Decree of June 23, 2011, no. 118, implementing the Law of May 5, 2009, no. 42	General and applied accounting principles for the healthcare sector.

(cont.) *Table 17 – Changes in national legislation governing the preparation of the financial statements of Hospital Centers and directly managed Hospitals by local health authorities*

Art. 11 of the 2010-2012 Healthcare Agreement	Pursuant to the need to ensure coordination in the health sector of the function of government spending and improving the quality of its accounting and management data and the underlying processes for their production and representation, also in relation to the implementation of fiscal federalism, the Regions and Autonomous Provinces commit to ensuring the quality assurance of the administrative and accounting procedures underlying the correct accounting of corporate events, as well as the quality of accounting data. To this end: a) the Regions undertake an extraordinary assessment of the status of administrative and accounting procedures, leading to certification of the quality of health authority accounting data and the consolidated regional healthcare budgets for the year 2008: this requirement shall be observed by the Regions subject to debt-rescheduling plans by October 31, 2010 and by the other Regions by June 30, 2011; b) the Regions, subject to a healthcare deficit debt rescheduling plan, step up the regular audits of the administrative and accounting procedures for the annual authentication of hospital center financial statements and the consolidated regional healthcare budget, for the entire duration of the plans; c) the Regions, for the implementation and fine-tuning of the resulting regional activities, including activities that may be required to achieve certifiability of the budgets, may have recourse to the resources mentioned in Article 20 of the Law of March 11, 1988 no. 67; d) the Regions commit to initiate procedures to authenticate financial statements. The authentication referred to in paragraph 1 shall be made on the basis of criteria and procedures for the certification of financial statements of the Local Health Authorities, Hospital Centers, public IRCCS, also those transformed into foundations, experimental veterinary institutions and University Hospital Centers, including university polyclinics, established by the Decree of the Minister of Labor, Health and Social Policies, in consultation with the Minister of Economy and Finance, in agreement with the State-Regions Conference, to be issued by March 31, 2010, in implementation of Art. 1, paragraph 291 of the Law of December 23, 2005, no. 266, concerning the criteria and procedures for the certification of financial statements of the aforementioned agencies of the NHS. The Regions commit to strengthening the data collection for facilities providing territorial outpatient and home care, semi-residential community care, residential care and related services.

(cont.) *Table 17 – Changes in national legislation governing the preparation of the financial statements of Hospital Centers and directly managed Hospitals by local health authorities*

Ministerial Decree of September 17, 2012	Provision on the certifiability of the budgets of NHS entities.
Ministerial Decree of March 1, 2013	Definition of the certifiability implementation processes.
2015 document updating the National Anti-Corruption Plan	Implementation of the work program set out in the certifiability implementation process (P.A.C.) is a fundamental instrument for control and reduction of the risk of administrative and accounting fraud in healthcare. It is therefore important that it be fully implemented, going through a process of improving the organization and administrative and accounting systems. It is therefore recommend that the recipients provide evidence, through their institutional web sites, of the certifiability process of financial statements, including an indication of the specific phase of the process in progress in order to acknowledge the progress being made towards its completion.
Ministerial Decree of June 21, 2016	Plans referred to in Art. 1, paragraph 528 of Law 208/2015, for Hospital Centers, University Hospital Centers, IRCCS or other public entities and criteria for the identification of costs and the determination of revenues.
Legislative Decree for the 2017 Budget	In order to improve performance and to pursue the efficiency of production factors and the allocation of resources of the Hospital Centers, University Hospital Centers, IRCCS or other public entities providing services of hospitalization and care, pursuant to Art. 1, paragraph 524, letter *a)*, of Law 208/2015, the words: "greater than or equal to 10% of these revenues, or, in absolute terms, at least Eur 10,000,000" are replaced by the following: "greater than or equal to 7% of these revenues, or, in absolute terms, at least Eur 7,000,000".

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

2.3. Permanently underfunded healthcare spending compared to other countries

In addition to the levels of efficiency to be achieved by a thorough restructuring and reorganization of the National Health System, the system is – and it needs to be emphasized – in a permanent situation of underfunding in recent years if we look at other countries. The relevant data are quite clear, showing that (Table 18):

a) healthcare spending (public and private) in Italy in 2014 amounted to 9.1% of GDP compared to the 11.3% average of the G7 countries and 9.6% in European OECD countries. Moreover, it is also true that in 2014 the ratio of total health expenditure to GDP increased in Italy, reaching 9.1% compared to 8.8% in the previous two years, following a somewhat general tendency of G7 countries that went from 11.0% in 2012 to 11.3% in 2014, as well as those of OECD Europe, rising from 9.4% to 9.6%. Many of these have also had some slight increases (in increments) of GDP in recent years, as well as an increased incidence of public health expenditure;
b) our country instead is firmly fixed – in terms of public health expenditure – at 6.8% of GDP for the three years, while the percentages have actually grown in almost all G7 countries (except Canada). Moreover, in the specific case of Italy this percentage has not only remained constant, but has also had to contend with a negative GDP trend (-2.5% in 2012, -1.9% in 2013 and -0.4% in 2014) and then with a de facto decline in public health expenditure. The obvious consequence has been an increase in out-of-pocket expenditures by households, which has soared from Eur 32.8 billion in 2012, to Eur 33.6 billion in 2014, and up to Eur 34.8 billion in 2015[22];
c) consistent with the above data, the incidence of public and accredited hospital spending to GDP remains constant for the three years considered (3.9%), while it has increased in Germany and France (see Table 19);
d) finally, again in Italy, there is a prevalence of hospital expenditure in the total public health spending, confirming the weakness of territorial care that is often bypassed by users who prefer to use hospital services (considered to be better) for tests, exams and specialist visits, thereby creating a phenomenon of "functional territorial care" in hospital facilities.

If we go from international comparisons to look at changes in healthcare and hospital expenditure, specifically as concerns Italy, we can see how the

[22] See Section 1.3.

Table 18 – Total healthcare and public healthcare expenditure compared to GDP

% Values	*Total healthcare expenditure*			*Total public healthcare expenditure*		
	2012	*2013*	*2014*	*2012*	*2013*	*2014*
United States	16.4	16.4	16.6	7.9	8.0	8.2
Japan	11.2	11.3	11.4	9.4	9.6	9.6
Germany	10.8	10.9	11.0	9.0	9.2	9.3
France	10.8	10.9	11.1	8.5	8.6	8.7
Italy	**8.8**	**8.8**	**9.1**	**6.8**	**6.8**	**6.8**
United Kingdom	8.5	9.9	9.9	6.9	7.9	7.9
Canada	10.3	10.2	10.0	7.2	7.2	7.1
Average of G7 countries (*)	11.0	11.2	11.3	8.0	8.2	8.2
Australia	8.7	8.8	9.0	5.9	6.0	6.0
Austria	10.1	10.1	10.3	7.7	7.7	7.8
Belgium	10.2	10.4	10.4	7.9	8.1	8.1
Denmark	10.3	10.3	10.6	8.8	8.7	8.9
Finland	9.3	9.5	9.5	7.0	7.2	7.2
Greece	8.9	8.7	8.3	6.0	5.6	4.9
Iceland	8.7	8.8	8.9	7.0	7.1	7.2
Ireland	10.1	10.5	10.1	7.7	7.3	7.0
Luxembourg	6.7	6.5	6.3	5.5	5.3	5.2
The Netherlands	10.9	10.9	10.9	8.9	8.9	8.8
New Zealand	9.7	9.4	9.4	7.8	7.5	7.5
Norway	8.8	8.9	9.3	7.4	7.6	7.9
Portugal	9.3	9.1	9.0	6.1	6.1	6.0
Spain	9.1	9.0	9.1	6.5	6.4	6.3
Sweden	10.9	11.1	11.2	9.1	9.3	9.3
Switzerland	11.0	11.2	11.4	7.1	7.4	7.4
Turkey	5.0	5.1	5.1	3.9	4.0	3.9
Average of European OECD Countries (*)	9.4	9.5	9.6	7.3	7.3	7.3
Average of all OECD countries (*)	9.8	9.9	9.9	7.3	7.4	7.4

(*) Averages are calculated as unweighted arithmetic means.
Source: *Ermeneia processing of "OECD Health Data 2015", OECD, Paris, October 2015*

Table 19 – Public and accredited hospital expenditure compared to total public health spending and GDP

% Values	*Public and accredited hospital expenditure/Total public healthcare spending*			*Public and accredited hospital expenditure/GDP*		
	2012	*2013*	*2014*	*2012*	*2013*	*2014*
United States	37.7	37.4	36.4	3.0	3.0	3.0
Japan	44.9	44.3	-	4.2	4.2	-
Germany	33.8	33.6	33.5	3.0	3.1	3.1
France	47.0	46.9	47.0	4.0	4.0	4.1
Italy	**54.3**	**54.2**	**54.3**	**3.9**	**3.9**	**3.9**
United Kingdom	-	47.6	47.7	-	3.8	3.8
Canada	39.8	39.5	39.3	2.9	2.8	2.8
Average of G7 countries (*)	42.9	43.4	43.0	3.5	3.5	3.5
Australia	50.2	50.5	-	3.0	3.0	-
Austria	47.0	46.4	46.4	3.6	3.6	3.6
Belgium	33.7	33.5	33.2	2.7	2.7	2.7
Denmark	51.0	51.3	50.2	4.5	4.5	4.5
Finland	42.1	42.6	41.8	3.0	3.1	3.0
Greece	47.9	49.2	50.1	2.9	2.7	2.5
Iceland	47.4	48.0	48.1	3.3	3.4	3.5
Ireland	-	35.0	35.2	-	2.6	2.5
Luxembourg	36.2	35.3	34.5	2.0	1.9	1.8
The Netherlands	40.6	42.9	42.5	3.6	3.8	3.7
New Zealand	-	-	-	-	-	-
Norway	45.0	45.2	-	3.3	3.4	-
Portugal	53.8	54.3	54.1	3.3	3.3	3.2
Spain	54.5	54.4	55.4	3.6	3.5	3.5
Sweden	44.7	44.9	45.4	4.1	4.2	4.2
Switzerland	44.7	45.2	44.7	3.2	3.3	3.3
Turkey	53.2	54.6	54.5	2.1	2.2	2.2
Average of European OECD Countries (*)	45.7	45.5	45.5	3.3	3.3	3.3
Average of all OECD countries (*)	45.2	45.1	44.7	3.3	3.3	3.2

(*) Averages are calculated as unweighted arithmetic means.
Source: Ermeneia processing of "OECD Health Data 2015", OECD, Paris. October 2015

second is valued (at current prices) at Eur 61.2 billion in 2014, representing 54.3% of the total public health expenditure compared to Eur 60.5 billion in 2013 (with a slight increase in the last year of 1.1%), as is shown in Table 20.

But, if we look at the trend of current health care spending over the years, taking into account the Index Numbers, we see that:

– it has increased by 1.2% (at current prices) over four years, as is clearly indicated in Table 20;
– while total public hospital spending (again at current prices) in 2014 remained substantially equal to that of 2009 (Table 20), but the proportion allocated the accredited hospitals decreased in the period in question: the relative Index Number in fact went from 100.0 in 2009 to 95.2 for accredited facilities as a whole and 96.6 for accredited healthcare facilities in 2014 (while spending for public facilities slightly increased, raising the relevant Index Number from 100.0 to 108.0 in the five years considered);

*Table 20 – Current health spending: 2010-2014 (in billions of Euros + I.N.: 2010 = 100.0)**

	2010		2011		2012		2013		2014	
	in billions of euro	*I.N.*	*in billions of euro*	*I.N.*	*in billions of euro*	*I.N.*	*in billions of euro*	*I.N.*	*in billions of euro*	*I.N.*
Public hospital facilities	52.333	100.0	52.892	101.1	53.074	101.4	52.244	99.8	52.744	100.8
Accredited hospitals	8.849	100.0	8.641	97.6	8.659	97.9	8.255	99.3	8.425	95.2
incl.: priv. hosp. (accr. healthcare facilities)	4.439	100.0	4.465	100.6	4.471	100.7	4.263	96.0	4.289	96.6
Total public hospital system expenditure	61.182	100.0	61.533	100.6	61.733	100.9	60.499	98.9	61.169	100.0
Other expenditure features	50.149	100.0	51.276	102.3	51.950	103.6	51.185	102.1	51.504	102.7
Total public healthcare expenditure	*111.331*	*100.0*	*112.809*	*101.5*	*113.683*	*102.1*	*111.684*	*100.3*	*112.673*	*101.2*

(*) In the "General Report on the Country's Economic Situation", in 2012, there was a further update of the time series data on spending, but this series however experienced a break due to the uncertainty of the continuity of its publication by the EJN in the future. For 2013 and 2014, the expenditure figures were taken from the 2015 and 2016 Report on the coordination of public finance by the Court of Auditors and the Agenas Report on the monitoring of the spending of the Regions.

Source: *Ermeneia processing of data contained in the "General Report on the Economic Situation of the Country", 2012, Vol. II, from the 2015 and 2016 "Report on the coordination of public finance" by the Court of Auditors and the Agenas Report on the monitoring of the spending of the Regions*

Table 21 – Health spending at constant prices: 2010-2014 (in billions of Euros + I.N.: 2010 = 100.0)**

	2010		2011		2012		2013		2014	
	in billions of euro	*I.N.*	*in billions of euro*	*I.N.*	*in billions of euro*	*I.N.*	*in billions of euro*	*I.N.*	*in billions of euro*	*I.N.*
Public hospital facilities	52.333	100.0	52.127	99.6	51.594	98.6	50.179	95.9	50.212	95.9
Accredited hospitals	8.849	100.0	8.516	96.2	8.418	95.1	7.929	89.6	8.021	90.6
incl.: priv. hosp. (accr. healthcare facilities)	4.439	100.0	4.4	99.1	4.346	97.9	4.094	92.2	4.083	92.0
Total public hospital system expenditure	61.182	100.0	60.643	99.1	60.011	98.1	58.108	95.0	58.232	95.2
Other expenditure features	50.149	100.0	50.534	100.8	50.501	100.7	49.162	98.0	49.031	97.8
Total public healthcare expenditure	*111.331*	*100.0*	*111.176*	*99.9*	*110.513*	*99.3*	*107.269*	*96.4*	*107.264*	*96.3*

(*) GDP deflator calculated on the basis of the new ISTAT series in a chained series with reference to 2010.

Source: *Ermeneia processing of data contained in the "General Report on the Economic Situation of the Country", 2012, Vol. II, from the 2015 and 2016 "Report on the coordination of public finance" by the Court of Auditors and the Agenas Report on the monitoring of the spending of the Regions*

– current health spending, calculated at constant prices, decreased by 3.7% in the five-year period (Table 21);
– and even the total public hospital system expenditure at constant prices shows a decrease for all hospitals identified (as well as for outside the hospital system), always of course with a more pronounced decrease for accredited facilities (Table 21).

Thus the examination of the national hospital expenditure trend provides a confirmation of both a substantial freeze of the same, and the prevailing transfer onto the accredited facilities of the streamlining effort that the public hospital system is struggling to put in place. And this transfer can be clearly seen when considering the values at constant prices: in this case the public hospital facilities received 4.1% less for the period 2010-2014, while, at the same time, the accredited facilities received 9.4% less.

2.4. Efficiency that is directed more externally than internally in the public hospitals

The previous section thus shows how the effects of the different containment maneuvers for health spending in recent years have affected to a greater extent accredited private hospitals as a whole and private hospitals (accredited healthcare facilities) compared to public facilities, as is summarized in the following chart:

	Percent composition of total public hospital spending	
	2010	*2014*
– Public hospital facilities	85.5%	86.2%
– Accredited hospital facilities including	14.5%	13.8%
▪ Private hospitals (accredited healthcare facilities)	7.3%	7.0%

But it is also useful to consider that during the period 2010-2014 the third type of hospitals (accredited healthcare facilities) used less and less resources over time, as shown by the following percentages calculated as the ratio between the expenditure for these facilities and total public hospital spending:

1999	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
8.9	8.4	8.0	7.8	7.8	7.8	7.7	7.6	7.5	7.4	7.3	7.3	7.3	7.2	7.0	7.0

Moreover, as has already been mentioned in Section 1.1 of Part One, the accredited private hospitals as a whole provide 27.6% of the total in-hospital days, using 13.8% of public hospital resources.

If we further explore the treatment reserved for private hospitals (accredited healthcare facilities) by the respective Regional Health Systems, it is possible to make the following observations (Table 22)[23]:

a) the system of service "ceilings" has been used in most cases (89% in 2016), although there are differences in the application of this mechanism depending on whether the service related to in-hospital care (rising to 94.4%) or outpatient care (dropping to 83.3%);
b) in the event of overshooting of the "ceilings" a rate regression of 24% in 2016 was applied, with a decreasing trend over time: it was around 70% of the cases until 2008, and then gradually decreased to around 40%-50% between 2009 and 2013, before falling again if the rate regression method is used, the latter tending to stabilize in 2016 at a lower level than in previous years (27% compared to 44% in 2015, 39% in 2014, and 51% in 2012);
c) delays in payment of fees appears to be improving (39% in 2016 compared to about 50% in the previous two years and even higher percentages going back to before 2013): there are evidently more than a few results with regard to measures relating to the payment of outstanding debts by the Public Administration, also because the average delay in months is clearly diminishing over time (it had reached peaks higher than 11 months in 2009-2010, then fell in 2011-2012, and rose again in 2013-2014, but then declined briskly over the past two years to hit 4.4 months in 2016);
d) often a monthly advance on turnover is disbursed (in 72% of cases with regard to 2016, but also in similar proportions in previous years), coming to an average advance amount for the turnover of over 80% in the last two years and with a rising trend compared to previous years;
e) finally, in a third of the regions use a system of factoring in order to obtain certain payments with default deadlines, with a proportion that tends to remain constant over the past three years.

   Moreover, regarding outstanding debts by the Public Administration, a question directed at AIOP regional managers provides some positive information about that (see Table 23): as much as 42.9% of the 14 regions that responded stated that "They have received all or most of the arrears", which had not occurred in the previous three years; but this percentage was increased in 2016 by an additional 7.1% of regional agencies, where they have at least "actually started to collect part of the debt arrears", as indeed had already happened in the three previous years (in which, how-

[23] The data comes from a special survey, conducted annually, of direct witnesses in individual Italian Regions. This panel is composed of the AIOP Regional Presidents, who annually respond to a detailed quantitative/qualitative questionnaire.

Table 22 – The change in the method of financial charges and settlement of debts of the private hospitals (accredited healthcare facilities)[a]

Mechanisms	*% of total cases examined*										
	2016	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*
– The system of "ceilings" has been applied to services in the past twelve months	100% [b]	83%	95%	100%	95%	94%	94%	84%	100%	100%	95%
– A regression rate was applied in the event of overshooting the "ceilings"	24%	32%	35%	50%	41%	50%	50%	56%	72%	70%	67%
– Average regression applied compared to the full price	27%	44%	39%	43%	51%	35%	40%	45%	44%	52%	35%
– Payments for bills are delayed	39%	50%	52%	61%	68%	72%	75%	79%	77%	90%	89%
– Average delay in months	4.4 months	4.7 months	10.9 months	12.5 months	6.0 months	6.9 months	11.8 months	11.6 months	8.0 months	7,3 months	7,4 months
– A monthly payment is made on the invoices of private hospitals (accredited healthcare facilities)	72% [c]	70%	86%	75%	63%	78%	83%	83%	72%	70%	79%
– Average size of the payment compared to the invoice	88%	84%	69%	79%	84%	79%	80%	75%	70%	77%	77%
– A factoring system was applied to ensure payments and due dates	33%	30%	35%	40%	37%	17%	18%	11%	12%	26%	32%

(a) As with every year, a special survey of direct 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) It is actually 100.0% for admission services and 85% for outpatient services.

(c) The advance is paid, but not regularly, for 35% of cases in 2005, 37% of cases in 2006, 40% of cases in 2007, 39% in 2008 and 2009, 41.2% in 2010, 44.5% in 2011, 15.8% in 2012, 25% in 2013, 29% in 2014, and 25% in 2015.

Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table 23 – Operational effects of the measure to clear arrears by the Regional Healthcare System (%) (a)

Response	*2013*	*2014*	*2015*	*2016*
– All or most of the arrears have been collected	-	-	-	42.9
– Part of the arrears have actually begun to be collected	6.3	10.5	6.3	7.1
– Negotiations are underway to improve the payment of arrears or payment is being made	12.5	5.3	6.3	-
– It is being discussed. without actual results	31.3	21.1	18.7	7.1
– It is not discussed at all	49.9	63.1	31.2	42.9
Total	100.0	100.0	100.0	100.0
A.V.	16	19	16	14

(a) A special survey was conducted of direct AIOP witnesses in the individual Italian Regions.
Source: *survey by Ermeneia – Studi & Strategie di Sistema, 2016*

ever, for part of the surveyed regions, there were negotiations aimed at completing the payment procedures or preparation of winding-up proceedings, yet it must also be remembered that in about half of the surveyed local agencies, even in 2016 there was talk of completing the payment procedures but without concrete results or no mention at all of the issue.

Furthermore, on the subject of differentiated treatment in private hospitals (accredited healthcare facilities) it is necessary to recall the phenomenon of patient inter-regional mobility. This issue – as has been mentioned above – shows a decrease in the absolute number of hospitalizations outside the home region, from 809,000 to 735,000 between 2010 and 2014 (equal to -9.2%), as indeed the number of total hospitalizations in Italy decreased from 9.9 million to 8.3 million in the same period (equal to -16.4%). The aforementioned percentages show that hospitalizations outside the home region have decreased much more slowly than total hospitalizations and in fact the relationship between the first and second goes – again for the period 2010-2014 – from 8.2% to 8.9%. This confirms the existence of a willingness of patients and their families to "make up" – through external mobility – for the absolute or relative deficiencies of the Regional Health System in their home region.

But, just as there are expenditure "ceilings" and rate regressions in the event of overshooting the ceilings, so too, the freedom of patients to seek treatment in facilities they consider more suitable outside of their region of residence has brought about certain tendencies aimed at curbing the phenomenon through mechanisms that end up penalizing accredited facilities.

In particular, in some regions (such as Aosta Valley[24], Emilia Romagna[25] and Veneto[26]), the phenomenon of inter-regional mobility – or the provision of healthcare services by accredited private operators to patients from other regions – has recently faced obstacles arising from the imposition of freezes, imposed due to the adoption of a restrictive interpretation of the spending review Decree[27].

The two regulations mentioned ended up imposing a total expenditure ceiling at the regional level for services rendered by accredited private facilities to patients from outside the region, in order to reduce the annual expenditure by 2% compared to the total of 2011 spending.

The combined two regulations in fact imposed a total expenditure ceiling at the regional level for services rendered by accredited private facilities to

[24] See the Regional Executive Committee Resolution of May 6, 2016, no. 591.

[25] See the Modena AUSL Administrative Director's newsletter of September 9, 2016.

[26] See the Regional Executive Committee Resolution of November 15, 2016, no. 1816.

[27] In particular, Art. 15, paragraph 14 as amended by Art. 1, paragraph 574 of the 2016 Stability Law, passed on December 28, 2015, no. 208.

patients from outside the region, in order to reduce the annual expenditure by 2% compared to the total of 2011 spending.

The regulation came about as the result of the need for extraordinary spending containment, in compliance with the restrictions imposed by EU legislation, at a time of great financial stress, characterized by an abnormal increase of the spread. It was, however, the intentions of the legislation that the reduction be made with "invariance of services to citizens". In its application, however, the regions have imposed a reimbursement limit on private healthcare facilities for services provided to non-residents.

The obvious consequence of these measures was an immediate restriction of the ability of citizens to freely seek treatment throughout Italy and, consequently, to consciously choose the most appropriate facilities they deemed most suitable, or more appropriate or easier to reach than those located in their home region.

To address this situation, in June 2016 the Minister of Health spoke to the point in a letter addressed to the Presidents and the Councilors of the health systems of the regions and autonomous provinces, and to the acting commissioners and sub-commissioners of the Regions with debt rescheduling plans, in which he emphasized the need to promote inter-regional mobility for high-specialty services, thereby admitting the possibility to introduce flexibility for the acquisition of such services by non-resident citizens.

The importance of protecting, on the one hand, citizens' freedom of choice as regards their own health and, on the other hand, the possibility of maintaining a fair competitive tendering for the provision of services offered by public facilities or accredited private facilities, is clear.

2.5. The strong local presence and substantial contribution of private accredited hospitals to high-quality services

When talking about accredited private facilities as a whole, one is referring to a collection of subjects that include private polyclinics, private foundations and private IRCCS, classified hospitals, local health authority facilities, research organizations and, finally, private hospitals (accredited healthcare facilities).

In 2014, this set of institutions received a total expenditure of Eur 8.4 billion, or 13.8% of total public hospital spending (of the above 13.8%, slightly more than half, i.e. 7.0% was received by private hospitals – accredited healthcare facilities).

To get a picture of the weight of the accredited private sector as a whole within the different regions, it is sufficient to consider the data in Table 24,

which compares the incidence of the public and the accredited private hospitals, respectively, on total hospitalizations for acute cases.

It can be seen that private hospitals accounted for 23.3% of total hospitalizations (i.e., 1.5 million out of 6.5 million nationwide) in 2014. That is almost 1/4 of the total, showing already by itself, how the mixed public/private system is based upon a very substantial role by accredited facilities.

But if we consider the situation of individual Regions (shown in decreasing order of incidence), we can see how the first six indicated significantly exceed the national average of 23.3%. This is the situation:

- Lazio (45.9%);
- Campania (34.1%);
- Apulia (32.4%);
- Molise (31.1%);
- Lombardy (30.4%);
- and Sicily (24.1%).

It can also be seen that the proportion of hospitalizations for accredited private facilities is higher in Central Italy (26.5%) and South Italy (26.2%), than in the North (19.8%).

It can thus be stated – especially for the regions that provide extensive hospitalizations for acute cases, for example more than 5% or in excess of 15% or even 40% – that the accredited private facilities (as a whole) can cope with a significant flow or even extremely great demand: this flow – among other things – is also fueled by the direct referral of patients from public hospitals to accredited private hospitals, in order to ease the pressure on their facilities. It must thus be kept in mind that, if private facilities suffer significant reductions, public facilities will have to be able to incorporate the additional demand that would result. This would also create the need for the presently already overloaded public facilities (given the current financial and organizational situation) to provide more hospitalizations or accept additional, even significant, numbers of passive mobility patients from outside the region.

To the data on hospitalizations (again in Table 24) was added the data for in-hospital days, the incidence of which – for private facilities – compared to hospitalizations is lower (18.6% compared to 23.3%, as shown in Table 25). This difference is justified on the basis of at least two simple reasons, namely:

- on the one hand, the procedures for payment of services through the use of DRGs (all-inclusive of any charges) to accredited private hospitals, unlike for public facilities;
- and on the other hand, a likely greater overall efficiency in the management of private facilities compared to public facilities.

*Table 24 – Percent distribution of hospitalizations and in-hospital days for acute cases in public hospital facilities and accredited private hospital facilities as a whole, by Region –2014**

Regions	Hospitalizations			In-hospital days		
	Public hospitals	Accredited private hospitals	Total	Public hospitals	Accredited private hospitals	Total
Lazio	54.1	45.9	100.0	60.5	39.5	100.0
Campania	65.9	34.1	100.0	75.6	24.4	100.0
Apulia	67.6	32.4	100.0	72.8	27.2	100.0
Molise	68.9	31.1	100.0	72.9	27.1	100.0
Lombardy	69.6	30.4	100.0	75.9	24.1	100.0
Sicily	75.9	24.1	100.0	79.3	20.7	100.0
Calabria	81.3	18.7	100.0	85.1	14.9	100.0
Emilia Romagna	83.7	16.3	100.0	87.7	12.3	100.0
Piedmont	84.9	15.1	100.0	91.3	8.7	100.0
Abruzzo	85.2	14.8	100.0	87.4	12.6	100.0
Veneto	86.0	14.0	100.0	87.1	12.9	100.0
Liguria	88.0	12.0	100.0	87.9	12.1	100.0
Marche	88.6	11.4	100.0	92.5	7.5	100.0
Sardinia	89.5	10.5	100.0	91.9	8.1	100.0
Toscana	90.4	9.6	100.0	91.7	8.3	100.0
Trento	91.5	8.5	100.0	92.8	7.2	100.0
Friuli V.G.	93.1	6.9	100.0	95.1	4.9	100.0
Umbria	93.7	6.3	100.0	97.0	3.0	100.0
Aosta Valley	95.2	4.8	100.0	98.8	1.2	100.0
Basilicata	95.3	4.7	100.0	98.3	1.7	100.0
Bolzano	96.9	3.1	100.0	96.9	3.1	100.0
North	*80.2*	*19.8*	*100.0*	84.5	*15.5*	*100.0*
Center	*73.5*	*26.5*	*100.0*	*77.0*	*23.0*	*100.0*
South	*73.8*	*26.2*	*100.0*	*79.5*	*20.5*	*100.0*
Italy %	*76.7*	*23.3*	*100.0*	*81.4*	*18.6*	*100.0*
A.V. Italy	*4,975,853*	*1,510,585*	*6,486,438*	*35,887,853*	*8,202,127*	*44,089,980*

(*) Public hospital services are provided by: Hospital Centers, University Hospital 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 Entities, Private healthcare facilities.

Source: *survey by Ermeneia – Studi & Strategie di sistema based on data from Minister of Health – SDO 2014*

Table 25 – Comparison of percentages of high, medium and low complexity cases of services provided to acute patients during hospitalization, in public hospitals and accredited private hospitals (as a whole), divided by Regions –2014

Regions	Public hospitals			Accredited private hospitals			
	High complexity	Medium complexity	Low complexity	High complexity	Medium complexity	Low complexity	% High complexity – Accr. private / % High complexity – Public
Piedmont	15.6	34.6	49.8	17.4	22.8	59.7	1.12
Aosta Valley	14.3	31.1	54.6	24.5	8.9	66.6	1.71
Lombardy	13.6	30.6	55.8	21.6	31.1	47.3	1.59
Bolzano	12.5	27.6	59.8	10.8	26.0	63.2	0.86
Trento	14.6	36.5	49.0	15.4	29.7	54.9	1.05
Veneto	15.2	34.3	50.5	27.2	31.8	40.9	1.79
Friuli Venezia Giulia	15.1	34.3	50.6	20.9	24.1	54.9	1.38
Liguria	15.9	38.7	45.4	20.2	35.3	44.4	1.27
Emilia Romagna	14.1	35.2	50.7	16.9	28.2	54.9	1.20
Tuscany	16.4	38.4	45.2	33.2	24.9	41.9	2.02
Umbria	13.9	30.6	55.4	19.6	19.7	60.7	1.41
Marche	15.0	35.3	49.7	17.0	25.4	57.6	1.13
Lazio	15.3	33.0	51.6	14.6	32.1	53.3	0.95
Abruzzo	13.6	34.4	52.1	20.5	31.5	48.1	1.51
Molise	10.0	29.4	60.6	23.8	39.8	36.5	2.38
Campania	11.8	30.8	57.4	10.0	27.3	62.7	0.85
Puglia	10.7	30.6	58.7	14.4	32.1	53.4	1.35
Basilicata	13.7	36.3	49.9	30.3	31.9	37.8	2.21
Calabria	10.2	31.7	58.0	22.8	32.9	44.3	2.24
Sicily	13.8	34.5	51.7	16.3	32.8	50.9	1.18
Sardinia	11.1	31.1	57.8	14.3	17.4	68.4	1.29
North	14.5	33.4	52.1	20.9	29.8	49.3	1.44
Center	15.5	35.2	49.3	17.0	30.7	52.4	1.10
South	12.0	32.2	55.8	14.1	30.2	55.7	1.18
Italy	*13.9*	*33.4*	*52.7*	*17.5*	*30.1*	*52.4*	1.26

(*) 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 which excludes high-complexity services from passive mobility control measures. 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: Hospital Centers, University Hospital 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 Entities, Private healthcare facilities.

Source: *survey by Ermeneia – Studi & Strategie based on data from Minister of Health – SDO 2014*

A third reason, is often cited, that of a hypothetical lower complexity of the services provided to patients by accredited private facilities. But this is not the real situation, as the data in Table 25 help to indicate. This data shows the incidence, broken down by the level of complexity (high, medium, low) of the services for each region as well as the national average and that relating to individual geographical constituencies.

It should be recalled that the level of complexity is based on weight classes of DRGs, taking into account that this indicator refers to the resources used for the production of each DRG[28] and that the accredited private facilities as a whole comprehend – as mentioned at the beginning – not only private hospitals (accredited healthcare facilities), but also private polyclinics, private IRCCS and private foundations, classified hospitals, local health authority facilities and research entities. The data set shows how, with 23.3% of the services of different complexities provided by accredited private hospitals (as a whole), these account for 17.5% of high-complexity services compared to 13.9% by public hospitals. And this greater percentage of the private component is even more evident in the North (20.9% compared to 14.5%), but is also present in Central Italy (17.0% compared to 15.5%).

In general it can be said – referring to the data of the first and fourth column of Table 25 – that the accredited private component presents a higher incidence of high-complexity services compared to the public component, except in three cases: Bolzano (10.8% compared to 12.5%), Lazio (14.6% compared to 15.3%) and Campania (10.0% compared to 11.8%).

Finally, a final column was added in Table 25 that shows the relationship between the percentages of high complexity services by the accredited private component and the corresponding percentages of high complexity services of the public component, obtaining a sort of indicator, where 1.00 represents parity, and the higher values represent the advantage and those less than 1.00 represent the disadvantage of the accredited private facilities.

Moreover, even the indicators of average weight and case-mix mentioned in paragraph 1.1 show this difference, even when comparing public hospitals with a part of the accredited private hospitals as a whole, namely AIOP healthcare facilities. As can be seen, the two indicators again provide a comparison that is more favorable for this specific component of the accredited private hospital system than to public facilities[29].

[28] See the footnote to Table 2.
[29] See Table 2 and Table 3.

By contrast, services of average complexity (again with reference to Table 25) reported an incidence that was much higher for public hospitals compared to accredited private hospitals: only in three cases, those of Molise, Apulia and Calabria, was there a higher incidence for accredited private hospitals than public hospitals.

And the incidence of low complexity services is divided fairly equally between public and accredited private hospitals as a whole.

Part Two

Statistical indicators

1. Facility data

1.1. Number of public and accredited private medical institutions

At the time of the drafting of this report, the Ministry of Health had not yet made available the updated 2014 facility and activities data and, thus, once again, here is an examination of trends detected last year giving an account of the gradual reorganization of the Italian hospital landscape that has been underway markedly since 2004, focusing mainly on the network of public facilities. This network has 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 new organizational forms within variously articulated Hospital-Center systems (Hospital Centers, Centers integrated with universities, Centers integrated with the NHS). As regards private institutions there is a continuing trend, already seen in Regions such as Lazio, towards the downgrading of many accredited facilities, markedly akin to the long-term care or residential institutions. The latest figures from the Health Ministry for 2013 indicate a further reduction from the previous year of seventeen units among hospitals directly managed by local health authorities, three accredited healthcare facilities and two religiously-affiliated hospitals. Compared to 2009, the new reference year for the data presented, it can be seen that the total of public and private institutions decreased from 1,178 to 1,069 units in 2013, a total reduction of -9.3%. Tables S/1 and S/2 show, in particular:

– in the public sphere, mainly a decrease in the number of 'pure' Hospital Centers (-22.4%), although this decrease may be largely attributed to their conversion into Hospital Centers integrated with universities, which grew by 5.6% between 2010 and 2011 and by the same value between 2009 and 2013; facilities directly managed by the local health authorities (ASL)

also confirm a declining trend of nearly -16%, although it should be considered that this is related to conversions or combinations rather than actual closures;
– in the sphere of accredited institutions, a downward trend is confirmed, showing a reduction from 533 units in 2009 to 509 in 2013.

The ratio of public hospitals (in the broadest most inclusive sense) to private hospitals (accredited healthcare facilities) within the total number of hospital institutions shows a national average of 52.4% for the former and 47.6% for the latter (Table S/4), and is fairly well balanced in most Italian regions, again keeping in mind the larger size and the higher number of patient beds found in the public institutions.

Considering the ratio of public/private institutions from Region to Region as reported in the data for 2013, we can see in which geographical areas there is a greater number of public institutions and where there is a sort of balance of the 'somewhat mixed system' between these two sectors (Table S/4):
– a greater number of public facilities is found especially in Basilicata, Sardinia, Friuli Venezia Giulia, Veneto, Liguria, Umbria, Molise, Abruzzo, Tuscany e 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 Campania, Lombardy, Lazio, Piedmont, Calabria, the Aosta Valley, and Sicily.

1.2. Bed distribution

The analysis of the allocation of patient beds, rather than the number of institutions, points out that there were almost 200,000 available beds in Italy in 2013, broken down according to composition that is more or less stable over time that shows 78.8% belonging to the public hospitals and 21.2% to the category of accredited private hospitals and healthcare facilities (Table S/5).

The territorial distribution still favors the North, with Central and South Italy following behind for public facilities while the situation is reversed with regard to private facilities.

The date percentages presented in Table S/5 also reveal steady distribution throughout Italy for public and private patient beds given the desirable aim of achieving a balance of the "mixed system", although this system is increasingly being called into question by the unsettling measures regarding the reorganization of the hospital system network whose approval process seems to have nearly reached its final stage.

If we give a look at the distribution of patient beds by Region (again using the percentages contained in Table S/5), we can see that the greatest numbers for public facilities belong to Liguria (96.6%), Veneto (92.9%), Umbria (92.5%), Basilicata (91.7%). On the other hand, the greatest numbers of patient beds in accredited private healthcare facilities belong mainly to Campania (35.7%), Calabria (34.7%), Lazio (28.2%), the Autonomous Province of Trento (27.3%), Sicily (26.3%), Emilia Romagna (24.6%), Abruzzo (23.3%) and Lombardy (22.4%).

As regards the services of accredited private sector facilities represented by facilities that are part of AIOP, it has been possible to work out a 2016 update, but the unavailability of aforementioned 2014 Ministerial data does not allow the usual comparison with the other service provider components in Table S/6, which last year showed more than 31,000 beds for inpatient admissions out of a total of just over 42,000, a percentage of close to 74%.

The Regional distribution of AIOP's network of accredited institutions in 2016 shows a concentration among NHS accredited facilities according to the most prevalent nosological classifications (Table S/7):

– multi-specialist (180 out of 442 institutions);
– surgical (73 out of 442 institutions);
– rehabilitation (63 out of 442 institutions);
– assisted living residences (62 out of 442 institutions);
– neuro-psychiatry (32 out of 442 institutions);
– medical (16 out of 442 institutions);
– long-stay care (16 out of 442 institutions).

If we consider the different types of activities (see Tables S/8 and S/9), also belonging to the AIOP affiliated institutions (2016), the greater concentrations at the national level are, in descending order: surgical, medical, rehabilitation, assisted living residences (R.S.A.), neuro-psychiatry, and long-stay care. There is also a large and significant amount for highly specialized areas, especially cardiac surgery.

1.3. Medical equipment

Even the distribution of allocations of equipment is affected by the failed update of 2014 data for the technological apparatus that supports and qualifies hospital activity and in most Italian regions also makes an important contribution in terms of assistance to the area. The 2013 situation may be deduced as per regional distribution and type of equipment from Table S/10 (for public facilities), Table S/11 (for accredited healthcare facilities), and from Table S/12 (for non-accredited healthcare facilities).

The data, presented once again in this report, seemed to confirm the significance of the contribution that the private hospital component provides to the supply of advanced technological services, continuing to ensure significant territorial compensation within the repeatedly invoked concept of the "mixed system".

Table S/10 (Public 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 private 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, CAT devices and Hemodialysis machines.

Table S/1 – Evolution in the number of public and private institutions (accredited healthcare facilities)

	2009		*2010*		*2011*		*2012*		*2013*	
	A.V.	*%*	*A.V.*	*%*	*A.V.*	*%*	*A.V.*	*%*	*A.V.*	*%*
– Hospital Centers	76	6.5	64	5.5	62	5.5	59	5.4	59	5.5
– Directly managed hospitals	430	36.5	429	36.9	400	35.6	379	34.7	362	33.9
– Hospital Centers integrated with the NHS	8	0.7	8	0.7	8	0.7	8	0.7	8	0.7
– Hospital Centers integrated with universities	18	1.5	18	1.5	19	1.7	19	1.7	19	1.8
– University hospitals	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2
– Institutes for Treatment and Research	60	5.1	60	5.2	61	5.4	62	5.7	62	5.8
– Religiously-affiliated classif. hospitals	30	2.5	30	2.6	30	2.7	30	2.7	28	2.6
– USL Facilities	19	1.6	20	1.7	17	1.5	17	1.6	17	1.6
– Research facilities	2	0.2	3	0.3	3	0.3	3	0.3	3	0.3
– *Subtotal*	645	54.8	634	54.5	602	53.5	579	53.1	560	52.4
– Private hospitals (accredited healthcare facilities)	533	45.2	529	45.5	523	46.5	512	46.9	509	47.6
Grand total	*1,178*	*100.0*	*1,163*	*100.0*	*1,125*	*100.0*	*1,091*	*100.0*	*1,069*	*100.0*

Source*: data processed from the Report "Attività gestionali ed economiche delle Usl e Aziende Ospedaliere", Ministry of Health, Years 2009, 2010, 2011, 2012 and 2013*

Table S/2 – Evolution in the number of public and accredited private institutions (% increase)

	2010/2009	*2011/2010*	*2012/2011*	*2013/2012*	*2013/2009*
– Hospital Centers	-15.8	-3.1	-4.8	0.0	-22.4
– Directly managed hospitals	-0.2	-6.8	-5.3	-4.5	-15.8
– Hospital Centers integrated with the NHS	0.0	0.0	0.0	0.0	0.0
– Hospital Centers integrated with universities	0.0	5.6	0.0	0.0	5.6
– University hospitals	0.0	0.0	0.0	0.0	0.0
– Institutes for Treatment and Research	0.0	1.7	1.6	0.0	3.3
– Religiously-affiliated classified hospitals	0.0	0.0	0.0	-6.7	-6.7
– USL Facilities	5.3	-15.0	0.0	0.0	-10.5
– Research facilities	50.0	0.0	0.0	0.0	50.0
– *Subtotal*	-1.7	-5.0	-3.8	-3.3	-13.2
– Private hospitals (accredited healthcare facilities)	-0.8	-1.1	-2.1	-0.6	-4.5
Grand total	*-1.3*	*-3.3*	*-3.0*	*-2.0*	*-9.3*

Source*: data processed from the Report "Attività gestionali ed economiche delle Usl e Aziende Ospedaliere", Ministry of Health, Years 2009, 2010, 2011, 2012 and 2013*

Table S/3 – Public and accredited private institutions, by region. 2013 (A.V.)

Regions	*Hospital Centers*	*Directly managed hospitals*	*Hospital Centers integrated with the NHS*	*Hospital Centers integrated with universities*	*University hospitals*	*Institutes for Treatment and Research*	*Religiously-affiliated classified hospitals*	*USL Facilities*	*Research facilities*	*Total*	*Private hospitals (accredited healthcare facilities)*
– Piedmont	3	22	-	3	-	3	-	6	-	37	39
– Aosta Valley	-	1	-	-	-	-	-	-	-	1	1
– Lombardy	29	1	-	-	-	25	5	-	-	60	70
– A.P. of Bolzano	-	7	-	-	-	-	-	-	-	7	5
– A.P. of Trento	-	7	-	-	-	-	1	-	-	8	6
– Veneto	1	21	-	1	-	3	6	6	-	38	15
– Friuli V.G.	1	8	-	2	-	2	-	-	-	13	5
– Liguria	-	6	-	-	-	3	2	-	-	11	5
– Emilia Romagna	1	20	-	4	-	3	-	-	-	28	44
– Tuscany	-	31	-	4	-	2	-	2	1	40	27
– Umbria	2	8	-	-	-	-	-	-	-	10	5
– Marche	2	13	-	-	-	1	-	-	-	16	13
– Lazio	3	35	1	2	2	7	8	2	-	60	67
– Abruzzo	-	18	-	-	-	-	-	-	-	18	11
– Molise	-	3	-	-	-	1	-	-	1	5	3
– Campania	6	34	2	1	-	2	3	1	-	49	63
– Apulia	-	25	-	2	-	5	2	-	-	34	28
– Basilicata	1	7	-	-	-	1	-	-	-	9	3
– Calabria	4	17	-	-	-	1	-	-	-	22	30
– Sicily	5	53	3	-	-	3	1	-	1	66	59
– Sardinia	1	25	2	-	-	-	-	-	-	28	10
North	35	93	-	10	-	39	14	12	-	203	190
Center	7	87	1	6	2	10	8	4	1	126	112
South	17	182	7	3	-	13	6	1	2	231	207
Italy	*59*	*362*	*8*	*19*	*2*	*62*	*28*	*17*	*3*	*560*	*509*

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

Table S/4 – Public and accredited private institutions, by region. 2013/2012 (% Composition)

Regions	2013											2012		
	Hospital Centers	*Directly managed hospitals*	*Hospital Centers integrated with the NHS*	*Hospital Centers integrated with universities*	*University hospitals*	*Institutes for Treatment and Research*	*Religiously-affiliated classified hospitals*	*USL Facilities*	*Research facilities*	*Total public institutions*	*Private hospitals (accredited healthcare facilities)*	*Total public institutions*	*Private hospitals (accredited healthcare facilities)*	*Total healthcare facilities*
– Piedmont	3.9	28.9	0.0	3.9	0.0	3.9	0.0	7.9	0.0	48.7	51.3	48.7	51.3	100.0
– Aosta Valley	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	50.0	50.0	100.0
– Lombardy	22.3	0.8	0.0	0.0	0.0	19.2	3.8	0.0	0.0	46.2	53.8	46.2	53.8	100.0
– A.P. of Bolzano	0.0	58.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.3	41.7	58.3	41.7	100.0
– A.P. of Trento	0.0	50.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	57.1	42.9	57.1	42.9	100.0
– Veneto	1.9	39.6	0.0	1.9	0.0	5.7	11.3	11.3	0.0	71.7	28.3	71.7	28.3	100.0
– Friuli V.G.	5.6	44.4	0.0	11.1	0.0	11.1	0.0	0.0	0.0	72.2	27.8	72.2	27.8	100.0
– Liguria	0.0	37.5	0.0	0.0	0.0	18.8	12.5	0.0	0.0	68.8	31.3	73.3	26.7	100.0
– Emilia R.	1.4	27.8	0.0	5.6	0.0	4.2	0.0	0.0	0.0	38.9	61.1	38.9	61.1	100.0
– Tuscany	0.0	46.3	0.0	6.0	0.0	3.0	0.0	3.0	1.5	59.7	40.3	59.4	40.6	100.0
– Umbria	13.3	53.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	33.3	66.7	33.3	100.0
– Marche	6.9	44.8	0.0	0.0	0.0	3.4	0.0	0.0	0.0	55.2	44.8	55.2	44.8	100.0
– Lazio	2.4	27.6	0.8	1.6	1.6	5.5	6.3	1.6	0.0	47.2	52.8	48.4	51.6	100.0
– Abruzzo	0.0	62.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.1	37.9	62.1	37.9	100.0
– Molise	0.0	37.5	0.0	0.0	0.0	12.5	0.0	0.0	12.5	62.5	37.5	62.5	37.5	100.0
– Campania	5.4	30.4	1.8	0.9	0.0	1.8	2.7	0.9	0.0	43.8	56.3	43.4	56.6	100.0
– Apulia	0.0	40.3	0.0	3.2	0.0	8.1	3.2	0.0	0.0	54.8	45.2	56.7	43.3	100.0
– Basilicata	8.3	58.3	0.0	0.0	0.0	8.3	0.0	0.0	0.0	75.0	25.0	75.0	25.0	100.0
– Calabria	7.7	32.7	0.0	0.0	0.0	1.9	0.0	0.0	0.0	42.3	57.7	50.0	50.0	100.0
– Sicily	4.0	42.4	2.4	0.0	0.0	2.4	0.8	0.0	0.8	52.8	47.2	52.3	47.7	100.0
– Sardinia	2.6	65.8	5.3	0.0	0.0	0.0	0.0	0.0	0.0	73.7	26.3	75.6	24.4	100.0
North	8.9	23.7	0.0	2.5	0.0	9.9	3.6	3.1	0.0	51.7	48.3	51.8	48.2	100.0
Center	2.9	36.6	0.4	2.5	0.8	4.2	3.4	1.7	0.4	52.9	47.1	53.5	46.5	100.0
South	3.9	41.6	1.6	0.7	0.0	3.0	1.4	0.2	0.5	52.7	47.3	53.9	46.1	100.0
Italy	*5.5*	*33.9*	*0.7*	*1.8*	*0.2*	*5.8*	*2.6*	*1.6*	*0.3*	*52.4*	*47.6*	*53.1*	*46.9*	*100.0*

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

Table S/5 – Public and accredited private patient beds used for hospitalization, by region. 2013

Regions	2013					2011		
	Public institutions (1)		Private hospitals (accredited healthcare facilities)		Total	Public institutions	Private hospitals (accredited healthcare facilities)	Total
	Patient beds	% of the total	Patient beds	% of the total		% of the total	% of the total	
– Piedmont	12,902	79.4	3,345	20.6	16,247	79.6	20.4	100.0
– Aosta Valley	453	86.0	74	14.0	527	84.1	15.9	100.0
– Lombardy	27,421	77.6	7,904	22.4	35,325	78.7	21.3	100.0
– A.P. of Bolzano	1,694	86.6	262	13.4	1,956	85.4	14.6	100.0
– A.P. of Trento	1,416	72.7	532	27.3	1,948	75.5	24.5	100.0
– Veneto	15,199	92.9	1,158	7.1	16,357	93.2	6.8	100.0
– Friuli Venezia Giulia	3,957	90.2	428	9.8	4,385	89.9	10.1	100.0
– Liguria	5,211	96.6	183	3.4	5,394	97.9	2.1	100.0
– Emilia Romagna	13,226	75.4	4,316	24.6	17,542	75.4	24.6	100.0
– Tuscany	9,781	86.3	1,555	13.7	11,336	85.5	14.5	100.0
– Umbria	2,629	92.5	213	7.5	2,842	91.8	8.2	100.0
– Marche	4,380	83.5	863	16.5	5,243	83.9	16.1	100.0
– Lazio	14,281	71.8	5,600	28.2	19,881	70.1	29.9	100.0
– Abruzzo	3,301	76.7	1,000	23.3	4,301	77.4	22.6	100.0
– Molise	995	87.7	140	12.3	1,135	88.3	11.7	100.0
– Campania	10,304	64.3	5,711	35.7	16,015	65.3	34.7	100.0
– Apulia	9,703	80.9	2,285	19.1	11,988	81.9	18.1	100.0
– Basilicata	1,645	91.7	149	8.3	1,794	92.2	7.8	100.0
– Calabria	3,186	65.3	1,694	34.7	4,880	65.2	34.8	100.0
– Sicily	10,428	73.7	3,726	26.3	14,154	73.0	27.0	100.0
– Sardinia	4,650	82.2	1,004	17.8	5,654	79.5	20.5	100.0
North	81,479	81.7	18,202	18.3	99,681	82.4	17.6	100.0
Center	31,071	79.1	8,231	20.9	39,302	78.0	22.0	100.0
South	44,212	73.8	15,709	26.2	59,921	73.9	26.1	100.0
Italy	*156,762*	*78.8*	*42,142*	*21.2*	*198,904*	*78.9*	*21.1*	*100.0*

(1) See Table S/3.

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

Table S/6 – Private hospitals (private accredited healthcare facilities) affiliated with the NHS, by region– Institutions and Patient beds. 2013

	AIOP		*ARIS*		*Other*		*Total*	
	Institutions	*Accred. patient beds*	*Institutions*	*Accred. patient beds*	*Institutions*	*Accred. patient beds*	*Institutions*	*Accred. patient beds*
– Piedmont	23	1,930	7	713	9	702	39	3,345
– Aosta Valley	1	74					1	74
– Lombardy	38	4,646	14	1,895	18	1,363	70	7,904
– Bolzano	2	124	1	62	2	76	5	262
– Trento	3	284	2	103	1	145	6	532
– Veneto	15	1,158	-	-	-	-	15	1,158
– Friuli V.G.	4	335	-	-	1	93	5	428
– Liguria	2	124	1	11	2	48	5	183
– Emilia R.	41	4,111	1	76	2	129	44	4,316
– Tuscany	13	849	7	204	7	502	27	1,555
– Umbria	4	153	1	60	-	-	5	213
– Marche	10	663	3	200	-	-	13	863
– Lazio	51	4,040	5	295	11	1,265	67	5,600
– Abruzzo	7	683	2	98	2	219	11	1,000
– Molise	2	100	-	-	1	40	3	140
– Campania	54	4,917	-	-	9	794	63	5,711
– Apulia	21	1,786	2	154	5	345	28	2,285
– Basilicata	1	50	1	59	1	40	3	149
– Calabria	15	879	-	-	15	815	30	1,694
– Sicily	54	3,504	-	-	5	222	59	3,726
– Sardinia	7	717	-	-	3	287	10	1,004
– North	129	12,786	26	2,860	35	2,556	190	18,202
– Center	78	5,705	16	759	18	1,767	112	8,231
– South	161	12,636	5	311	41	2,762	207	15,709
Italy	*368*	*31,127*	*47*	*3,930*	*94*	*7,085*	*509*	*42,142*
%	*72.3*	*73.9*	*9.2*	*9.3*	*18.5*	*16.8*	*100.0*	*100.0*

Source: *processing by Ermeneia – data from the Ministry of Health, Patient demographics 2013*

Table S/7 – Regional distribution of AIOP affiliated institutions according to the most prevalent nosological classifications–2016

Regions	*Multi-specialist*		*Medical*		*Surgical*		*Neuro-psychiatry*		*Long-stay care*		*Rehabilitation*		*RSA/ Assisted living residences*		*Total Healthcare facilities*		*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	13	3	-	-	-	1	5	-	2	-	4	-	2	-	26	4	-	-
– Aosta Valley	-	-	-	-	-	-	-	-	-	-	1	-	-		1	-	-	-
– Lombardy	26	2	2	-	2	2	1	-	-	-	13	-	5	-	49	4	2	-
– Bolzano	1	-	-	-	-	-	-	-	-	-	2	-	-	-	3	-	-	-
– Trento	1	-	-	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-
– Veneto	11	-	-	-	2	-	3	-	-	-	4	-	1	-	21	-	-	-
– Friuli V.G.	3	-	-	-	-	-	-	-	-	-	1	-	-	2	4	2	-	-
– Liguria	1	1	-	-	1	-	-	-	-	-	1	-	-	-	3	1	-	-
– Emilia R.	24	1	-	-	1	-	6	-	3	-	7	-	5	-	46	1	-	-
– Tuscany	6	-	1	-	5	-	2	-	-	-	1	-	-	-	15	-	1	-
– Umbria	2	-	-	-	2	-	-	-	-	-	-	-	1	-	5	-	-	-
– Marche	6	-	-	-	-	-	1	-	1	-	2	-	-	-	10	-	1	-
– Lazio	18	8	5	-	8	10	5	-	3	-	6	-	42	2	87	20	6	-
– Abruzzo	6	-	-	-	-	-	-	-	-	-	1	-	-	-	7	-	-	-
– Molise	2	-	-	-	-	-	-	-	-	-	1	-	-	-	3	-	-	-
– Campania	23	-	2	-	14	-	5	-	5	-	7	-	-	-	56	-	1	-
– Apulia	10	-	3	-	3	-	1	-	-	-	2	-	-	-	19	-	5	-
– Basilicata	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-
– Calabria	3	-	1	-	10	1	-	-	-	-	4	-	4	-	22	1	-	-
– Sicily	21	-	2	-	21	-	3	-	-	-	6	-	2	-	55	-	-	-
– Sardinia	3	-	-	-	3	-	-	-	-	-	-	-	-	-	6	-	-	-
North	80	7	2	-	6	3	15	-	7	-	33	-	13	2	156	12	2	-
Center	32	8	6	-	15	10	8	-	4	-	9	-	43	2	117	20	8	-
South	68	-	8	-	52	1	9	-	5	-	21	-	6	-	169	1	6	-
Italy	*180*	*15*	*16*	-	*73*	*14*	*32*	-	*16*	-	*63*	-	*62*	*4*	*442*	*33*	*16*	-

Source: *AIOP*

Table S/8 – Regional distribution of patient beds of the AIOP affiliated institutions according to the different types of activities – 2016

Regions	*High Specialty*		*Medical*		*Surgical*		*Neuro-psychiatry*		*Long-stay care*		*Rehabilitation*		*RSA/ Assisted living residences*		*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	389	91	678	250	288	32	333	18	528	10	208	-	2,514	411	-	-
– Aosta Valley	-	-	-	-	12	4	-	-	-	-	64	-	-	-	76	4	-	-
– Lombardy	413	18	2,455	138	2,945	263	60	20	13	-	2,047	55	561	24	8,494	518	140	-
– Bolzano	-	-	7	-	8	-	-	-	23	-	86	3	-	-	124	3	-	-
– Trento	-	-	88	11	38	-	-	-	217	39	73	22	-	-	416	72	-	-
– Veneto	8	-	437	67	660	225	362	48	68	-	647	110	188	-	2,370	450	-	-
– Friuli V.G.	-	-	117	14	195	18	-	-	-	-	108	-	-	152	420	184	-	-
– Liguria	15	-	43	17	65	43	-	-	-	-	67	-	-	-	190	60	-	-
– Emilia R.	73	2	1,057	32	1,476	159	605	2	565	5	914	10	475	170	5,165	380	-	-
– Tuscany	21	-	198	-	561	25	105	1	34	-	226	-	-	-	1,145	26	86	-
– Umbria	-	-	15	1	160	24	-	-	-	-	16	1	40	20	231	46	-	-
– Marche	-	-	176	5	261	34	50	-	120	5	92	-	39	-	738	44	40	-
– Lazio	-	64	1,191	408	1,688	1,050	439	5	685	3	1,348	317	3,744	229	9,095	2,076	528	-
– Abruzzo	-	-	261	103	339	136	100	-	-	-	123	108	-	-	823	347	-	-
– Molise	-	-	110	52	85	-	-	-	-	-	75	100	-	-	270	152	-	-
– Campania	52	-	926	262	2,142	465	473	121	515	36	1,043	18	10	-	5,161	912	78	60
– Apulia	146	10	757	220	678	130	16	-	-	-	327	100	40	-	1,964	450	448	12
– Basilicata	-	-	-	-	56	-	-	-	-	-	-	-	-	-	56	-	-	-
– Calabria	-	-	259	3	532	30	-	-	119	-	439	-	222	-	1,571	33	-	-
– Sicily	65	-	1,308	18	1,871	28	145	23	103	-	616	49	112	-	4,220	118	-	-
– Sardinia	-	5	289	10	371	31	-	-	12	15	61	15	-	-	733	76	-	-
North	599	30	4,593	370	6,077	962	1,315	102	1,219	62	4,534	210	1,432	346	19,769	2,082	140	-
Center	21	64	1,580	414	2,670	1,133	594	6	839	8	1,682	318	3,823	249	11,209	2,192	654	-
South	263	15	3,910	668	6,074	820	734	144	749	51	2,684	390	384	-	14,798	2,088	*526*	*72*
Italy	*883*	*109*	*10,083*	*1,452*	*14,821*	*2,915*	2,643	252	2,807	*121*	8,900	*918*	5,639	*595*	45,776	6,362	*1,320*	*72*

Source: *AIOP*

Table S/9 – Regional distribution of patient beds of the AIOP affiliated institutions according to the different types of activities and regions. 2016 (Composition %)

Regions	*High Specialty*		*Medical*		*Surgical*		*Neuro-psychiatry*		*Long-stay care*		*Rehabilitation*		*RSA/ Assisted living residences*		*Totals*	
	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	3.6	2.4	15.5	22.1	27.0	60.8	11.5	7.8	13.2	4.4	21.0	2.4	8.3	-	100.0	100.0
– Aosta Valley	-	-	-	-	15.8	100.0	-	-	-	-	84.2	-	-	-	100.0	100.0
– Lombardy	4.9	3.5	28.9	26.6	34.7	50.8	0.7	3.9	0.2	-	24.1	10.6	6.6	4.6	100.0	100.0
– A.P. of Bolzano	-	-	5.6	-	6.5	-	-	-	18.5	-	69.4	100.0	-	-	100.0	100.0
– A.P. of Trento	-	-	21.2	15.3	9.1	-	-	-	52.2	54.2	17.5	30.6	-	-	100.0	100.0
– Veneto	0.3	-	18.4	14.9	27.8	50.0	15.3	10.7	2.9	-	27.3	24.4	7.9	-	100.0	100.0
– Friuli V.G.	-	-	27.9	7.6	46.4	9.8	-	-	-	-	25.7	-	-	82.6	100.0	100.0
– Liguria	7.9	-	22.6	28.3	34.2	71.7	-	-	-	-	35.3	-	-	-	100.0	100.0
– Emilia R.	1.4	0.5	20.5	8.4	28.6	41.8	11.7	0.5	10.9	1.3	17.7	2.6	9.2	44.7	100.0	100.0
– Tuscany	1.8	-	17.3	-	49.0	96.2	9.2	3.8	3.0	-	19.7	-	-	-	100.0	100.0
– Umbria	-	-	6.5	2.2	69.3	52.2	-	-	-	-	6.9	2.2	17.3	43.5	100.0	100.0
– Marche	-	-	23.8	11.4	35.4	77.3	6.8	-	16.3	11.4	12.5	-	5.3	-	100.0	100.0
– Lazio	-	3.1	13.1	19.7	18.6	50.6	4.8	0.2	7.5	0.1	14.8	15.3	41.2	11.0	100.0	100.0
– Abruzzo	-	-	31.7	29.7	41.2	39.2	12.2	-	-	-	14.9	31.1	-	-	100.0	100.0
– Molise	-	-	40.7	34.2	31.5	-	-	-	-	-	27.8	65.8	-	-	100.0	100.0
– Campania	1.0	1.1	17.9	28.7	41.5	51.0	9.2	13.3	10.0	3.9	20.2	2.0	0.2	-	100.0	100.0
– Apulia	7.4	-	38.5	48.9	34.5	28.9	0.8	-	-	-	16.6	22.2	2.0	-	100.0	100.0
– Basilicata	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-
– Calabria	-	-	16.5	9.1	33.9	90.9	-	-	7.6	-	27.9	-	14.1	-	100.0	100.0
– Sicily	1.5	-	31.0	15.3	44.3	23.7	3.4	19.5	2.4	-	14.6	41.5	2.7	-	100.0	100.0
– Sardinia	-	6.6	39.4	13.2	50.6	40.8	-	-	1.6	19.7	8.3	19.7	-	-	100.0	100.0
North	3.0	1.4	23.2	17.8	30.7	46.2	6.7	4.9	6.2	3.0	22.9	10.1	7.2	16.6	100.0	100.0
Center	0.2	2.9	14.1	18.9	23.8	51.7	5.3	0.3	7.5	0.4	15.0	14.5	34.1	11.4	100.0	100.0
South	1.8	0.7	26.4	32.0	41.0	39.3	5.0	6.9	5.1	2.4	18.1	18.7	2.6	0.0	100.0	100.0
Italy	*1.9*	*1.7*	*22.0*	*22.8*	*32.4*	*45.8*	*5.8*	*4.0*	*6.1*	*1.9*	*19.4*	*14.4*	*12.3*	*9.4*	*100.0*	*100.0*

Source: *AIOP*

Table S/10 – Technical and biomedical equipment for diagnosis and treatment in public hospital facilities. 2013

Regions	*HC*	*Echo*	*CT*	*HD*	*ACCA*	*MON*	*MRI*	*OT*	*RU*	*LV*	*PXU*	*LINAC*	*RCT*	*AIA*	*CGC*	*AM*	*SL*	*ADC*
– Piedmont	-	985	85	1,163	216	3,259	44	567	243	1,042	209	29	115	313	25	629	1,149	111
– Aosta Valley	-	30	2	27	2	137	3	16	5	39	5	1	-	16	-	22	34	4
– Lombardy	-	2,378	180	2,256	373	8,231	119	1,110	595	2,338	406	64	257	652	58	1,276	3,349	230
– A.P. of Bolzano	-	152	8	110	15	589	5	54	51	139	30	-	10	37	3	96	410	15
– A.P. of Trento	-	122	11	162	20	500	5	82	14	209	19	4	9	42	2	70	321	16
– Veneto	-	1,228	85	1,047	198	4,430	65	782	248	2,120	239	27	106	338	24	711	2,072	122
– Friuli V.G.	1	345	24	421	68	1,189	13	247	56	444	59	14	22	135	8	158	636	40
– Liguria	2	413	35	462	45	1,392	29	209	92	463	106	12	34	165	11	240	554	38
– Emilia R.	1	1,117	88	956	135	3,988	42	740	226	1,540	230	26	83	315	25	754	1,931	65
– Tuscany	4	1,225	78	1,204	141	3,886	50	655	236	1,974	183	26	108	515	48	569	1,776	107
– Umbria	-	290	20	403	39	592	13	139	47	262	41	7	31	185	6	158	341	42
– Marche	-	421	36	486	78	1,070	26	185	96	451	63	12	55	183	12	197	479	52
– Lazio	3	1,058	126	1,129	219	4,098	79	601	284	1,392	242	39	183	541	36	804	1,623	200
– Abruzzo	-	276	25	434	81	738	11	134	83	299	59	8	35	137	12	126	279	37
– Molise	1	97	11	157	49	296	9	52	33	102	23	2	15	32	5	55	143	18
– Campania	8	715	89	577	243	2,715	22	459	212	1,028	183	11	120	320	16	628	821	155
– Apulia	2	742	66	1,225	356	2,000	36	384	231	834	146	16	118	361	28	394	780	164
– Basilicata	-	150	15	190	26	498	8	111	40	179	40	3	28	42	6	86	194	23
– Calabria	-	251	34	405	79	740	14	138	61	224	59	8	55	124	7	178	281	53
– Sicily	11	889	106	629	242	3,570	50	547	256	1,169	254	20	137	281	30	702	1,149	182
– Sardinia	2	412	33	407	124	957	19	194	85	392	79	10	51	134	15	204	386	46
North	4	6,770	518	6,604	1,072	23,715	325	3,807	1,530	8,334	1,303	177	636	2,013	156	3,956	10,456	641
Center	7	2,994	260	3,222	477	9,646	168	1,580	663	4,079	529	84	377	1,424	102	1,728	4,219	401
South	24	3,532	379	4,024	1,200	11,514	169	2,019	1,001	4,227	843	78	559	1,431	119	2,373	4,033	678
Italy	*35*	*13,296*	*1,157*	*13,850*	*2,749*	*44,875*	*662*	*7,406*	*3,194*	*16,640*	*2,675*	*339*	*1,572*	*4,868*	*377*	*8,057*	*18,708*	*1,720*

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 healthcare facilities. 2013

Regions	*HC*	*Echo*	*CT*	*HD*	*ACCA*	*MON*	*MRI*	*OT*	*RU*	*LV*	*PXU*	*LINAC*	*RCT*	*AIA*	*CGC*	*AM*	*SL*	*ADC*
– Piedmont	1	119	15	4	27	266	18	59	35	63	30	1	30	31	1	67	78	35
– Aosta Valley	-	1	1	-	1	6	-	2	1	2	1	-	1	1	-	2	4	1
– Lombardy	10	485	51	185	120	1,406	57	242	154	319	95	16	66	96	6	272	524	66
– A.P. of Bolzano	-	7	2	-	1	27	3	-	4	-	-	2	3	2	-	-	-	1
– A.P. of Trento	-	17	3	-	2	11	3	4	7	4	2	-	4	2	-	4	8	4
– Veneto	-	63	8	-	13	148	13	35	25	19	12	-	10	21	-	32	44	14
– Friuli V.G.	-	35	6	25	8	51	5	20	9	13	7	-	5	6	-	20	25	6
– Liguria	-	8	-	2	4	27	-	7	4	16	4	-	4	3	-	9	11	4
– Emilia R.	1	184	22	72	31	429	32	125	58	185	50	3	41	28	3	146	218	25
– Tuscany	-	72	10	25	26	225	7	67	28	91	24	4	18	13	-	72	95	21
– Umbria	-	8	2	-	4	37	2	15	6	10	9	-	5	2	-	16	15	3
– Marche	-	50	8	-	15	92	8	27	21	30	13	-	12	22	1	30	47	10
– Lazio	1	145	38	475	67	547	31	144	96	125	64	4	64	68	8	144	200	69
– Abruzzo	-	57	10	10	20	208	13	31	17	61	14	-	19	21	-	33	53	13
– Molise	-	9	3	1	5	14	1	4	4	4	3	-	4	3	2	6	6	3
– Campania	3	210	52	60	70	568	21	198	101	220	72	4	65	69	17	237	267	79
– Apulia	-	130	22	146	52	362	13	76	42	132	37	2	34	41	2	74	130	35
– Basilicata	-	2	1	-	1	8	1	2	1	-	1	-	1	1	-	4	2	1
– Calabria	-	93	18	3	33	218	10	66	36	98	25	2	26	27	6	75	95	31
– Sicily	2	188	47	16	99	467	32	167	88	194	65	6	62	53	8	193	233	67
– Sardinia	-	47	6	117	16	76	6	36	12	25	12	-	10	12	-	36	39	9
North	12	919	108	288	207	2,371	131	494	297	621	201	22	164	190	10	552	912	156
Center	1	275	58	500	112	901	48	253	151	256	110	8	99	105	9	262	357	103
South	5	736	159	353	296	1,921	97	580	301	734	229	14	221	227	35	658	825	238
Italy	*18*	*1,930*	*325*	*1,141*	*615*	*5,193*	*276*	*1,327*	*749*	*1,611*	*540*	*44*	*484*	*522*	*54*	*1,472*	*2,094*	*497*

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 healthcare facilities. 2013

Regions	*HC*	*Echo*	*CT*	*HD*	*ACCA*	*MON*	*MRI*	*OT*	*RU*	*LV*	*PXU*	*LINAC*	*RCT*	*AIA*	*CGC*	*AM*	*SL*	*ADC*
– Piedmont	-	26	4	1	4	56	2	28	15	16	5	-	4	3	-	31	35	5
– Lombardy	-	29	4	1	5	80	3	34	16	31	11	-	5	3	2	39	54	7
– A.P. of Bolzano	-	5	2	-	-	38	2	9	8	4	5	-	1	-	-	9	10	1
– A.P. of Trento	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Veneto	-	-	-	-	-	3	-	3	-	-	1	-	-	-	-	2	3	-
– Friuli Venezia Giulia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Liguria	-	5	2	-	-	23	1	10	3	2	5	-	2	-	-	8	11	1
– Emilia Romagna	-	10	2	-	2	19	1	10	2	3	3	-	2	2	-	10	22	1
– Tuscany	-	20	3	1	2	14	2	12	4	7	3	1	2	1	1	11	11	2
– Umbria	-	2	-	-	-	2	-	3	-	1	-	-	-	-	-	2	2	-
– Marche	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Lazio	-	101	24	71	27	267	17	107	40	116	41	4	27	24	5	130	164	40
– Abruzzo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Molise	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Campania	-	11	3	-	2	20	-	16	3	17	3	1	3	3	-	15	20	4
– Apulia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Basilicata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Calabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
– Sicily	-	-	-	-	-	2	-	1	-	1	-	-	-	-	-	2	1	-
– Sardinia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North	-	75	14	2	11	219	9	94	44	56	30	-	14	8	2	99	135	15
Center	-	123	27	72	29	283	19	122	44	124	44	5	29	25	6	143	177	42
South	-	11	3	-	2	22	-	17	3	18	3	1	3	3	-	17	21	4
Italy	-	*209*	*44*	*74*	*42*	*524*	*28*	*233*	*91*	*198*	*77*	*6*	*46*	*36*	*8*	*259*	*333*	*61*

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, which, once again relate to 2013, due to the already mentioned lack of updated Ministerial data, confirms the gradual but progressive decline of the allocations of available patient beds in the hospital system, which went from nearly 220,000 in 2009 to 199,000 in 2013, a decrease of -9.3%. This decrease seems to have affected the accredited private component slightly more (-9.7%), than the public component (-9.2%) as shown by the data in Table S/14.

The number of in-hospital days kept decreasing from 62 million in 2009 to about 56 million in 2013, a decrease of -10%, -10.1% for public facilities, and -9.6% for private facilities; the latter still penalized by regional policies reducing the budgets of the accredited hospital system.

Table S/15 shows a comparison of the 2013 in-hospital stay values with the previous year.

The average overall length of stay remained constant at 8 days and was higher for accredited private healthcare facilities (9 days): the value shown in Table S/15 is mainly due to the influence of long-stay care and rehabilitation. The data changes when considering acute patient cases: in fact, Table S/16 shows that it is down to 7.1 days for public facilities and Table S/18 shows a number of 5.4 days for private facilities.

The overall patient bed occupancy rate, again displayed in Table S/15, was 77% in 2013, consistent with that of the previous year (77.1%).

If we consider only the acute case admissions, the average length of stay remained substantially unchanged in 2013 for both public facilities (Table S/16) and private facilities (Table S/18). At the same time, the occupancy rate tended to decrease for both types of operators (Table S/18).

2.2. Types of admissions and discharges

The updated situation of in-hospital days and treated cases may also be deduced from the calculation of hospital discharge records (SDO, Schede di Dimissione Ospedaliera), the consolidated version of which was released in 2014.

These calculations, again based again on the CMS 24.0 version of the Medicare DRGs adopted since 2009, provide a very detailed picture of the different service provider components of the National Health Service, along with some of complexity and performance indicators. The results are shown both for the totality of the healthcare institutions, and for AIOP-affiliated facilities, for which a more recent 2015 update is available.

Tables S/20 and S/21 show that over 9.5 million patients were treated in 2014, of which almost 1.5 million (i.e. 16.4%) were from accredited and non-accredited private healthcare facilities.

It should be recalled that since 2009 the Ministry of Health has incorporated the so-called private obligatorily affiliated institutions (otherwise known as 'publicly assimilated' institutions), such as private polyclinics, private research hospitals (IRCCS), private foundations, religiously affiliated classified hospitals, USL facilities and research facilities, into the column of private data in Table S/20 creating a new 'expanded private' sector which accounts for almost 28% of the overall supply of services in 2014.

The number of in-hospital days for inpatient admissions breaks down to 39.3 million for public facilities and 15.9 million for the 'expanded private' facilities, whereas the volume of day hospital admissions is 5 million and 1.5 million, respectively.

The total of in-hospital days and day admissions for accredited and non-accredited private healthcare facilities alone amounts to more than 11 million, with a ratio of 18% of the total, compared to 17.5% in 2012.

The total data in Table S/20 also includes discharges (nearly 387,000) and in-hospital days (more than 1.1 million) related to DRG 491 (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 admissions shows a greater proportional contribution by private hospitals (accredited healthcare facilities) relating to rehabilitation and long-stay care (see Tables S/21 and S/22).

2.3. Prevalent DRGs

The examination carried out on the 2014 hospital discharge records data allows us to observe the activity of the entire hospital sector with no breakdown between public and private operators (Table S/23), while AIOP's regional offices have collected data relating to the part of those activities performed by AIOP-associated facilities, offering a preview of the 2015 results (Table S/24).

The tables mentioned display the top 60 DRGs as they relate to number of discharges for inpatient admissions for acute cases for all hospitals and private hospitals (accredited healthcare facilities), 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 facilities, with reference to the 30 most frequent DRGs. Tables S/29 and S/30 show the DRG classifications of patients who made use of rehabilitation treatment in public and private hospitals as a whole (2014) and, more specifically, in AIOP private hospitals (accredited private healthcare facilities) (2015).

At the combined public/private level, the most common DRG is still childbirth with 296,186 discharges in 2014 (compared to 323,412 units in 2010) amounting to 4.6% of cases (4.4% in 2010) (Table S/23).

On the other hand, in private hospitals (accredited private healthcare facilities) even during 2015, first place was occupied by major joint replacements or lower extremity replantation (46,466 cases, accounting for 6.2% of the sector total).

For the comparison of complexity indicators (average weight and case-mix index) for public institutions and accredited private healthcare facilities, 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 contain a more aggregated classification of the same data relating to the analysis of hospital discharge records contained in the tables above, displayed in terms of the Major Diagnostic Categories (MDC) of DRGs, as reported in the hospital discharge records (SDO) of the Ministry of Health.

Inpatient admissions for acute cases are differentiated by illnesses and disorders of the cardiovascular system with 947,686 cases in 2014, compared

to 1,081,067 cases recorded in 2010, and for illnesses and disorders of the musculoskeletal system and connective tissue, with 813,267 cases in 2014 (compared to 904,021 in 2010), as shown by the data in Table S/31.

The greatest average hospital stay (above the 6.8 days general total) is that for Pre MDC (34.9 days), HIV infections (15.8 days), multiple major trauma (14.1 days), burns (12.7 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 (269,803 cases) (Table S/32).

Rehabilitation activities for inpatient admissions were greatest among illnesses and disorders of the musculoskeletal system and connective tissue (with 136,045 cases), followed by illnesses and disorders of the nervous system (with 72,896 cases) and illnesses and disorders of the cardiovascular system (with 47,751 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 (12,369 cases), second place are illnesses and disorders of the musculoskeletal system and connective tissue (7,720 cases), and finally the cases that fall within the MDC Factors influencing health status and use of health services (7,324 cases).

2.5. Activities classified according to specialty

The variable of making classifications by clinical specialty – which is an interesting method for analyzing the data of hospital facility activities and is regularly shown as such in Table nos. S/36 to S/60 – affected this year by the lack of updated Ministerial data for 2014.

All of the information and related indicators keep providing a kind of real database, again with reference to the year 2013, to be used for information and/or further analysis, since we compare the results of the total activities of the various accredited healthcare facilities 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. Patient mobility

The last part of this section is, as usual, devoted to aspects more properly related to the features of the demand for hospitalization expressed by citizens, to propose a different and no less interesting key to interpreting the data on the hospital production described in the previous sections. The analysis in this case focuses on an observation of the dynamics of inter-regional patient flows, developed on the basis of data received from ministerial mobility matrices.

Assessing patient mobility between regions is not only important as a tool for regional planning, but also helps us to better understand how the data actually reflects the willingness of citizens to make use of the principle of freedom of choice offered by our healthcare system and, indirectly, their perception of the quality levels expected by the various regional health systems.

Table S/61 illustrates how this inclination changes over time by means of summary inflow and outflow indices, relating to the last five available years, integrated with a final column containing the most recent regional net values of the number of acute patient cases entering and leaving the entire facilities of the respective territory.

The data extrapolated from the inter-regional mobility matrices taken from the hospital discharge records, this year updated to 2014, show the traditional inflow trend in regions such as Lombardy, constantly in the lead in this ranking with numbers exceeding 60,000 units, Emilia Romagna, Tuscany, Umbria, Veneto and Friuli Venezia Giulia. Also appearing to be confirmed is the marked tendency to receive hospital care from other regional systems, evidently considered more reliable and more accessible, shown over time by the people of Campania, Calabria, Sicily, Abruzzo, Sardinia and Lazio.

The phenomenon of mobility, as has often been pointed out, continues to be a sensitive topic in the debate on the reorganization of the hospital network, as is that of the freedom to choose the place for treatment. This has caused some Regions to renew and put in place arrangements between health care systems in order to fix a quota on patient flows, while the State-Regions Conference has recently issued guidelines for the more attractive Regions, cutting accredited sector financing as it relates to the reported flow increases in the two-year period 2014-2015 by 50%.

The issue of patient mobility, the measures already taken or under consideration to keep it under control and the sensitive issues related to the right to free choice, are discussed ore in detail in specific sections in Part One and Part Three of this Report.

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

	2009			2010			2011			2012			2013		
	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	172,718	50,836,854	80.6	168,926	50,114,576	81.3	166,544	48,492,926	79.8	161,653	47,155,798	79.9	156,762	45,685,829	79.8
Accred. private	46,686	11,281,737	66.2	45,622	10,945,990	65.7	44,487	10,688,865	65.8	42,970	10,422,856	66.5	42,142	10,202,409	66.3
Total	*219,404*	*62,118,591*		*214,548*	*61,060,566*		*211,031*	*59,181,791*		*204,623*	*57,578,654*		*198,904*	*55,888,238*	
	%	%		%	%		%	%		%	%		%	%	
Public	78.7	81.8		78.7	82.1		78.9	81.9		79.0	81.9		78.8	81.7	
Accred. private	21.3	18.2		21.3	17.9		21.1	18.1		21.0	18.1		21.2	18.3	
Total	*100.0*	*100.0*		*100.0*	*100.0*		*100.0*	*100.0*		*100.0*	*100.0*		*100.0*	*100.0*	

Source: *processing by Ermeneia of data included in the Report "Attività gestionali ed economiche delle Usl e Aziende Ospedaliere", Ministry of Health, Years 2009, 2010, 2011, 2012 and 2013*

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

	2010/2009		2011/2010		2012/2011		2013/2012		2013/2009	
	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	-2.2	-1.4	-1.4	-3.2	-2.9	-2.8	-3.0	-3.1	-9.2	-10.1
Accred. private	-2.3	-3.0	-2.5	-2.3	-3.4	-2.5	-1.9	-2.1	-9.7	-9.6
Total	*-2.2*	*-1.7*	*-1.6*	*-3.1*	*-3.0*	*-2.7*	*-2.8*	*-2.9*	*-9.3*	*-10.0*

Source: *processing by Ermeneia of data included in the Report "Attività gestionali ed economiche delle Usl e Aziende Ospedaliere", Ministry of Health, Years 2009, 2010, 2011, 2012 and 2013*

Table S/15 – Public and accredited private institutions – Activity data for inpatient admissions. 2013

Type of institution	2013					2012	
	Patient beds	*Discharged pts*	*Days*	*Average length of stay*	*Occupancy rate %*	*Average length of stay*	*Occupancy rate %*
– Total public and assimilated institutions	156,762	5,879,708	45,685,829	7.8	79.8	7.8	79.9
– Private accredited healthcare facilities	42,142	1,136,424	10,202,409	9.0	66.3	9.0	66.5
Total public and accredited private institutions	*198,904*	*7,016,132*	*55,888,238*	*8.0*	*77.0*	*8.0*	*77.1*

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 2013 and comparison with the year 2011

Regions	*Patient beds actually used*	*Admissions*	*In-hospital days*	*2013*			*2011*		
				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	10,758	383,198	2,925,216	7.6	74.5	87.6	7.7	77.8	93.4
– Aosta Valley	428	14,748	113,033	7.7	72.4	115.4	8.4	78.7	114.1
– Lombardy	23,621	962,330	6,837,352	7.1	79.3	98.3	7.2	80.9	104.5
– A.P. of Bolzano	1,616	63,819	431,025	6.8	73.1	125.2	6.7	76.5	131.1
– A.P. of Trento	1,315	47,295	364,855	7.7	76.0	89.2	7.7	97.4	137.3
– Veneto	13,021	448,061	3,614,343	8.1	76.0	91.8	8.1	76.1	95.8
– Friuli V.G.	3,653	130,320	970,378	7.4	72.8	106.7	7.6	70.8	107.9
– Liguria	4,408	169,053	1,340,071	7.9	83.3	108.0	8.4	62.7	103.7
– Emilia R.	11,295	471,636	3,100,207	6.6	75.2	107.7	6.7	76.2	112.9
– Tuscany	9,251	384,296	2,506,923	6.5	74.2	104.1	6.6	76.3	111.2
– Umbria	2,353	109,501	699,612	6.4	81.5	123.6	6.2	82.9	127.6
– Marche	3,886	149,203	1,102,798	7.4	77.7	96.6	7.3	77.8	107.7
– Lazio	13,042	526,590	3,937,499	7.5	82.7	94.8	7.7	82.8	92.1
– Abruzzo	3,033	123,541	899,763	7.3	81.3	94.1	7.3	85.7	100.1
– Molise	824	36,977	262,997	7.1	87.4	118.0	7.1	89.6	131.5
– Campania	9,899	433,646	2,911,759	6.7	80.6	75.2	6.6	76.5	78.6
– Apulia	8,989	413,949	2,766,050	6.7	84.3	102.2	6.6	80.6	111.8
– Basilicata	1,422	55,805	385,415	6.9	74.3	96.9	6.9	70.3	100.7
– Calabria	3,126	135,084	921,315	6.8	80.7	69.0	6.8	76.1	80.6
– Sicily	9,697	405,120	2,811,350	6.9	79.4	81.0	6.8	79.8	87.0
– Sardinia	4,528	163,203	1,119,198	6.9	67.7	99.5	7.0	70.4	109.9
North	70,115	2,690,460	19,696,480	7.3	77.0	98.3	7.5	77.1	103.8
Center	28,532	1,169,590	8,246,832	7.1	79.2	100.1	7.1	79.9	102.9
South	41,518	1,767,325	12,077,847	6.8	79.7	85.7	6.8	78.1	92.6
Italy	*140,165*	*5,627,375*	*40,021,159*	*7.1*	*78.2*	*94.3*	*7.2*	*78.0*	*99.7*

(*) 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.

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 2013 and comparison with the year 2011

Regions	*Patient beds actually occupied*	*Admissions*	*In-hospital days*	*2013*		*2011*	
				Average length of stay	*Occupancy rate (%)*	*Average length of stay*	*Occupancy rate (%)*
– Piedmont	2,144	23,173	656,606	28.3	83.9	29.0	89.9
– Aosta Valley	25	157	3,895	24.8	42.7	-	-
– Lombardy	3,800	52,018	1,267,088	24.4	91.4	23.9	89.6
– A.P. of Bolzano	78	1,051	19,973	19.0	70.2	23.2	87.8
– A.P. of Trento	101	1,256	37,691	30.0	102.2	29.4	125.3
– Veneto	2,178	26,666	677,600	25.4	85.2	25.8	84.2
– Friuli V.G.	304	4,193	111,995	26.7	100.9	28.7	90.5
– Liguria	803	12,895	251,428	19.5	85.8	21.6	69.1
– Emilia Romagna	1,931	26,408	855,464	32.4	121.4	35.4	122.6
– Tuscany	530	6,860	161,169	23.5	83.3	21.4	82.7
– Umbria	276	3,719	95,109	25.6	94.4	24.5	90.9
– Marche	494	7,411	138,688	18.7	76.9	24.3	76.5
– Lazio	1,239	11,842	424,752	35.9	93.9	42.3	94.8
– Abruzzo	268	3,630	61,380	16.9	62.7	16.8	61.8
– Molise	171	1,732	50,554	29.2	81.0	32.9	82.4
– Campania	405	4,454	129,588	29.1	87.7	28.1	82.9
– Apulia	714	8,397	209,416	24.9	80.4	26.0	61.1
– Basilicata	223	2,110	60,327	28.6	74.1	35.4	67.4
– Calabria	60	1,128	17,700	15.7	80.8	18.6	65.0
– Sicily	953	6,867	249,427	36.3	71.7	42.6	73.5
– Sardinia	122	995	36,923	37.1	82.9	35.1	65.5
North	11,364	147,817	3,881,740	26.3	93.6	27.2	93.7
Center	2,539	29,832	819,718	27.5	88.5	30.7	88.8
South	2,916	29,313	815,315	27.8	76.6	28.4	69.0
Italy	*16,819*	*206,962*	*5,516,773*	*26.7*	*89.9*	*27.8*	*88.7*

(*) 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 private hospitals (accredited healthcare facilities), by region. Year 2013 and comparison with the year 2011

Regions	*Patient beds actually occupied*	*Admissions*	*In-hospital days*	*2013*			*2011*		
				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	940	6,410	142,188	3.9	41.4	8.3	4.8	41.5	8.8
– Aosta Valley	10	772	1,324	1.7	36.3	6.0	-	-	-
– Lombardy	4,477	205,325	971,421	4.7	59.4	21.0	4.8	60.5	20.9
– A.P. of Bolzano	31	741	7,658	10.3	67.7	1.5	12.7	68.6	2.9
– A.P. of Trento	104	2,808	18,671	6.6	49.2	5.3	6.5	53.2	5.3
– Veneto	735	17,888	202,534	11.3	75.5	3.7	11.0	82.2	4.1
– Friuli V.G.	332	7,568	39,963	5.3	33.0	6.2	6.0	28.3	5.0
– Liguria	60	1,724	9,370	5.4	42.8	1.1	6.1	57.2	0.9
– Emilia Romagna	2,619	89,847	507,984	5.7	53.1	20.5	6.0	55.1	21.8
– Tuscany	972	33,368	171,332	5.1	48.3	9.0	5.5	43.2	8.5
– Umbria	181	6,018	17,707	2.9	26.8	6.8	3.0	25.8	7.1
– Marche	448	18,250	85,744	4.7	52.4	11.8	5.0	53.4	12.2
– Lazio	2,464	76,876	494,196	6.4	54.9	13.8	7.6	62.1	14.8
– Abruzzo	555	22,631	129,796	5.7	64.1	17.2	5.8	55.4	14.2
– Molise	80	2,672	14,725	5.5	50.4	8.5	6.0	53.3	8.3
– Campania	4,305	177,900	1,002,651	5.6	63.8	30.8	5.7	66.7	34.7
– Apulia	1,591	80,092	364,028	4.5	62.7	19.8	4.6	62.7	20.9
– Basilicata	50	1,640	5,653	3.4	31.0	2.8	3.6	18.5	1.6
– Calabria	902	35,529	172,291	4.8	52.3	18.1	5.4	47.9	22.8
– Sicily	2,918	92,294	520,289	5.6	48.9	18.5	5.5	49.7	21.0
– Sardinia	780	21,713	108,395	5.0	38.1	13.2	5.6	35.1	13.9
North	9,308	363,083	1,901,113	5.2	56.0	13.3	5.5	57.0	13.5
Center	4,065	134,512	768,979	5.7	51.8	11.5	6.6	55.0	11.9
South	11,181	434,471	2,317,828	5.3	56.8	21.1	5.4	56.6	23.2
Italy	*24,554*	*932,066*	*4,987,920*	*5.4*	*55.7*	*15.6*	*5.6*	*56.5*	*16.6*

(*) 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/19 – Activities of non-acute hospital stay (*) in private hospitals (accredited healthcare facilities), by region. Year 2013 and comparison with the year 2011

Regions	*Patient beds actually occupied*	*Admissions*	*In-hospital days*	*2013*		*2011*	
				Average length of stay	*Occupancy rate (%)*	*Average length of stay*	*Occupancy rate (%)*
– Piedmont	2,405	21,461	640,642	29.9	73.0	32.7	66.3
– Aosta Valley	64	770	15,461	20.1	66.2	22.3	58.0
– Lombardy	3,427	49,357	1,161,323	23.5	92.8	23.9	93.4
– A.P. of Bolzano	231	3,610	88,334	24.5	104.8	24.9	99.1
– A.P. of Trento	428	7,534	167,329	22.2	107.1	23.0	100.1
– Veneto	423	5,820	130,250	22.4	84.4	22.3	90.2
– Friuli V.G.	96	895	19,428	21.7	55.4	21.9	68.4
– Liguria	123	2,868	31,530	11.0	70.2	12.9	75.2
– Emilia Romagna	1,697	27,072	594,658	22.0	96.0	22.4	97.6
– Tuscany	583	7,059	178,227	25.2	83.8	22.8	74.9
– Umbria	32	495	5,966	12.1	51.1	12.7	57.7
– Marche	415	4,191	130,940	31.2	86.4	30.8	88.4
– Lazio	1,953	21,573	641,686	29.7	90.0	34.4	82.7
– Abruzzo	445	5,476	138,376	25.3	85.2	26.9	81.6
– Molise	60	479	11,702	24.4	53.4	29.7	73.7
– Campania	1,406	10,051	356,451	35.5	69.5	38.1	85.8
– Apulia	694	8,847	205,265	23.2	81.0	22.5	81.6
– Basilicata	99	915	31,506	34.4	87.2	33.7	50.8
– Calabria	792	6,962	186,716	26.8	64.6	31.5	73.1
– Sicily	799	11,589	253,668	21.9	87.0	21.5	81.6
– Sardinia	224	3,090	60,282	19.5	73.7	20.9	69.4
North	8,894	119,387	2,848,955	23.9	87.8	24.5	86.9
Center	2,983	33,318	956,819	28.7	87.9	31.4	81.9
South	4,519	47,409	1,243,966	26.2	75.4	27.3	79.8
Italy	*16,396*	*200,114*	*5,049,740*	*25.2*	*84.4*	*26.5*	*83.9*

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

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 Records (SDO): recorded activity, national grand total, and totals for public and private institutions – Discharged pts and in-hospital days. 2014

	Number of cases			*In-hospital days*		
	Public	*Private*	*Total*	*Public*	*Private*	*Total*
– Inpatient admissions for acute cases	4,975,853	1,510,585	6,486,438	35,887,853	8,202,127	44,089,980
– Day hospital for acute cases	1,588,204	606,037	2,194,241	4,827,043	1,206,484	6,033,527
– Rehabilitation for inpatient admissions	79,526	235,189	314,715	1,980,988	6,295,657	8,276,645
– Rehabilitation – Day hospital	16,743	18,125	34,868	187,972	313,150	501,122
– Long-stay care	57,015	52,839	109,854	1,464,307	1,574,260	3,038,567
– Normal newborns(1)	306,338	80,378	386,716	942,601	246,589	1,189,190
Total	*7,023,679*	*2,503,153*	*9,526,832*	*45,290,764*	*17,838,267*	*63,129,031*

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 Private Healthcare Facilities.
The item "Long-stay care" includes discharged pts from inpatient admissions and day-hospital.
(1) Classified in the DRG 391.
Source: *data from the Ministry of Health – SDO 2014*

Table S/21 – Distribution of discharged pts classified according to type of institution, activity, and admissions. 2014

Type of institution	*Acute*				*Rehabilitation*					
	Inpatient admissions		*Day hospital*		*Inpatient admissions*		*Day hospital*		*Long-stay care*	
	Number	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*
– Public institutions and equivalents	5,542,547	85.4	1,863,429	84.9	149,795	47.6	26,085	74.8	58,888	53.6
– Private hospitals (accredited healthcare facilities)	901,039	13.9	322,704	14.7	164,872	52.4	8,783	25.2	50,727	46.2
– Private healthcare facilities	42,852	0.7	8,108	0.4	48	0.0	-	0.0	239	0.2
Total	*6,486,438*	*100.0*	*2,194,241*	*100.0*	*314,715*	*100.0*	*34,868*	*100.0*	*109,854*	*100.0*

Source: *data from the Ministry of Health – SDO 2014*

Table S/22 – Distribution of in-hospital days classified according to type of institution, activity, and admissions. 2014

Type of institution	*Acute*				*Rehabilitation*					
	Inpatient admissions		*Day hospital*		*Inpatient admissions*		*Day hospital*		*Long-stay care*	
	Number	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*
– Public institutions and equivalents	39,488,125	89.6	5,462,356	90.6	4,027,029	48.7	319,742	63.8	1,519,044	50.0
– Private hospitals (accredited healthcare facilities)	4,460,132	10.1	562,282	9.3	4,248,773	51.3	181,380	36.2	1,512,530	49.8
– Private healthcare facilities	141,723	0.3	8,889	0.1	843	0.0	-	0.0	6,993	0.2
Total	*44,089,980*	*100.0*	*6,033,527*	*100.0*	*8,276,645*	*100.0*	*501,122*	*100.0*	*3,038,567*	*100.0*

Source: *data from the Ministry of Health – SDO 2014*

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. 2014

Rank	DRG	Discharges			% In-hospital days	Average length of stay
		Number	%	% cumul.		
1	373 Vaginal Delivery W/O Complicating Diagnoses	296,186	4.6	4.6	2.3	3.4
2	127 Heart Failure & Shock	190,101	2.9	2.9	3.9	9.1
3	371 Cesarean Section W/O Cc	162,972	2.5	2.5	1.7	4.6
4	544 Major Joint Replacement or Reattachment of Lower Extremity	151,849	2.3	2.3	3.1	9.1
5	087 Pulmonary Edema & Respiratory Failure	135,929	2.1	2.1	3.0	9.6
6	359 Uterine & Adnexa Proc For Non-Malignancy W/O Cc	104,274	1.6	1.6	0.9	3.8
7	014 Intracranial Hemorrhage or Cerebral Infarction	93,921	1.4	1.4	2.1	10.1
8	430 Psychoses	85,777	1.3	1.3	2.5	13.0
9	494 Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	83,812	1.3	1.3	0.7	3.7
10	316 Renal Failure	74,533	1.1	1.1	1.6	9.5
11	089 Simple Pneumonia & Pleurisy Age >17 W Cc	73,550	1.1	1.1	1.9	11.1
12	183 Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	63,955	1.0	1.0	0.7	4.9
13	125 Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	63,128	1.0	1.0	0.5	3.5
14	311 Transurethral Procedures W/O Cc	58,353	0.9	0.9	0.5	3.6
15	410 Chemotherapy W/O Acute Leukemia as Secondary Diagnosis	58,149	0.9	0.9	0.6	4.4
16	576 Septicemia W/O Mv96 + Hours Age >17	56,337	0.9	0.9	1.6	12.9
17	503 Knee Procedures W/O Pdx of Infection	55,570	0.9	0.9	0.2	1.9
18	390 Neonate W Other Significant Problems	52,458	0.8	0.8	0.5	4.1
19	162 Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	51,521	0.8	0.8	0.2	1.9
20	225 Foot Procedures	51,431	0.8	0.8	0.2	2.1
21	219 Lower Extrem & Humer Proc Except Hip,Foot,Femur Age >17 W/O Cc	50,379	0.8	0.8	0.8	6.8
22	557 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	48,306	0.7	0.7	0.8	7.2
23	558 Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	44,807	0.7	0.7	0.4	4.1
24	524 Transient Ischemia	44,659	0.7	0.7	0.7	6.8
25	467 Other Factors Influencing Health Status	43,628	0.7	0.7	0.3	2.9
26	082 Respiratory Neoplasms	42,247	0.7	0.7	1.0	10.1
27	088 Chronic Obstructive Pulmonary Disease	42,228	0.7	0.7	0.8	8.5
28	203 Malignancy of Hepatobiliary System or Pancreas	41,146	0.6	0.6	0.9	9.2
29	211 Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	40,494	0.6	0.6	0.9	10.2
30	381 Abortion W D&C, Aspiration Curettage or Hysterotomy	40,304	0.6	0.6	0.1	1.6
31	395 Red Blood Cell Disorders Age > 17	38,929	0.6	0.6	0.7	8.3
32	139 Cardiac Arrhythmia & Conduction Disorders W/O Cc	38,468	0.6	0.6	0.3	3.8

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(Continued) *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. 2014*

Rank		DRG	Discharges			% In-hospital days	Average length of stay
			Number	%	% cumul.		
33	224	Shoulder,Elbow or Forearm Proc,Exc Major Joint Proc, W/O Cc	38,229	0.6	38.8	0.3	3.0
34	290	Thyroid Procedures	37,217	0.6	39.4	0.3	3.4
35	184	Esophagitis, Gastroent & Misc Digest Disorders Age 0-17	37,005	0.6	40.0	0.3	3.2
36	158	Anal & Stomal Procedures W/O Cc	36,464	0.6	40.5	0.2	2.2
37	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	35,080	0.5	41.1	0.2	2.2
38	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	34,656	0.5	41.6	0.4	5.3
39	012	Degenerative Nervous System Disorders	33,907	0.5	42.1	0.6	8.4
40	379	Threatened Abortion	33,770	0.5	42.6	0.3	4.5
41	149	Major Small & Large Bowel Procedures W/O Cc	33,495	0.5	43.2	0.8	10.4
42	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	33,459	0.5	43.7	0.3	4.2
43	090	Simple Pneumonia & Pleurisy Age >17 W/O Cc	32,704	0.5	44.2	0.6	8.5
44	124	Circulatory Disorders Except Ami, W Card Cath & Complex Diag	32,267	0.5	44.7	0.5	6.8
45	202	Cirrhosis & Alcoholic Hepatitis	31,930	0.5	45.2	0.7	9.9
46	208	Disorders of The Biliary Tract W/O Cc	30,424	0.5	45.6	0.5	6.6
47	243	Medical Back Problems	29,986	0.5	46.1	0.4	6.2
48	518	Perc Cardio Proc W/O Coronary Artery Stent or Ami	29,613	0.5	46.6	0.2	3.7
49	143	Chest Pain	29,270	0.5	47.0	0.2	3.5
50	337	Transurethral Prostatectomy W/O Cc	29,030	0.4	47.5	0.3	4.6
51	210	Hip & Femur Procedures Except Major Joint Age >17 W Cc	28,870	0.4	47.9	0.9	13.4
52	298	Nutritional & Misc Metabolic Disorders Age 0-17	27,913	0.4	48.3	0.2	3.6
53	138	Cardiac Arrhythmia & Conduction Disorders W Cc	27,303	0.4	48.7	0.4	6.3
54	227	Soft Tissue Procedures W/O Cc	27,146	0.4	49.2	0.2	2.7
55	260	Subtotal Mastectomy For Malignancy W/O Cc	27,135	0.4	49.6	0.2	2.5
56	098	Bronchitis & Asthma Age 0-17	26,728	0.4	50.0	0.3	4.3
57	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	26,531	0.4	50.4	0.2	2.7
58	229	Hand or Wrist Proc, Except Major Joint Proc, W/O Cc	26,441	0.4	50.8	0.1	2.1
59	389	Full Term Neonate W Major Problems	26,223	0.4	51.2	0.4	6.8
60	204	Disorders of Pancreas Except Malignancy	25,899	0.4	51.6	0.5	9.2
		Total (top 60 DRGs)	*3,348,096*	*51.6*		*47.1*	
		Grand total	*6,486,438*	*100.0*		*100.0*	*6.8*

Source: *data from the Ministry of Health – SDO 2014*

Table S/24 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases. 2015

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	46,466	6.2	6.2	7.3	6.9	321,044
2	503	Knee Procedures W/O Pdx of Infection	24,355	3.3	9.5	1.1	1.9	46,447
3	225	Foot Procedures	20,645	2.8	12.2	0.8	1.6	32,854
4	371	Cesarean Section W/O Cc	19,625	2.6	14.8	1.8	4.0	79,425
5	039	Lens Procedures With Or Without Vitrectomy	18,975	2.5	17.4	0.8	1.8	34,580
6	127	Heart Failure & Shock	16,465	2.2	19.6	3.3	8.8	144,474
7	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	14,712	2.0	21.5	1.1	3.4	49,506
8	373	Vaginal Delivery W/O Complicating Diagnoses	13,735	1.8	23.4	1.1	3.4	46,741
9	430	Psychoses	12,644	1.7	25.1	6.9	24.0	302,934
10	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	11,606	1.6	26.6	0.8	2.9	33,416
11	125	Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	11,031	1.5	28.1	0.6	2.5	27,669
12	410	Chemotherapy W/O Acute Leukemia As Secondary Diagnosis	9,002	1.2	29.3	7.3	35.5	319,644
13	224	Shoulder,Elbow or Forearm Proc,Exc Major Joint Proc, W/O Cc	8,773	1.2	30.5	0.4	2.0	17,814
14	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	8,655	1.2	31.6	0.4	2.2	18,721
15	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	8,535	1.1	32.8	0.6	2.9	24,573
16	311	Transurethral Procedures W/O Cc	8,281	1.1	33.9	0.6	3.0	24,852
17	558	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	7,409	1.0	34.9	0.6	3.3	24,090
18	183	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	7,395	1.0	35.9	0.6	3.8	27,903
19	223	Major Shoulder/Elbow Proc, or Other Upper Extremity Proc W Cc	7,008	0.9	36.8	0.3	1.8	12,360
20	518	Perc Cardio Proc W/O Coronary Artery Stent or Ami	6,931	0.9	37.7	0.5	3.3	22,733
21	498	Spinal Fusion Except Cervical W/O Cc	6,831	0.9	38.6	0.7	4.6	31,206
22	158	Anal & Stomal Procedures W/O Cc	6,596	0.9	39.5	0.3	2.0	13,396
23	087	Pulmonary Edema & Respiratory Failure	6,480	0.9	40.4	1.4	9.1	59,121
24	288	O.R. Procedures For Obesity	6,323	0.8	41.2	0.6	4.2	26,590
25	467	Other Factors Influencing Health Status	5,978	0.8	42.0	0.7	4.8	28,473
26	337	Transurethral Prostatectomy W/O Cc	5,798	0.8	42.8	0.5	4.1	23,571
27	012	Degenerative Nervous System Disorders	5,646	0.8	43.5	1.0	7.4	41,827
28	479	Other Vascular Procedures W/O Cc	5,477	0.7	44.3	0.4	3.3	17,960
29	227	Soft Tissue Procedures W/O Cc	5,171	0.7	45.0	0.2	1.8	9,239
30	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	5,033	0.7	45.6	0.6	5.0	25,205
31	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	5,015	0.7	46.3	0.2	2.1	10,759
32	232	Arthroscopy	4,631	0.6	46.9	0.1	1.4	6,549

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(Continued) *Table S/24 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases. 2015*

Rank		*DRG*	*Discharges*			*% In-hospital days*	*Average length of stay*	*In-hospital days*
			Number	*%*	*% cumul.*			
33	290	Thyroid Procedures	4,624	0.6	47.6	0.3	2.8	13,078
34	524	Transient Ischemia	4,436	0.6	48.1	0.7	7.2	31,960
35	104	Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath	4,377	0.6	48.7	1.3	13.4	58,578
36	219	Lower Extrem & Humer Proc Except Hip, Foot, Femur Age >17 W/O Cc	4,363	0.6	49.3	0.5	4.6	19,977
37	089	Simple Pneumonia & Pleurisy Age >17 W Cc	4,321	0.6	49.9	1.1	11.1	47,976
38	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	4,264	0.6	50.5	0.3	3.4	14,445
39	229	Hand or Wrist Proc, Except Major Joint Proc, W/O Cc	4,222	0.6	51.0	0.1	1.2	5,002
40	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	4,150	0.6	51.6	0.2	2.3	9,639
41	088	Chronic Obstructive Pulmonary Disease	4,071	0.5	52.1	0.8	8.3	33,627
42	316	Renal Failure	4,003	0.5	52.7	0.7	7.7	30,988
43	119	Vein Ligation & Stripping	3,684	0.5	53.1	0.1	1.2	4,391
44	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	3,591	0.5	53.6	0.6	6.8	24,254
45	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	3,578	0.5	54.1	0.4	4.5	16,022
46	014	Intracranial Hemorrhage or Cerebral Infarction	3,457	0.5	54.6	0.7	8.9	30,735
47	545	Revision Of Hip Or Knee Replacement	3,390	0.5	55.0	0.7	8.7	29,404
48	143	Chest Pain	3,346	0.4	55.5	0.2	2.8	9,471
49	082	Respiratory Neoplasms	3,340	0.4	55.9	0.6	8.0	26,666
50	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	3,267	0.4	56.4	0.1	1.6	5,338
51	160	Hernia Procedures Except Inguinal & Femoral Age >17 W/O Cc	3,200	0.4	56.8	0.2	2.8	9,064
52	557	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	3,111	0.4	57.2	0.5	7.0	21,748
53	149	Major Small & Large Bowel Procedures W/O Cc	3,088	0.4	57.6	0.5	7.5	23,092
54	243	Medical Back Problems	2,937	0.4	58.0	0.3	5.2	15,151
55	008	Periph & Cranial Nerve & Other Nerv Syst Proc W/O Cc	2,929	0.4	58.4	0.1	1.7	4,858
56	120	Other Circulatory System O.R. Procedures	2,897	0.4	58.8	0.4	5.6	16,156
57	053	Sinus & Mastoid Procedures Age >17	2,852	0.4	59.2	0.1	2.0	5,647
58	042	Intraocular Procedures Except Retina, Iris & Lens	2,835	0.4	59.5	0.1	1.7	4,881
59	428	Disorders Of Personality & Impulse Control	2,767	0.4	59.9	2.0	31.1	86,145
60	090	Simple Pneumonia & Pleurisy Age >17 W/O Cc	2,757	0.4	60.3	0.6	8.8	24,279
	Total (top 60 DRGs)		*451,084*	*60.3*			*5.6*	*2,528,249*
	Grand total		*748,370*				*5.8*	*4,375,079*

Source: *processing by Ermeneia – data from AIOP*

Table S/25 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the North of Italy. 2015

Rank		DRG	North					
			Discharges			% In-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
1	544	Major Joint Replacement or Reattachment of Lower Extremity	27,725	8.8	8.8	9.7	6.7	185,617
2	503	Knee Procedures W/O Pdx of Infection	13,451	4.2	13.0	1.1	1.5	20,215
3	225	Foot Procedures	11,945	3.8	16.8	0.8	1.3	16,035
4	430	Psychoses	6,532	2.1	18.8	8.4	24.5	159,860
5	127	Heart Failure & Shock	6,494	2.0	20.9	3.3	9.6	62,620
6	224	Shoulder, Elbow or Forearm Proc, Exc Major Joint Proc, W/O Cc	6,431	2.0	22.9	0.6	1.8	11,495
7	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	5,464	1.7	24.6	0.9	3.0	16,455
8	518	Perc Cardio Proc W/O Coronary Artery Stent or Ami	5,372	1.7	26.3	1.0	3.4	18,163
9	125	Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	4,580	1.4	27.8	0.6	2.6	11,987
10	288	O.R. Procedures For Obesity	4,501	1.4	29.2	1.0	4.1	18,417
11	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	4,399	1.4	30.6	0.7	2.8	12,463
12	373	Vaginal Delivery W/O Complicating Diagnoses	4,077	1.3	31.9	0.7	3.2	13,209
13	558	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	4,050	1.3	33.1	0.7	3.2	12,896
14	232	Arthroscopy	3,998	1.3	34.4	0.3	1.2	4,984
15	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	3,899	1.2	35.6	0.5	2.5	9,892
16	498	Spinal Fusion Except Cervical W/O Cc	3,876	1.2	36.9	0.9	4.6	17,690
17	311	Transurethral Procedures W/O Cc	3,614	1.1	38.0	0.5	2.6	9,224
18	158	Anal & Stomal Procedures W/O Cc	3,482	1.1	39.1	0.3	1.4	5,002
19	479	Other Vascular Procedures W/O Cc	3,461	1.1	40.2	0.6	3.4	11,860
20	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	3,338	1.1	41.3	0.2	1.3	4,184
21	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	3,093	1.0	42.2	0.3	2.1	6,403
22	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	2,824	0.9	43.1	0.7	4.6	13,017
23	227	Soft Tissue Procedures W/O Cc	2,799	0.9	44.0	0.2	1.5	4,190
24	337	Transurethral Prostatectomy W/O Cc	2,645	0.8	44.8	0.5	3.4	9,096
25	104	Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath	2,597	0.8	45.7	1.8	12.9	33,511
26	223	Major Shoulder/Elbow Proc, or Other Upper Extremity Proc W Cc	2,562	0.8	46.5	0.2	1.5	3,836
27	229	Hand or Wrist Proc, Except Major Joint Proc, W/O Cc	2,469	0.8	47.2	0.1	0.9	2,283
28	087	Pulmonary Edema & Respiratory Failure	2,411	0.8	48.0	1.4	10.9	26,184
29	089	Simple Pneumonia & Pleurisy Age >17 W Cc	2,382	0.8	48.8	1.5	11.7	27,945
30	219	Lower Extrem & Humer Proc Except Hip, Foot, Femur Age >17 W/O Cc	2,302	0.7	49.5	0.5	4.2	9,774

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(Continued) *Table S/25 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admission for acute cases in the North of Italy. 2015*

Rank		DRG	North					
			Discharges			% In-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
31	008	Periph & Cranial Nerve & Other Nerv Syst Proc W/O Cc	2,298	0.7	50.2	0.2	1.7	3,874
32	467	Other Factors Influencing Health Status	2,229	0.7	50.9	0.4	3.2	7,043
33	428	Disorders Of Personality & Impulse Control	2,164	0.7	51.6	3.6	32.1	69,507
34	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	2,149	0.7	52.3	0.4	3.4	7,300
35	088	Chronic Obstructive Pulmonary Disease	2,140	0.7	53.0	1.0	9.2	19,585
36	545	Revision Of Hip Or Knee Replacement	2,086	0.7	53.6	0.9	8.3	17,353
37	014	Intracranial Hemorrhage or Cerebral Infarction	2,063	0.7	54.3	1.0	9.3	19,227
38	053	Sinus & Mastoid Procedures Age >17	1,959	0.6	54.9	0.2	1.9	3,632
39	183	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	1,903	0.6	55.5	0.6	5.7	10,762
40	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	1,900	0.6	56.1	0.1	1.4	2,656
41	012	Degenerative Nervous System Disorders	1,756	0.6	56.6	0.8	8.4	14,778
42	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	1,741	0.5	57.2	0.4	4.5	7,818
43	371	Cesarean Section W/O Cc	1,708	0.5	57.7	0.4	4.4	7,464
44	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	1,623	0.5	58.2	0.2	2.0	3,258
45	042	Intraocular Procedures Except Retina, Iris & Lens	1,601	0.5	58.7	0.2	1.9	3,086
46	532	Spinal Procedures W/O Cc	1,548	0.5	59.2	0.2	2.5	3,915
47	119	Vein Ligation & Stripping	1,538	0.5	59.7	0.1	0.9	1,373
48	243	Medical Back Problems	1,531	0.5	60.2	0.5	6.4	9,776
49	160	Hernia Procedures Except Inguinal & Femoral Age >17 W/O Cc	1,520	0.5	60.7	0.2	2.5	3,751
50	554	Other Vascular Procedures W Cc W/O Major Cv Dx	1,519	0.5	61.2	0.5	6.6	10,093
51	090	Simple Pneumonia & Pleurisy Age >17 W/O Cc	1,513	0.5	61.6	0.7	8.9	13,510
52	395	Red Blood Cell Disorders Age >17	1,494	0.5	62.1	0.7	8.7	12,990
53	557	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	1,487	0.5	62.6	0.6	7.4	11,014
54	461	O.R. Proc W Diagnoses of Other Contact W Health Services	1,484	0.5	63.0	0.3	3.2	4,785
55	335	Major Male Pelvic Procedures W/O Cc	1,447	0.5	63.5	0.5	6.4	9,255
56	105	Cardiac Valve & Oth Major Cardiothoracic Proc W/O Card Cath	1,439	0.5	64.0	1.0	12.9	18,543
57	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	1,406	0.4	64.4	0.5	6.9	9,652
58	120	Other Circulatory System O.R. Procedures	1,386	0.4	64.8	0.5	6.7	9,339
59	149	Major Small & Large Bowel Procedures W/O Cc	1,365	0.4	65.3	0.6	7.9	10,789
60	523	Alc/Drug Abuse Or Depend W/O Rehabilitation Therapy W/O Cc	1,343	0.4	65.7	1.4	19.3	25,854
		Total (top 60 DRGs)	*208,113*	*65.7*			*5.3*	*1,110,489*
		Grand total (North)	*316,813*				*6.0*	*1,905,137*

Source: *processing by Ermeneia – data from AIOP*

Table S/26 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the Center of Italy. 2015

Rank	DRG		Center					
			Discharges			% In-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
1	544	Major Joint Replacement or Reattachment of Lower Extremity	7,926	10.3	10.3	14.2	7.4	58,424
2	225	Foot Procedures	4,928	6.4	16.8	2.1	1.7	8,457
3	503	Knee Procedures W/O Pdx of Infection	3,910	5.1	21.9	1.4	1.5	5,750
4	223	Major Shoulder/Elbow Proc, or Other Upper Extremity Proc W Cc	2,525	3.3	25.2	1.0	1.7	4,204
5	127	Heart Failure & Shock	2,049	2.7	27.9	4.8	9.6	19,705
6	373	Vaginal Delivery W/O Complicating Diagnoses	2,008	2.6	30.5	1.7	3.5	7,080
7	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	1,815	2.4	32.8	1.5	3.5	6,372
8	371	Cesarean Section W/O Cc	1,365	1.8	34.6	1.4	4.2	5,673
9	498	Spinal Fusion Except Cervical W/O Cc	1,344	1.8	36.4	1.3	3.9	5,195
10	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	1,268	1.7	38.0	0.9	2.8	3,529
11	224	Shoulder, Elbow or Forearm Proc, Exc Major Joint Proc, W/O Cc	1,205	1.6	39.6	0.8	2.8	3,367
12	337	Transurethral Prostatectomy W/O Cc	1,092	1.4	41.0	1.1	4.1	4,467
13	087	Pulmonary Edema & Respiratory Failure	979	1.3	42.3	2.1	8.8	8,595
14	089	Simple Pneumonia & Pleurisy Age >17 W Cc	957	1.2	43.6	2.4	10.5	10,036
15	219	Lower Extrem & Humer Proc Except Hip, Foot, Femur Age >17 W/O Cc	877	1.1	44.7	1.1	5.4	4,700
16	311	Transurethral Procedures W/O Cc	869	1.1	45.8	0.7	3.3	2,866
17	227	Soft Tissue Procedures W/O Cc	857	1.1	47.0	0.4	2.1	1,764
18	468	Extensive O.R. Procedure Unrelated to Principal Diagnosis	763	1.0	48.0	1.6	8.7	6,649
19	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	722	0.9	48.9	0.5	2.6	1,867
20	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	696	0.9	49.8	0.3	1.8	1,270
21	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	681	0.9	50.7	0.4	2.6	1,740
22	524	Transient Ischemia	648	0.8	51.5	1.1	7.0	4,531
23	305	Kidney, Ureter & Major Bladder Procedures For Non-Neoplasm W/O Cc	598	0.8	52.3	0.5	3.2	1,927
24	082	Respiratory Neoplasms	578	0.8	53.1	1.3	9.0	5,174
25	545	Revision Of Hip Or Knee Replacement	577	0.8	53.8	1.3	9.1	5,229
26	149	Major Small & Large Bowel Procedures W/O Cc	572	0.7	54.6	0.7	5.0	2,837
27	014	Intracranial Hemorrhage or Cerebral Infarction	557	0.7	55.3	1.3	9.3	5,169
28	183	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	536	0.7	56.0	0.7	5.1	2,731
29	491	Major Joint & Limb Reattachment Procedures of Upper Extremity	527	0.7	56.7	0.6	4.9	2,559
30	120	Other Circulatory System O.R. Procedures	522	0.7	57.4	0.6	4.8	2,517

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(Continued) *Table S/26 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the Center of Italy. 2015*

Rank		DRG	Center					
			Discharges			% In-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
31	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	483	0.6	58.0	0.8	7.2	3,482
32	316	Renal Failure	449	0.6	58.6	1.1	10.0	4,508
33	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	445	0.6	59.2	0.1	1.4	609
34	229	Hand or Wrist Proc, Except Major Joint Proc, W/O Cc	435	0.6	59.7	0.1	1.0	448
35	296	Nutritional & Misc Metabolic Disorders Age >17 W Cc	409	0.5	60.3	0.9	8.8	3,607
36	088	Chronic Obstructive Pulmonary Disease	406	0.5	60.8	0.8	8.4	3,421
37	053	Sinus & Mastoid Procedures Age >17	396	0.5	61.3	0.2	2.3	901
38	290	Thyroid Procedures	388	0.5	61.8	0.3	3.0	1,156
39	158	Anal & Stomal Procedures W/O Cc	382	0.5	62.3	0.2	2.0	763
40	090	Simple Pneumonia & Pleurisy Age >17 W/O Cc	380	0.5	62.8	0.9	9.3	3,541
41	381	Abortion W D&C, Aspiration Curettage or Hysterotomy	378	0.5	63.3	0.0	0.2	82
42	247	Signs & Symptoms Of Musculoskeletal System & Conn Tissue	376	0.5	63.8	0.4	4.7	1,770
43	119	Vein Ligation & Stripping	375	0.5	64.3	0.1	1.0	390
44	288	O.R. Procedures For Obesity	375	0.5	64.8	0.3	3.5	1,296
45	467	Other Factors Influencing Health Status	373	0.5	65.3	0.2	2.3	844
46	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	363	0.5	65.7	0.8	9.1	3,310
47	395	Red Blood Cell Disorders Age >17	336	0.4	66.2	0.8	9.3	3,119
48	042	Intraocular Procedures Except Retina, Iris & Lens	328	0.4	66.6	0.1	1.3	418
49	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	323	0.4	67.0	0.1	1.7	561
50	243	Medical Back Problems	312	0.4	67.4	0.4	5.5	1,720
51	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	303	0.4	67.8	0.4	5.3	1,617
52	172	Digestive Malignancy W Cc	300	0.4	68.2	0.7	10.3	3,075
53	304	Kidney, Ureter & Major Bladder Procedures For Non-Neoplasm W/O Cc	294	0.4	68.6	0.2	3.4	985
54	309	Minor Bladder Procedures W/O Cc	290	0.4	69.0	0.2	3.2	914
55	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	285	0.4	69.4	0.4	5.7	1,631
56	532	Spinal Procedures W/O Cc	281	0.4	69.7	0.2	2.5	708
57	335	Major Male Pelvic Procedures W/O Cc	274	0.4	70.1	0.5	7.4	2,034
58	232	Arthroscopy	274	0.4	70.4	0.1	1.5	423
59	320	Kidney & Urinary Tract Infections Age >17 W Cc	273	0.4	70.8	0.6	9.2	2,503
60	008	Periph & Cranial Nerve & Other Nerv Syst Proc W/O Cc	272	0.4	71.2	0.1	1.4	376
		Total (top 60 DRGs)	*54,509*	*71.2*			*4.7*	*254,596*
		Grand total (Center)	*76,602*				*5.4*	*411,203*

Source: *processing by Ermeneia – data from AIOP*

Table S/27 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the South of Italy. 2015

Rank		DRG	South					
			Discharges			% In-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
1	039	Lens Procedures With Or Without Vitrectomy	18,687	5.3	5.3	1.7	1.8	34,363
2	371	Cesarean Section W/O Cc	16,988	4.8	10.1	3.3	4.0	68,053
3	544	Major Joint Replacement or Reattachment of Lower Extremity	14,028	4.0	14.0	4.8	7.1	99,231
4	373	Vaginal Delivery W/O Complicating Diagnoses	8,858	2.5	16.5	1.5	3.5	30,563
5	127	Heart Failure & Shock	8,644	2.4	18.9	3.3	7.9	68,439
6	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	8,136	2.3	21.2	1.4	3.6	29,074
7	410	Chemotherapy W/O Acute Leukemia As Secondary Diagnosis	7,913	2.2	23.5	17.1	44.4	351,707
8	503	Knee Procedures W/O Pdx of Infection	7,543	2.1	25.6	1.1	2.9	21,628
9	494	Laparoscopic Cholecystectomy W/O C.D.E. W/O Cc	6,865	1.9	27.5	1.0	3.1	21,272
10	125	Circulatory Disorders Except Ami, W Card Cath W/O Complex Diag	6,591	1.9	29.4	0.8	2.4	15,994
11	430	Psychoses	5,896	1.7	31.0	6.6	23.0	135,757
12	183	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W/O Cc	5,084	1.4	32.5	0.7	2.9	14,854
13	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	4,983	1.4	33.9	0.7	2.9	14,291
14	225	Foot Procedures	4,277	1.2	35.1	0.4	2.1	9,181
15	311	Transurethral Procedures W/O Cc	4,155	1.2	36.2	0.7	3.4	13,933
16	500	Back & Neck Procedures Except Spinal Fusion W/O Cc	4,009	1.1	37.4	0.6	3.0	12,064
17	012	Degenerative Nervous System Disorders	3,876	1.1	38.5	1.3	6.8	26,198
18	087	Pulmonary Edema & Respiratory Failure	3,550	1.0	39.5	1.4	8.0	28,467
19	290	Thyroid Procedures	3,532	1.0	40.5	0.5	2.9	10,182
20	558	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx	3,505	1.0	41.4	0.6	3.3	11,594
21	467	Other Factors Influencing Health Status	3,492	1.0	42.4	1.1	6.3	21,883
22	158	Anal & Stomal Procedures W/O Cc	2,935	0.8	43.3	0.4	2.7	8,051
23	143	Chest Pain	2,795	0.8	44.0	0.3	2.5	6,872
24	524	Transient Ischemia	2,772	0.8	44.8	1.0	7.3	20,308
25	337	Transurethral Prostatectomy W/O Cc	2,652	0.7	45.6	0.6	4.7	12,574
26	316	Renal Failure	2,470	0.7	46.3	0.8	6.7	16,509
27	223	Major Shoulder/Elbow Proc, or Other Upper Extremity Proc W Cc	2,441	0.7	47.0	0.3	2.2	5,263
28	479	Other Vascular Procedures W/O Cc	2,305	0.6	47.6	0.3	3.1	7,102
29	323	Urinary Stones W Cc, &/Or Esw Lithotripsy	2,263	0.6	48.2	0.7	6.8	15,336
30	234	Other Musculoskelet Sys & Conn Tiss O.R. Proc W/O Cc	2,244	0.6	48.9	0.3	2.5	5,555
31	017	Nonspecific Cerebrovascular Disorders W/O Cc	2,181	0.6	49.5	0.6	5.5	12,003

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(Continued) *Table S/27 – AIOP Private hospitals (accredited healthcare facilities): top 60 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for acute cases in the South of Italy. 2015*

Rank		DRG	South					
			Discharges			% In-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
32	006	Carpal Tunnel Release	2,121	0.6	50.1	0.2	1.8	3,865
33	082	Respiratory Neoplasms	2,014	0.6	50.7	0.6	6.6	13,268
34	270	Other Skin, Subcut Tiss & Breast Proc W/O Cc	1,955	0.6	51.2	0.1	1.2	2,361
35	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	1,922	0.5	51.7	0.3	3.0	5,820
36	297	Nutritional & Misc Metabolic Disorders Age >17 W/O Cc	1,914	0.5	52.3	0.4	4.8	9,216
37	281	Trauma to the Skin, Subcut Tiss & Breast Age >17 W/O Cc	1,908	0.5	52.8	0.0	0.1	185
38	189	Other Digestive System Diagnoses Age >17 W/O Cc	1,893	0.5	53.4	0.4	3.9	7,383
39	016	Nonspecific Cerebrovascular Disorders W Cc	1,865	0.5	53.9	0.6	6.3	11,766
40	379	Threatened Abortion	1,823	0.5	54.4	0.4	4.3	7,786
41	498	Spinal Fusion Except Cervical W/O Cc	1,809	0.5	54.9	0.5	5.2	9,330
42	211	Hip & Femur Procedures Except Major Joint Age >17 W/O Cc	1,806	0.5	55.4	0.6	6.5	11,819
43	260	Subtotal Mastectomy For Malignancy W/O Cc	1,786	0.5	55.9	0.2	2.6	4,634
44	119	Vein Ligation & Stripping	1,774	0.5	56.4	0.1	1.5	2,686
45	381	Abortion W D&C, Aspiration Curettage or Hysterotomy	1,772	0.5	56.9	0.1	1.2	2,211
46	518	Perc Cardio Proc W/O Coronary Artery Stent or Ami	1,752	0.5	57.4	0.2	2.9	5,108
47	552	Other Permanent Cardiac Pacemaker Implant W/O Major Cv Dx	1,729	0.5	57.9	0.4	4.3	7,460
48	557	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W Major Cv Dx	1,726	0.5	58.4	0.6	6.6	11,406
49	227	Soft Tissue Procedures W/O Cc	1,698	0.5	58.9	0.2	2.1	3,621
50	104	Cardiac Valve & Oth Major Cardiothoracic Proc W Card Cath	1,645	0.5	59.3	1.1	13.9	22,890
51	088	Chronic Obstructive Pulmonary Disease	1,634	0.5	59.8	0.6	7.0	11,510
52	305	Kidney, Ureter & Major Bladder Procedures For Non-Neoplasm W/O Cc	1,598	0.5	60.2	0.3	3.8	6,069
53	097	Bronchitis & Asthma Age >17 W/O Cc	1,587	0.4	60.7	0.5	5.9	9,363
54	229	Hand or Wrist Proc, Except Major Joint Proc, W/O Cc	1,580	0.4	61.1	0.1	1.7	2,646
55	224	Shoulder, Elbow or Forearm Proc, Exc Major Joint Proc, W/O Cc	1,509	0.4	61.6	0.2	2.5	3,765
56	160	Hernia Procedures Except Inguinal & Femoral Age >17 W/O Cc	1,504	0.4	62.0	0.2	3.2	4,872
57	266	Skin Graft &/Or Debrid Except For Skin Ulcer Or Cellulitis W/O Cc	1,467	0.4	62.4	0.1	1.6	2,341
58	288	O.R. Procedures For Obesity	1,467	0.4	62.8	0.3	4.8	6,993
59	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	1,457	0.4	63.2	0.2	2.5	3,586
60	364	D&C, Conization Except For Malignancy	1,424	0.4	63.6	0.1	1.3	1,862
	Total (top 60 DRGs)		*225,809*	*63.6*			*6.0*	*1,344,124*
	Grand total (South)		*354,955*				*5.8*	*2,058,739*

Source: *processing by Ermeneia – 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. 2014

Rank		DRG	Discharges			% Accesses	Average number of accesses
			Number	%	% cumul.		
1	410	Chemotherapy W/O Acute Leukemia As Secondary Diagnosis	150,797	6.9	6.9	25.3	10.1
2	381	Abortion W D&C, Aspiration Curettage or Hysterotomy	110,257	5.0	11.9	2.4	1.3
3	359	Uterine & Adnexa Proc For Non-Malignancy W/O Cc	88,704	4.0	15.9	1.9	1.3
4	162	Inguinal & Femoral Hernia Procedures Age >17 W/O Cc	68,479	3.1	19.1	1.7	1.5
5	039	Lens Procedures With Or Without Vitrectomy	58,197	2.7	21.7	2.0	2.1
6	266	Skin Graft &/Or Debrid Except For Skin Ulcer Or Cellulitis W/O Cc	55,686	2.5	24.3	1.5	1.6
7	467	Other Factors Influencing Health Status	48,996	2.2	26.5	1.6	2.0
8	503	Knee Procedures W/O Pdx of Infection	46,270	2.1	28.6	1.1	1.4
9	364	D&C, Conization Except For Malignancy	45,665	2.1	30.7	1.1	1.4
10	229	Hand or Wrist Proc, Except Major Joint Proc, W/O Cc	35,122	1.6	32.3	0.8	1.4
11	119	Vein Ligation & Stripping	34,546	1.6	33.8	0.9	1.5
12	538	Local Excis & Remov of Int Fix Dev Except Hip & Femur W/O Cc	32,762	1.5	35.3	0.8	1.4
13	270	Other Skin, Subcut Tiss & Breast Proc W/O Cc	32,680	1.5	36.8	0.8	1.5
14	055	Miscellaneous Ear, Nose, Mouth & Throat Procedures	31,641	1.4	38.3	0.8	1.5
15	225	Foot Procedures	31,161	1.4	39.7	0.7	1.4
16	169	Mouth Procedures W/O Cc	30,813	1.4	41.1	0.7	1.4
17	042	Intraocular Procedures Except Retina, Iris & Lens	29,621	1.3	42.4	0.8	1.7
18	158	Anal & Stomal Procedures W/O Cc	24,836	1.1	43.6	0.7	1.6
19	301	Endocrine Disorders W/O Cc	24,141	1.1	44.7	0.8	1.9
20	395	Red Blood Cell Disorders Age >17	22,343	1.0	45.7	3.2	8.7
21	227	Soft Tissue Procedures W/O Cc	19,749	0.9	46.6	0.5	1.4
22	139	Cardiac Arrhythmia & Conduction Disorders W/O Cc	19,193	0.9	47.5	0.5	1.6
23	339	Testes Procedures, Non-Malignancy Age >17	18,528	0.8	48.3	0.5	1.5
24	404	Lymphoma & Non-Acute Leukemia W/O Cc	17,928	0.8	49.1	1.6	5.5
25	267	Perianal & Pilonidal Procedures	17,690	0.8	49.9	0.5	1.8
26	466	Aftercare W/O History Of Malignancy As Secondary Diagnosis	17,592	0.8	50.7	0.8	2.8
27	040	Extraocular Procedures Except Orbit Age >17	16,902	0.8	51.5	0.4	1.5
28	189	Other Digestive System Diagnoses Age >17 W/O Cc	16,575	0.8	52.3	0.5	1.7
29	262	Breast Biopsy & Local Excision For Non-Malignancy	16,256	0.7	53.0	0.4	1.5
30	060	Tonsillectomy &/or Adenoidectomy Age 0-17	16,026	0.7	53.7	0.5	1.7
Total (top 30 DRGs)			*1,179,156*	*53.7*		*55.8*	
Grand total			*2,194,241*	*100.0*		*100.0*	*2.7*

Source: *data from the Ministry of Health – SDO 2014*

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. 2014

Rank		DRG	Discharges			% In-hospital days	Average length of stay
			Number	%	% cumul.		
1	256	Other Musculoskeletal System & Connective Tissue Diagnoses	72,397	23.0	23.0	16.3	18.6
2	012	Degenerative Nervous System Disorders	35,803	11.4	34.4	17.7	40.9
3	249	Aftercare, Musculoskeletal System & Connective Tissue	25,258	8.0	42.4	8.2	26.8
4	145	Other Circulatory System Diagnoses W/O Cc	16,480	5.2	47.6	3.3	16.8
5	462	Rehabilitation	13,867	4.4	52.0	3.8	23.0
6	144	Other Circulatory System Diagnoses W Cc	13,715	4.4	56.4	3.2	19.5
7	009	Spinal Disorders & Injuries	10,046	3.2	59.6	6.0	49.8
8	245	Bone Diseases & Specific Arthropathies W/O Cc	9,614	3.1	62.7	2.0	17.2
9	087	Pulmonary Edema & Respiratory Failure	9,135	2.9	65.6	2.6	23.5
10	430	Psychoses	7,971	2.5	68.1	2.8	28.7
11	127	Heart Failure & Shock	7,659	2.4	70.5	1.8	20.0
12	247	Signs & Symptoms Of Musculoskeletal System & Conn Tissue	7,509	2.4	72.9	2.3	25.0
13	035	Other Disorders Of Nervous System W/O Cc	6,682	2.1	75.0	3.0	36.7
14	236	Fractures Of Hip & Pelvis	6,419	2.0	77.1	2.4	31.4
15	088	Chronic Obstructive Pulmonary Disease	5,513	1.8	78.8	1.5	22.3
16	034	Other Disorders Of Nervous System W Cc	4,427	1.4	80.2	2.1	39.9
17	014	Intracranial Hemorrhage or Cerebral Infarction	4,000	1.3	81.5	2.1	44.4
18	248	Tendonitis, Myositis & Bursitis	3,963	1.3	82.8	1.3	27.5
19	243	Medical Back Problems	3,264	1.0	83.8	1.0	24.5
20	467	Other Factors Influencing Health Status	3,104	1.0	84.8	0.9	23.4
21	544	Major Joint Replacement or Reattachment of Lower Extremity	2,383	0.8	85.5	0.5	18.6
22	013	Multiple Sclerosis & Cerebellar Ataxia	2,372	0.8	86.3	1.0	33.3
23	428	Disorders Of Personality & Impulse Control	2,266	0.7	87.0	1.0	35.0
24	023	Nontraumatic Stupor & Coma	1,716	0.5	87.6	1.8	87.1
25	133	Atherosclerosis W/O Cc	1,666	0.5	88.1	0.3	16.8
26	522	Alc/Drug Abuse Or Depend W Rehabilitation Therapy W/O Cc	1,612	0.5	88.6	0.5	27.1
27	135	Cardiac Congenital & Valvular Disorders Age >17 W Cc	1,532	0.5	89.1	0.4	19.3
28	429	Organic Disturbances & Mental Retardation	1,327	0.4	89.5	0.4	26.4
29	019	Cranial & Peripheral Nerve Disorders W/O Cc	1,257	0.4	89.9	0.5	30.3
30	244	Bone Diseases & Specific Arthropathies W Cc	1,244	0.4	90.3	0.3	22.7
	Total (top 30 DRGs)		*284,201*	*90.3*		*91.1*	
	Grand total		*314,715*	*100.0*		*100.0*	*26.3*

Source: *data from the Ministry of Health – SDO 2014*

Table S/30 – AIOP Private hospitals (accredited healthcare facilities): top 30 DRGs according to the number of discharges (DRG Version 24.0) – Inpatient admissions for rehabilitation treatment. 2015

Rank		DRG	Discharges			% In-hospital days	Average length of stay	In-hospital days
			Number	%	% cumul.			
1	256	Other Musculoskeletal System & Connective Tissue Diagnoses	26,094	28.0	28.0	18.7	17.3	451,915
2	012	Degenerative Nervous System Disorders	8,027	8.6	36.6	15.5	46.6	374,021
3	249	Aftercare, Musculoskeletal System & Connective Tissue	7,838	8.4	45.0	8.3	25.7	201,165
4	145	Other Circulatory System Diagnoses W/O Cc	5,462	5.9	50.9	3.9	17.0	92,950
5	430	Psychoses	4,523	4.9	55.7	5.1	27.2	123,199
6	462	Rehabilitation	4,093	4.4	60.1	3.8	22.4	91,636
7	247	Signs & Symptoms Of Musculoskeletal System & Conn Tissue	3,188	3.4	63.6	3.1	23.8	75,820
8	144	Other Circulatory System Diagnoses W Cc	2,953	3.2	66.7	2.4	19.2	56,766
9	245	Bone Diseases & Specific Arthropathies W/O Cc	2,874	3.1	69.8	2.1	17.7	51,004
10	236	Fractures Of Hip & Pelvis	2,006	2.2	72.0	2.8	34.2	68,512
11	544	Major Joint Replacement or Reattachment of Lower Extremity	1,877	2.0	74.0	1.4	18.0	33,721
12	088	Chronic Obstructive Pulmonary Disease	1,807	1.9	75.9	1.7	22.3	40,225
13	035	Other Disorders Of Nervous System W/O Cc	1,750	1.9	77.8	3.1	43.2	75,537
14	127	Heart Failure & Shock	1,464	1.6	79.4	1.2	20.0	29,345
15	087	Pulmonary Edema & Respiratory Failure	1,271	1.4	80.7	1.3	24.3	30,923
16	009	Spinal Disorders & Injuries	1,179	1.3	82.0	2.4	49.4	58,295
17	428	Disorders Of Personality & Impulse Control	1157	1.2	83.2	1.6	34.1	39,430
18	522	Alc/Drug Abuse Or Depend W Rehabilitation Therapy W/O Cc	990	1.1	84.3	1.1	26.6	26,372
19	014	Intracranial Hemorrhage or Cerebral Infarction	947	1.0	85.3	2.2	55.2	52,294
20	248	Tendonitis, Myositis & Bursitis	866	0.9	86.2	0.9	25.5	22,111
21	243	Medical Back Problems	749	0.8	87.0	0.8	24.3	18,202
22	467	Other Factors Influencing Health Status	662	0.7	87.8	0.6	22.4	14,858
23	133	Atherosclerosis W/O Cc	628	0.7	88.4	0.5	17.7	11,121
24	034	Other Disorders Of Nervous System W Cc	611	0.7	89.1	1.4	55.9	34,153
25	135	Cardiac Congenital & Valvular Disorders Age >17 W Cc	533	0.6	89.7	0.4	18.2	9,714
26	140	Angina pectoris	514	0.6	90.2	0.4	18.6	9,538
27	013	Multiple Sclerosis & Cerebellar Ataxia	492	0.5	90.7	0.7	32.1	15,814
28	015	Nonspecific Cva & Precerebral Occlusion W/O Infarct	449	0.5	91.2	0.7	39.4	17,704
29	023	Nontraumatic Stupor & Coma	448	0.5	91.7	3.0	161.9	72,546
30	019	Cranial & Peripheral Nerve Disorders W/O Cc	443	0.5	92.2	0.6	32.7	14,466
		Total (top 30 DRGs)	*85,895*	*92.2*			*25.8*	*2,213,357*
		Grand total	*93,193*				*25.9*	*2,411,735*

Source: *processing by Ermeneia – 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. 2014

MDC	*Number of cases*	*%*	*In-hospital days*	*Average length of stay*
01 – Diseases and Disorders of the Nervous System	457,243	7.0	3,695,507	8.1
02 – Diseases and Disorders of the Eye	80,748	1.2	241,491	3.0
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	220,921	3.4	714,109	3.2
04 – Diseases and Disorders of the Respiratory System	569,139	8.8	5,360,435	9.4
05 – Diseases and Disorders of the Circulatory System	947,686	14.6	6,699,788	7.1
06 – Diseases and Disorders of the Digestive System	604,572	9.3	4,187,414	6.9
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	310,062	4.8	2,465,769	8.0
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	813,267	12.5	5,011,061	6.2
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	183,747	2.8	790,557	4.3
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	164,115	2.5	904,180	5.5
11 – Diseases and Disorders of the Kidney and Urinary Tract	353,187	5.4	2,395,489	6.8
12 – Diseases and Disorders of the Male Reproductive System	110,888	1.7	535,418	4.8
13 – Diseases and Disorders of the Female Reproductive System	197,603	3.0	812,757	4.1
14 – Pregnancy, Childbirth and the Puerperium	631,668	9.7	2,385,777	3.8
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	120,005	1.9	983,183	8.2
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	73,850	1.1	584,262	7.9
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	161,966	2.5	1,213,109	7.5
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	121,024	1.9	1,280,400	10.6
19 – Mental Diseases and Disorders	147,168	2.3	1,689,111	11.5
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	13,485	0.2	92,901	6.9
21 – Injuries, Poisonings and Toxic Effects of Drugs	54,826	0.8	303,859	5.5
22 – Burns	4,216	0.1	53,518	12.7
23 – Factors Influencing Health Status and Other Contacts with Health Services	89,898	1.4	405,843	4.5
24 – Multiple Significant Trauma	8,417	0.1	118,410	14.1
25 – Human Immunodeficiency Virus Infections	7,111	0.1	112,199	15.8
Other DRGs	13,016	0.2	124,313	9.6
Pre MDC	26,610	0.4	929,120	34.9
Grand total	*6,486,438*	*100.0*	*44,089,980*	*6.8*

Source: *data from the Ministry of Health – SDO 2014*

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. 2014

MDC	*Number of cases*	*%*	*Accesses*	*Average number of accesses*
01 – Diseases and Disorders of the Nervous System	80,497	3.7	193,895	2.4
02 – Diseases and Disorders of the Eye	141,229	6.4	272,033	1.9
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	155,574	7.1	273,824	1.8
04 – Diseases and Disorders of the Respiratory System	36,933	1.7	113,650	3.1
05 – Diseases and Disorders of the Circulatory System	128,739	5.9	262,464	2.0
06 – Diseases and Disorders of the Digestive System	176,123	8.0	312,935	1.8
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	34,363	1.6	121,907	3.5
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	269,803	12.3	527,374	2.0
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	174,512	8.0	329,347	1.9
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	74,326	3.4	159,179	2.1
11 – Diseases and Disorders of the Kidney and Urinary Tract	90,927	4.1	218,372	2.4
12 – Diseases and Disorders of the Male Reproductive System	82,744	3.8	127,798	1.5
13 – Diseases and Disorders of the Female Reproductive System	184,210	8.4	251,497	1.4
14 – Pregnancy, Childbirth and the Puerperium	129,399	5.9	179,159	1.4
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	2,156	0.1	5,403	2.5
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	47,544	2.2	304,743	6.4
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	219,701	10.0	1,865,573	8.5
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	7,037	0.3	25,375	3.6
19 – Mental Diseases and Disorders	40,561	1.8	196,827	4.9
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	1,002	0.0	10,076	10.1
21 – Injuries, Poisonings and Toxic Effects of Drugs	12,909	0.6	36,392	2.8
22 – Burns	397	0.0	1,621	4.1
23 – Factors Influencing Health Status and Other Contacts with Health Services	90,061	4.1	194,487	2.2
24 – Multiple Significant Trauma	-	-	-	-
25 – Human Immunodeficiency Virus Infections	10,458	0.5	43,604	4.2
Other DRGs	3,008	0.1	5,906	2.0
Pre MDC	28	0.0	86	3.1
Grand total	*2,194,241*	*100.0*	*6,033,527*	*2.7*

Source: *data from the Ministry of Health – SDO 2014*

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. 2014

MDC	*Number of cases*	*%*	*In-hospital days*	*Average length of stay*
01 – Diseases and Disorders of the Nervous System	72,896	23.2	3,050,066	41.8
02 – Diseases and Disorders of the Eye	101	0.0	958	9.5
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	1,237	0.4	14,717	11.9
04 – Diseases and Disorders of the Respiratory System	18,427	5.9	414,432	22.5
05 – Diseases and Disorders of the Circulatory System	47,751	15.2	881,295	18.5
06 – Diseases and Disorders of the Digestive System	390	0.1	6,955	17.8
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	169	0.1	2,297	13.6
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	136,045	43.2	2,931,245	21.5
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	227	0.1	5,859	25.8
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	1,855	0.6	42,661	23.0
11 – Diseases and Disorders of the Kidney and Urinary Tract	355	0.1	7,143	20.1
12 – Diseases and Disorders of the Male Reproductive System	15	0.0	223	14.9
13 – Diseases and Disorders of the Female Reproductive System	31	0.0	514	16.6
14 – Pregnancy, Childbirth and the Puerperium	2	0.0	23	11.5
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	14	0.0	1,141	81.5
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	124	0.0	1,866	15.0
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	95	0.0	1,933	20.3
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	285	0.1	7,700	27.0
19 – Mental Diseases and Disorders	13,529	4.3	393,200	29.1
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	2,704	0.9	71,237	26.3
21 – Injuries, Poisonings and Toxic Effects of Drugs	320	0.1	7,026	22.0
22 – Burns	13	0.0	419	32.2
23 – Factors Influencing Health Status and Other Contacts with Health Services	17,617	5.6	403,398	22.9
24 – Multiple Significant Trauma	166	0.1	7,129	42.9
25 – Human Immunodeficiency Virus Infections	9	0.0	372	41.3
Other DRGs	181	0.1	7,659	42.3
Pre MDC	157	0.0	15,177	96.7
Grand total	*314,715*	*100.0*	*8,276,645*	*26.3*

Source: *data from the Ministry of Health – SDO 2014*

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. 2014

MDC	*Number of cases*	*%*	*Accesses*	*Average number of accesses*
01 – Diseases and Disorders of the Nervous System	12,369	35.5	178,985	14.5
02 – Diseases and Disorders of the Eye	34	0.1	145	4.3
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	221	0.6	979	4.4
04 – Diseases and Disorders of the Respiratory System	1,049	3.0	10,188	9.7
05 – Diseases and Disorders of the Circulatory System	3,730	10.7	53,072	14.2
06 – Diseases and Disorders of the Digestive System	81	0.2	815	10.1
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	1	0.0	1	1.0
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	7,720	22.1	125,216	16.2
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	80	0.2	765	9.6
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	56	0.2	475	8.5
11 – Diseases and Disorders of the Kidney and Urinary Tract	53	0.2	353	6.7
12 – Diseases and Disorders of the Male Reproductive System	8	0.0	23	2.9
13 – Diseases and Disorders of the Female Reproductive System	38	0.1	97	2.6
14 – Pregnancy, Childbirth and the Puerperium	-	-	-	-
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	11	0.0	99	9.0
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	7	0.0	45	6.4
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	250	0.7	3,383	13.5
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	-	-	-	-
19 – Mental Diseases and Disorders	1,760	5.0	20,170	11.5
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	4	0.0	37	9.3
21 – Injuries, Poisonings and Toxic Effects of Drugs	39	0.1	769	19.7
22 – Burns	3	0.0	33	11.0
23 – Factors Influencing Health Status and Other Contacts with Health Services	7,324	21.0	105,218	14.4
24 – Multiple Significant Trauma	8	0.0	182	22.8
25 – Human Immunodeficiency Virus Infections	-	-	-	-
Other DRGs	22	0.1	72	3.3
Pre MDC	-	-	-	-
Grand total	*34,868*	*100.0*	*501,122*	*14.4*

Source: *data from the Ministry of Health – SDO 2014*

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. 2014

MDC	*Number of cases*	*%*	*In-hospital days*	*Average length of stay*
01 – Diseases and Disorders of the Nervous System	19,731	18.0	592,049	30.0
02 – Diseases and Disorders of the Eye	56	0.1	1,575	28.1
03 – Diseases and Disorders of The Ear, Nose, Mouth and Throat	404	0.4	9,604	23.8
04 – Diseases and Disorders of the Respiratory System	13,936	12.7	334,784	24.0
05 – Diseases and Disorders of the Circulatory System	13,456	12.2	339,511	25.2
06 – Diseases and Disorders of the Digestive System	4,267	3.9	112,304	26.3
07 – Diseases and Disorders of the Hepatobiliary System and Pancreas	3,041	2.8	72,855	24.0
08 – Diseases and Disorders of the Musculoskeletal System and Connective Tissue	24,458	22.3	707,381	28.9
09 – Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	1,625	1.5	44,521	27.4
10 – Endocrine, Nutritional and Metabolic Diseases and Disorders	2,531	2.3	64,270	25.4
11 – Diseases and Disorders of the Kidney and Urinary Tract	3,348	3.0	80,515	24.0
12 – Diseases and Disorders of the Male Reproductive System	298	0.3	8,325	27.9
13 – Diseases and Disorders of the Female Reproductive System	284	0.3	7,417	26.1
14 – Pregnancy, Childbirth and the Puerperium	11	0.0	261	23.7
15 – Newborns and other Neonates with Conditions Originating in Perinatal Period	14	0.0	275	19.6
16 – Diseases and Disorders of the Blood, Blood Forming Organs, Immunological disorders	1,164	1.1	24,578	21.1
17 – Myeloproliferative Diseases & Disorders, Poorly Differentiated Neoplasms	1,191	1.1	27,706	23.3
18 – Infectious and Parasitic Diseases, Systemic or Unspecified Sites	2,472	2.3	72,755	29.4
19 – Mental Diseases and Disorders	9,595	8.7	314,548	32.8
20 – Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	427	0.4	10,720	25.1
21 – Injuries, Poisonings and Toxic Effects of Drugs	588	0.5	16,846	28.6
22 – Burns	27	0.0	954	35.3
23 – Factors Influencing Health Status and Other Contacts with Health Services	6,341	5.8	163,963	25.9
24 – Multiple Significant Trauma	297	0.3	12,097	40.7
25 – Human Immunodeficiency Virus Infections	17	0.0	577	33.9
Other DRGs	105	0.1	3,818	36.4
Pre MDC	170	0.2	14,358	84.5
Grand total	*109,854*	*100.0*	*3,038,567*	*27.7*

Source: *data from the Ministry of Health – SDO 2014*

Table S/36 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. 2013 (National data)

Specialty	Total					AIOP affiliated 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	34	619	6,052	9.8	48.8	16	231	2,560	11.1	43.8
Casualty department	12	1,056	5,084	4.8	116.1					
Heart surgery	542	23,262	166,160	7.1	84.0	439	17,591	131,820	7.5	82.3
Cardiology	1,355	83,976	345,103	4.1	69.8	1,094	64,151	277,604	4.3	69.5
General surgery	4,501	158,828	618,865	3.9	37.7	3,712	131,469	506,810	3.9	37.4
Maxillofacial surgery	59	2,527	3,821	1.5	18.0	52	2,483	3,710	1.5	19.5
Pediatric surgery	23	335	1,152	3.4	13.7	13	131	618	4.7	13.0
Plastic surgery	54	1,664	4,882	2.9	24.8	27	970	3,531	3.6	35.8
Thoracic surgery	56	1,617	10,334	6.4	50.6	53	1,520	9,487	6.2	49.0
Vascular surgery	320	12,539	55,407	4.4	47.4	254	9,927	41,491	4.2	44.8
Palliative care / Hospice	13	210	3,124	14.9	65.8	13	210	3,124	14.9	65.8
Dermatology	8	5	21	4.2	0.7	8	5	21	4.2	0.7
Gastroenterology	31	816	6,410	7.9	56.7	28	675	5,548	8.2	54.3
Geriatrics	544	16,705	142,373	8.5	71.7	467	12,361	116,253	9.4	68.2
Long-stay care pts	4,641	45,689	1,277,946	28.0	75.4	3,043	32,021	817,079	25.5	73.6
Endocrine, nutritional and metabolic diseases	37	635	5,820	9.2	43.1	37	635	5,820	9.2	43.1
General medicine	4,434	135,423	1,054,990	7.8	65.2	3,659	114,733	888,180	7.7	66.5
Nephrology	105	3,081	18,443	6.0	48.1	66	2,251	13,534	6.0	56.2
Neonatology	66	2,783	13,592	4.9	56.4	17	519	2,067	4.0	33.3
Neurosurgery	186	9,169	42,506	4.6	62.6	147	7,634	33,147	4.3	61.8
Neurology	894	17,397	218,648	12.6	67.0	738	12,577	187,082	14.9	69.5
Neurological rehabilitation	434	3,028	150,211	49.6	94.8	264	1,720	90,900	52.8	94.3
Day nursery	75	3,147	9,705	3.1	35.5	75	3,147	9,705	3.1	35.5
Ophthalmology	388	9,201	22,293	2.4	15.7	299	5,628	15,979	2.8	14.6
Oncology	454	16,679	107,291	6.4	64.7	390	14,974	95,769	6.4	67.3
Orthopedics and Traumatology	4,137	207,022	807,802	3.9	53.5	3,437	175,381	683,588	3.9	54.5
Obstetrics and gynaecology	1,905	101,546	362,798	3.6	52.2	1,376	74,577	259,824	3.5	51.7
Otorhinolaryngology	582	19,367	45,041	2.3	21.2	485	15,008	36,620	2.4	20.7
Pediatrics	72	3,850	21,945	5.7	83.5	14	846	4,132	4.9	80.9
Pneumology	159	5,097	41,913	8.2	72.2	119	3,815	30,382	8.0	69.9
Psychiatry	1,894	20,600	530,486	25.8	76.7	1,689	18,652	487,565	26.1	79.1

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(Continued) *Table S/36 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. 2013 (National data)*

Specialty	*Total*					*AIOP affiliated Private hospitals (accredited healthcare facilities)*				
	Patient beds	*Inpatients*	*In-hospital days*	*Average length of stay*	*Occupancy rate %*	*Patient beds*	*Inpatients*	*In-hospital days*	*Average length of stay*	*Occupancy rate %*
Radiation Therapy	10	114	1,142	10.0	31.3	10	114	1,142	10.0	31.3
Functional recovery and rehabilitation	11,296	151,245	3,612,651	23.9	87.6	7,006	96,889	2,280,481	23.5	89.2
Rheumatology	45	1,845	14,230	7.7	86.6	15	919	7,541	8.2	137.7
Intensive care	302	11,226	58,159	5.2	52.8	201	6,701	39,603	5.9	54.0
Neonatal intensive care	34	808	10,787	13.4	86.9	8	237	4,225	17.8	144.7
Coronary care unit	144	8,940	34,311	3.8	65.3	88	4,727	22,435	4.7	69.8
Spinal care unit	25	152	8,932	58.8	97.9					
Urology	1,079	49,977	197,230	3.9	50.1	863	38,976	155,526	4.0	49.4
Totals	*40,950*	*1,109,536*	*10,037,660*	*9.0*	*67.2*	*30,222*	*856,917*	*7,274,903*	*8.5*	*65.9*

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

Table S/58 –Activities of private hospitals (accredited healthcare facilities) classified according to specialty. 2013 (North)

Specialty	*Total*					*AIOP affiliated 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	240	8,496	70,138	8.3	80.1	192	6,825	55,102	8.1	78.6
Cardiology	518	28,592	119,813	4.2	63.4	439	23,635	101,603	4.3	63.4
General surgery	1,466	56,958	197,605	3.5	36.9	1,163	44,003	153,539	3.5	36.2
Maxillofacial surgery	31	774	1,549	2.0	13.7	31	774	1,549	2.0	13.7
Plastic surgery	24	1,080	2,777	2.6	31.7	10	538	1,969	3.7	53.9
Thoracic surgery	43	1,126	6,886	6.1	43.9	43	1,126	6,886	6.1	43.9
Vascular surgery	171	7,387	33,130	4.5	53.1	128	5,796	24,788	4.3	53.1
Palliative care / Hospice	13	210	3,124	14.9	65.8	13	210	3,124	14.9	65.8
Dermatology	8	5	21	4.2	0.7	8	5	21	4.2	0.7
Gastroenterology	2	84	474	5.6	64.9	2	84	474	5.6	64.9
Geriatrics	199	7,697	52,862	6.9	72.8	144	4,007	34,874	8.7	66.4
Long-stay care	2,584	30,000	774,658	25.8	82.1	1,714	22,154	527,365	23.8	84.3
General medicine	1,999	52,481	453,014	8.6	62.1	1,560	41,469	353,870	8.5	62.1
Nephrology	10	362	2,612	7.2	71.6					
Neonatology	28	1,586	7,911	5.0	77.4					
Neurosurgery	96	5,325	23,183	4.4	66.2	76	4,167	16,734	4.0	60.3
Neurology	187	6,542	42,587	6.5	62.4	125	4,091	28,882	7.1	63.3
Neurological rehabilitation	234	1,855	78,461	42.3	91.9	119	763	39,235	51.4	90.3
Ophthalmology	138	2,566	5,043	2.0	10.0	94	1,835	3,737	2.0	10.9
Oncology	82	2,124	15,191	7.2	50.8	30	1,008	7,336	7.3	67.0
Orthopedics and Traumatology	1,686	101,840	363,208	3.6	59.0	1,347	86,973	308,701	3.5	62.8
Obstetrics and gynaecology	461	22,323	72,670	3.3	43.2	295	13,579	38,334	2.8	35.6
Otorhinolaryngology	239	10,997	24,039	2.2	27.6	200	8,531	19,589	2.3	26.8
Pediatrics	72	3,850	21,945	5.7	83.5	14	846	4,132	4.9	80.9
Pneumology	27	355	3,705	10.4	37.6	27	355	3,705	10.4	37.6
Psychiatry	917	10,554	251,305	23.8	75.1	845	9,353	236,691	25.3	76.7
Functional recovery and rehabilitation	6,076	87,532	1,995,836	22.8	90.0	3,712	53,677	1,220,611	22.7	90.1
Intensive care	139	5,289	27,537	5.2	54.3	108	3,414	20,649	6.0	52.4
Neonatal intensive care	17	549	6,316	11.5	101.8					
Coronary care unit	32	1,774	5,748	3.2	49.2	23	823	3,324	4.0	39.6
Urology	463	22,157	86,720	3.9	51.3	324	15,299	59,910	3.9	50.7
Totals	*18,202*	*472,821*	*4,750,068*	*10.0*	*71.5*	*12,786*	*348,233*	*3,276,734*	*9.4*	*70.2*

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

Table S/59 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. 2013 (Center)

Specialty	*Total*					*AIOP affiliated 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	26	472	5,288	11.2	55.7	8	84	1,796	21.4	61.5
Casualty department	12	1,056	5,084	4.8	116.1					
Heart surgery	54	1,911	12,352	6.5	62.7	32	730	7,751	10.6	66.4
Cardiology	112	4,769	23,905	5.0	58.5	73	2,319	15,313	6.6	57.5
General surgery	749	23,544	96,180	4.1	35.2	613	20,580	81,834	4.0	36.6
Vascular surgery	10	342	1,283	3.8	35.2	10	342	1,283	3.8	35.2
Geriatrics	51	1,003	16,354	16.3	87.9	51	1,003	16,354	16.3	87.9
Long-stay care	978	9,616	327,542	34.1	91.8	558	5,760	178,200	30.9	87.5
Endocrine, nutritional and metabolic diseases	10	33	304	9.2	8.3	10	33	304	9.2	8.3
General medicine	961	25,798	215,292	8.3	61.4	799	22,655	185,810	8.2	63.7
Nephrology	47	569	4,603	8.1	26.8	27	495	3,434	6.9	34.8
Neonatology	16	428	1,643	3.8	28.1	9	45	73	1.6	2.2
Neurosurgery	14	257	1,975	7.7	38.6					
Neurology	41	469	12,063	25.7	80.6	30	217	10,270	47.3	93.8
Neurological rehabilitation	55	216	20,085	93.0	100.0					
Ophthalmology	95	1,505	2,396	1.6	6.9	69	1,288	2,076	1.6	8.2
Oncology	35	1,062	7,315	6.9	57.3	35	1,062	7,315	6.9	57.3
Orthopedics and Traumatology	987	44,750	186,132	4.2	51.7	821	39,159	157,188	4.0	52.5
Obstetrics and gynaecology	236	11,646	38,769	3.3	45.0	201	8,587	28,644	3.3	39.0
Otorhinolaryngology	120	2,142	4,377	2.0	10.0	98	1,121	2,795	2.5	7.8
Pneumology	24	713	6,751	9.5	77.1	24	713	6,751	9.5	77.1
Psychiatry	282	2,885	93,244	32.3	90.6	189	2,263	66,731	29.5	96.7
Functional recovery and rehabilitation	1,950	23,486	609,192	25.9	85.6	1,022	13,115	321,438	24.5	86.2
Intensive care	27	1,184	5,274	4.5	53.5	4	337	640	1.9	43.8
Coronary care unit	28	1,700	6,376	3.8	62.4	8	647	1,829	2.8	62.6
Urology	128	6,274	22,019	3.5	47.1	109	5,662	18,930	3.3	47.6
Totals	*7,048*	*164,473*	*1,725,798*	*10.5*	*67.1*	*4,800*	*125,653*	*1,116,759*	*8.9*	*63.7*

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

Table S/60 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. 2013 (South)

Specialty	Total					AIOP affiliated 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	8	147	764	5.2	26.2	8	147	764	5.2	26.2
Heart surgery	248	12,855	83,670	6.5	92.4	215	10,036	68,967	6.9	87.9
Cardiology	725	50,615	201,385	4.0	76.1	582	38,197	160,688	4.2	75.6
General surgery	2,286	78,326	325,080	4.2	39.0	1,936	66,886	271,437	4.1	38.4
Maxillofacial surgery	28	1,753	2,272	1.3	23.0	21	1,709	2,161	1.3	28.2
Pediatric surgery	23	335	1,152	3.4	13.7	13	131	618	4.7	13.0
Plastic surgery	30	584	2,105	3.6	19.2	17	432	1,562	3.6	25.2
Thoracic surgery	13	491	3,448	7.0	72.7	10	394	2,601	6.6	71.3
Vascular surgery	139	4,810	20,994	4.4	41.4	116	3,789	15,420	4.1	36.4
Gastroenterology	29	732	5,936	8.1	56.1	26	591	5,074	8.6	53.5
Geriatrics	294	8,005	73,157	9.1	68.2	272	7,351	65,025	8.8	65.5
Long-stay care	1,079	6,073	175,746	28.9	44.6	771	4,107	111,514	27.2	39.6
Endocrine, nutritional and metabolic diseases	27	602	5,516	9.2	56.0	27	602	5,516	9.2	56.0
General medicine	1,474	57,144	386,684	6.8	71.9	1,300	50,609	348,500	6.9	73.4
Nephrology	48	2,150	11,228	5.2	64.1	39	1,756	10,100	5.8	71.0
Neonatology	22	769	4,038	5.3	50.3	8	474	1,994	4.2	68.3
Neurosurgery	76	3,587	17,348	4.8	62.5	71	3,467	16,413	4.7	63.3
Neurology	666	10,386	163,998	15.8	67.5	583	8,269	147,930	17.9	69.5
Neurological rehabilitation	145	957	51,665	54.0	97.6	145	957	51,665	54.0	97.6
Day nursery	75	3,147	9,705	3.1	35.5	75	3,147	9,705	3.1	35.5
Ophthalmology	155	5,130	14,854	2.9	26.3	136	2,505	10,166	4.1	20.5
Oncology	337	13,493	84,785	6.3	68.9	325	12,904	81,118	6.3	68.4
Orthopedics and Traumatology	1,464	60,432	258,462	4.3	48.4	1,269	49,249	217,699	4.4	47.0
Obstetrics and gynaecology	1,208	67,577	251,359	3.7	57.0	880	52,411	192,846	3.7	60.0
Otorhinolaryngology	223	6,228	16,625	2.7	20.4	187	5,356	14,236	2.7	20.9
Pneumology	108	4,029	31,457	7.8	79.8	68	2,747	19,926	7.3	80.3
Psychiatry	695	7,161	185,937	26.0	73.3	655	7,036	184,143	26.2	77.0
Radiation Therapy	10	114	1,142	10.0	31.3	10	114	1,142	10.0	31.3
Functional recovery and rehabilitation	3,270	40,227	1,007,623	25.0	84.4	2,272	30,097	738,432	24.5	89.0
Rheumatology	45	1,845	14,230	7.7	86.6	15	919	7,541	8.2	137.7
Intensive care	136	4,753	25,348	5.3	51.1	89	2,950	18,314	6.2	56.4

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(Continued) *Table S/60 – Activities of private hospitals (accredited healthcare facilities) classified according to specialty. 2013 (South)*

Specialty	*Total*					*AIOP affiliated 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 %*
Neonatal intensive care	17	259	4,471	17.3	72.1	8	237	4,225	17.8	144.7
Coronary care unit	84	5,466	22,187	4.1	72.4	57	3,257	17,282	5.3	83.1
Spinal care unit	25	152	8,932	58.8	97.9					
Urology	488	21,546	88,491	4.1	49.7	430	18,015	76,686	4.3	48.9
Totals	*15,700*	*472,242*	*3,561,794*	*7.5*	*62.2*	*12,636*	*383,031*	*2,881,410*	*7.5*	*62.5*

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

Table S/61 – Differences of healthcare options across the country, assessed according to patient mobility using data on hospital admissions [(a)]. 2010-2014

Regions	2010		2011		2012		2013		2014			
	Inflow	*Outflow*	*Inflow*	*Outflow*	*Inflow*	*Outflow*	*Inflow*	*Outflow*	*Inflow*	*Outflow*	*Inflow/Outflow Ratio*	*Mobility balance [(b)]*
– Piedmont	0.85	1.17	0.87	1.15	0.84	1.19	0.83	1.20	0.86	1.17	1.4	-4,724
– Aosta Valley	0.51	1.97	0.50	2.00	0.59	1.69	0.68	1.47	0.69	1.45	2.1	-916
– Lombardy	2.28	0.44	2.37	0.42	2.47	0.40	2.48	0.40	2.44	0.41	0.2	63,322
– A.P. of Trento	0.58	1.73	0.58	1.74	0.61	1.63	0.61	1.65	0.63	1.60	2.6	-3,009
– Veneto	1.35	0.74	1.26	0.80	1.13	0.89	1.14	0.88	1.17	0.85	0.7	5,352
– Friuli V.G.	1.36	0.73	1.35	0.74	1.57	0.64	1.52	0.66	1.56	0.64	0.4	4,374
– Liguria	0.81	1.23	0.75	1.33	0.72	1.39	0.70	1.44	0.68	1.47	2.2	-8,745
– Emilia Romagna	2.40	0.42	2.43	0.41	2.39	0.42	2.43	0.41	2.44	0.41	0.2	47,410
– Tuscany	1.78	0.56	1.82	0.55	1.97	0.51	1.97	0.51	2.00	0.50	0.3	25,280
– Umbria	1.26	0.79	1.35	0.74	1.34	0.75	1.34	0.75	1.46	0.69	0.5	6,237
– Marche	0.96	1.04	0.95	1.05	0.88	1.14	0.93	1.07	0.92	1.09	1.2	-1,774
– Lazio	1.22	0.82	1.12	0.89	1.04	0.96	0.99	1.01	0.92	1.08	1.2	-4,039
– Abruzzo	0.63	1.59	0.66	1.51	0.71	1.42	0.66	1.52	0.64	1.57	2.5	-9,708
– Molise	1.38	0.72	1.25	0.80	1.20	0.83	1.18	0.85	1.17	0.85	0.7	2,113
– Campania	0.29	3.42	0.30	3.32	0.32	3.16	0.33	3.07	0.32	3.10	9.6	-36,649
– Apulia	0.56	1.79	0.53	1.90	0.52	1.91	0.54	1.84	0.55	1.82	3.3	-18,656
– Basilicata	0.65	1.53	0.70	1.42	0.71	1.41	0.73	1.37	0.83	1.20	1.4	-2,787
– Calabria	0.17	5.83	0.17	5.85	0.15	6.54	0.13	7.55	0.12	8.01	64.2	-35,248
– Sicily	0.27	3.69	0.26	3.83	0.29	3.47	0.30	3.36	0.31	3.24	10.5	-22,648
– Sardinia	0.38	2.67	0.38	2.64	0.35	2.85	0.33	3.04	0.33	3.02	9.1	-6,596

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 staffing prepared by the Ministry of Health for the year 2014, showed a further reduction in staff in public hospital facilities as a whole, with a steadily declining trend since 2010 that has resulted in an overall reduction of 9% for the period. Thus, there has been a sharp turnaround compared to the growth observed in 2009, a growth that we had, however, mainly associated with the creation of new hospital centers and the radical reclassification of public institutions to include some previously so-called 'assimilated' public institutions among directly operated hospitals and hospital centers. In any case, we should always bear in mind that the figures do not include self-employed professionals or similar contract types, that have become part of the workforce over the past few years (see Table S/62).

Thus, by examining the trends reported for the 2010-2014 period, this decrease was equal to about 45,400 units, with a staff figure that went from 502,277 to 456,879 employees, yielding the aforementioned 9% decrease.

Strictly considering the values of the public facilities, namely hospital centers (included those integrated with universities) and hospitals directly managed by local healthcare authorities (ASL), again with reference to years 2010 and 2014 and taking into account the previous information, a difference can be shown in the dynamics among various professional groups: the number of physicians decreased by 10,988 units, nurses by 14,153 units, and other staff by 20,257 units, as shown by the data below:

	2010	*2014*
– Medical doctors and Dentists	95,704	84,716
– Nurses	226,282	212,129
– Other staff	180,291	160,034

The indicator that measures the ratio between public hospital facility staff and patient beds for 2014 shows a slight improvement for both hospital centers and ASL hospitals. However, the trend of these ratios continues to be heavily influenced by the classifications and transformations that have recently taken place in the public sphere (see Table S/64).

Moving to the side of the hospital system in which the accredited facilities that are part of AIOP operate, we can see an increase between 2010 and 2015 of as many as 3,059 units, equal to a + 4.8% increase (Table S/65). This increase mostly concerns doctors and, to a considerable extent, nurses and other personnel, although we should always bear in mind that the overall composition of figures for professional employees heavily varies according to the amount and type of the employment relationship (Table S/66).

3.2. Staff distribution throughout Italy

Healthcare personnel working in the public and private hospitals of the National Health Service as a whole amounted to more than 629,000 units (Table S/67), as shown in the latest ISTAT survey available, which, however, shows the situation for 2012.

In terms of territorial distribution, the North still is the part of the country most equipped in all professional components.

The amount and distribution of employees in AIOP facilities (updated to 2015) are shown in the Table S/68, which shows a total of employee operators equal to 59,173 units. A further 7,252 units of medical personnel and 4,109 units of non-medical personnel performing activities as self-employed professionals round out the overall staff figures.

Table S/62 – Staff trends in Hospital Centers and in the local health service (ASL) hospitalization facilities[(a)] (A.V.)

Type of institution / *Role*	*2010*		*2011*		*2012*		*2013*		*2014*	
	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	41,624	54,080	35,334	51,455	35,227	50,462	34,953	50,193	34,646	50,070
Nurses	97,735	128,547	94,662	124,815	93,900	122,719	93,622	120,679	93,119	119,010
Other	89,677	90,614	83,026	84,495	81,619	82,907	81,072	81,999	79,862	80,172
Total	*229,036*	*273,241*	*213,022*	*260,765*	*210,746*	*256,088*	*209,647*	*252,871*	*207,627*	*249,252*

(a) Staff working as self-employed professionals or similar contract types were not included.
(*) NHS staff and University staff.
(**) Residual mental health facilities are included.
Source: *data processed by Ermeneia from the Report "Attività gestionali ed economiche delle Asl e Aziende Ospedaliere", Ministry of Health, Years 2010, 2011, 2012, 2013 and 2014*

Table S/63 – Hospital Center and local health service (ASL) hospitalization facility staff (% var.)

	2011/2010		*2012/2011*		*2013/2012*		*2014/2013*		*2014/2010*	
	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	-15.1	-4.9	-0.3	-1.9	-0.8	-0.5	-0.9	-0.2	-16.8	-7.4
Nurses	-3.1	-2.9	-0.8	-1.7	-0.3	-1.7	-0.5	-1.4	-4.7	-7.4
Other	-7.4	-6.8	-1.7	-1.9	-0.7	-1.1	-1.5	-2.2	-10.9	-11.5
Total	*-7.0*	*-4.6*	*-1.1*	*-1.8*	*-0.5*	*-1.3*	*-1.0*	*-1.4*	*-9.3*	*-8.8*

(a) Staff working as self-employed professionals or similar contract types were not included.
(*) NHS staff and University staff.
(**) Residual mental health facilities are included.
Source: *data processed by Ermeneia from the Report "Attività gestionali ed economiche delle Asl e Aziende Ospedaliere", Ministry of Health, Years 2010, 2011, 2012, 2013 and 2014*

Table S/64 – Hospital Center and local health service(ASL) hospitalization facility staff

	2010		*2011*		*2012*		*2013*		*2014*	
	Hospital Centers (*)	*ASL hospitalization facilities (**)*	*Hospital Centers (*)*	*ASL hospitalization facilities (**)*	*Hospital Centers (*)*	*ASL hospitalization facilities (**)*	*Hospital Centers (*)*	*ASL hospitalization facilities (**)*	*Hospital Centers (*)*	*ASL hospitalization facilities (**)*
Medical doctors per 10 patient beds	8.6	4.5	7.3	4.4	7.7	4.5	7.8	4.7	7.9	4.8
Nurses per 10 patient beds	20.2	10.6	19.5	10.6	20.6	11.0	20.8	11.3	21.3	11.4

(*) 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", Italian Ministry of Health, Years 2010, 2011, 2012, 2013 and 2014*

Table S/65 – Staff working in medical institutions affiliated with AIOP. 2010-2015

Role	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*
Contract employee and self-employed doctors	11,135	11,788	11,810	11,773	11,815	11,948
Nurses	19,265	20,011	20,032	19,175	19,316	20,032
Other	32,966	34,253	34,445	34,242	34,537	34,445
Total	*63,366*	*66,052*	*66,287*	*65,190*	*65,668*	*66,425*

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

Table S/66 – Staff working in medical institutions affiliated with AIOP. 2010-2015 (% var.)

	2011/2010	*2012/2011*	*2013/2012*	*2014/2013*	*2015/2014*	*2015/2010*
Contract employee and self-employed doctors	5.9	0.2	-0.3	0.4	1.1	7.3
Nurses	3.9	0.1	-4.3	0.7	3.7	4.0
Other	3.9	0.6	-0.6	0.9	-0.3	4.5
Total	*4.2*	*0.4*	*-1.7*	*0.7*	*1.2*	*4.8*

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

Table S/67 – Total number of healthcare personnel employed in various healthcare institutions, by region. 2012

Regions	*Medical doctors and Dentists*	*Nursing staff*	*Other staff*	*Total staff*
– Piedmont	8,621	21,792	25,357	55,770
– Aosta Valley	343	652	1,068	2,063
– Lombardy	12,878	35,578	42,194	90,650
– Trentino-Alto Adige	1,879	6,100	8,347	16,326
– .Autonomous Province of Bolzano	870	3,051	4,497	8,418
– Autonomous Province of Trento	1009	3,049	3,850	7,908
– Veneto	7,874	24,612	25,850	58,336
– Friuli Venezia Giulia	2,417	7,336	8,151	17,904
– Liguria	2,500	6,619	6,922	16,041
– Emilia Romagna	8,542	24,721	24,944	58,207
– Tuscany	8,121	21,461	20,234	49,816
– Umbria	1,945	4,691	4,133	10,769
– Marche	2,870	7,838	7,596	18,304
– Lazio	8,101	19,789	15,823	43,713
– Abruzzo	2,683	6,291	5,276	14,250
– Molise	538	1,422	1,306	3,266
– Campania	9,678	19,580	16,450	45,708
– Apulia	6,222	15,280	14,771	36,273
– Basilicata	1,165	2,812	2,604	6,581
– Calabria	4,017	7,692	8,400	20,109
– Sicily	10,070	18,332	16,794	45,196
– Sardinia	4,154	8,339	7,938	20,431
North	45,054	127,410	142,833	315,297
Center	21,037	53,779	47,786	122,602
South	38,527	79,748	73,539	191,814
Italy	*104,618*	*260,937*	*264,158*	*629,713*

Source: *ISTAT, healthcare institution facilities and activities*

Table S/68 – Staff working in medical institutions affiliated with AIOP. Updated to December, 31st 2015

Regions	*Contract employee operators*							*Self-employed professionals*	
	Medical doctors	*Nurses*	*Technicians*	*Auxiliary staff in Health and Social Care Settings*	*Other caregiver staff*	*Other staff*	*Total*	*Medical personnel*	*Non-medical personnel*
– Piedmont	142	1,042	283	500	319	760	3,046	499	321
– Aosta Valley	1	13	3	2	10	4	33	0	14
– Lombardy	1,274	4,992	1,386	1,919	832	3,897	14,300	1,972	794
– A. P. of Bolzano	-	58	34	25	4	45	166	10	8
– A. P. of Trento	18	87	24	58	64	65	316	12	32
– Veneto	277	1,293	362	343	601	958	3,834	504	364
– Friuli Venezia Giulia	55	172	68	57	101	163	616	59	52
– Liguria	4	111	16	10	13	70	224	28	43
– Emilia Romagna	186	2,008	456	670	626	1,140	5,086	969	638
– Tuscany	107	522	118	116	180	453	1,496	277	122
– Umbria	8	52	12	21	30	39	162	91	23
– Marche	64	295	76	123	104	245	907	158	73
– Lazio	480	2,876	990	1,740	892	2,129	9,107	925	669
– Abruzzo	112	512	113	238	10	223	1,208	64	21
– Molise	73	120	42	25	7	130	397	38	52
– Campania	812	1,991	783	900	487	1,555	6,528	470	419
– Apulia	406	1,344	506	755	68	927	4,006	69	211
– Basilicata	3	13	3	4	5	9	37	18	3
– Calabria	254	742	267	415	263	710	2,651	217	96
– Sicily	338	1,562	265	970	49	1,191	4,375	772	115
– Sardinia	82	227	46	119	15	189	678	100	39
Italy	*4,696*	*20,032*	*5,853*	*9,010*	*4,680*	*14,902*	*59,173*	*7,252*	*4,109*

Source: *AIOP*

4. Spending data

4.1. Economic flow trends over the years

Once more, for the year 2014, the consolidated analytical data on the spending of the National Health Service has been extrapolated from two different institutional sources, since the "Health Report" contained in the various editions of the General Report on the Economic Situation of the country is not yet available and there are no indications from the MEF regarding the continuity of the publication of the report in the future. The historical data, slightly corrected already for some values starting in 2009, has been interrupted from the methodological perspective, because the definition of the different healthcare spending components adopted by the sources used for 2013 and 2014 – Court of Auditors and Agenas – criteria may not fully correspond to the previous one.

The amount of public expenditure relating to hospital admissions given for 2014 is 61.2 billion euro, compared to 60.5 billion for the previous year (with an increase of 1.1%) (Table S/69).

This total includes the amount of spending for private hospitals (accredited healthcare facilities) of 4.3 billion euro, or 7% of total public hospital system expenditure; an incidence which then stabilizes over the last two years after the constant decline compared to the 8.4% which occurred in 2000. This was also due to the effects of the spending review (Law 135/12), described in previous editions of the Report and the subsequent healthcare spending containment maneuvers.

The representation in real terms (at constant prices) of expenditure levels (Table S/70) also is revised, as the calculation of the GDP deflator must be based on the new ISTAT series in a chained series with the year 2010; the variation of total public hospital spending between the new base year and

2014 is thus -4.8%. In the same period, expenditures allocated to private hospitals (accredited healthcare facilities) sees, again in real terms, a marked decrease (-8%), due to the combined effect of the reduction of financial considerations (rate levels and budgets) and contextual immobility of 2014 real GDP; according to DEF 2016 estimates, in fact, the indicator of national wealth remains largely unchanged from the previous year, yet, saw a -3.9% change compared to 2010.

4.2. Health expenditure comparisons

The "OECD Health Data", updated to November 2016, allows us to regularly reconstruct the trend of healthcare spending in 24 of the most important countries that belong to the organization. Table S/71 shows those most commonly used by industry analysts: the incidence of total health expenditure and of public health expenditure compared to GDP.

For Italy, there is also a reduction in resources allocated to the NHS for 2014, confirming, in fact, the gap that has built up over time compared to the average of OECD Europe countries and those of the G7 group (6.8% compared to 7.3% and 8.2%, respectively).

In terms of public health expenditure, Italy shows a GDP spending ratio lower than the average for the G7 countries (9.1% versus 11.3%) and which is still also below the average for European OECD countries (9.6%).

Italy's trend of increased healthcare spending over time mirrors that of the two references considered (G7 and European OECD countries).

Again in terms of total healthcare spending, in 2014 Italy's figure is still below that of most industrialized countries, such as the United States, France, Germany and Canada (with values of 16.6%, 11.1%, 11%, and 10%, respectively). And similarly, although with different relative positions and with much smaller differences, this is true for the first three countries mentioned also with regard to public healthcare spending.

Italy's commitment in terms of allocating resources for healthcare in relation to GDP, therefore, continues to decline, compared to most countries in the Western Hemisphere. This offers a view of how the progressive definancing of our health service may lead to a new dimension of so-called "selective universal care". All of this seems only to be partly counteracted by the slight turnaround contained in the budget law currently in the approval phase and which should raise the availability of healthcare funding from 113 billion in 2017, to 115 in 2019; an increase of resources that could be almost

entirely absorbed by the financing of new high-cost life-saving drug therapies.

If we consider, again with reference to the year 2014, only hospital system spending (Table S/72), we can see that Italy:

- has a higher proportion (54.3%) of total public healthcare spending compared to the average for the G7 countries (43%), and compared to that of European OECD countries (45.5%);
- has a GDP spending ratio slightly above the average of the G7 countries and of the European OECD countries (3.5% and 3.3%, respectively).

Table S/69 – Current health spending. 2010-2014 (in billions of euro)

	2010	*2011*	*2012*	*2013*	*2014*
Public hospital facilities	52.333	52.892	53.074	52.244	52.744
Accredited hospital system	8.849	8.641	8.659	8.255	8.425
including: private hospitals (accredited healthcare facilities)	4.439	4.465	4.471	4.263	4.289
Total public hospital system expenditure	61.182	61.533	61.733	60.499	61.169
Other expenditure features	50.149	51.276	51.950	51.185	51.504
Total public healthcare expenditure	*111.331*	*112.809*	*113.683*	*111.684*	*112.673*

(*) The relevant historical data on expenditure was furtherly updated in the "General Report on the Economic Situation of the Country", year 2012, this data, however, is interrupted due to the uncertainty about the continuity of the same publication by the RGE in the future. For 2013 and 2014, the expenditure figures were taken from the 2015 and 2016 Report on the coordination of public finance by the Court of Auditors and the Agenas Report on the monitoring of the spending of the Regions.

Source: *data processed by Ermeneia from the "General Report on the Country's Economic Situation", 2012, Vol. II, from the 2015 and 2016 "Report on the coordination of public finance" by the Court of Auditors and the Agenas Report on the monitoring of the spending of the Regions*

Table S/70 – Healthcare expenditure at constant prices (*). 2010-2014 (in billions of euro)

	2010	*2011*	*2012*	*2013*	*2014*
Public hospital facilities	52.333	52.127	51.594	50.179	50.212
Accredited hospital system	8.849	8.516	8.418	7.929	8.021
including: private hospitals (accredited healthcare facilities)	4.439	4.400	4.346	4.094	4.083
Total public hospital system expenditure	61.182	60.643	60.011	58.108	58.232
Other expenditure features	50.149	50.534	50.501	49.162	49.031
Total public healthcare expenditure	*111.331*	*111.176*	*110.513*	*107.269*	*107.264*

(*) GDP deflator calculated on the basis of the new ISTAT series in a chained series with reference to 2010.

Source: *data processed by Ermeneia from the "General Report on the Country's Economic Situation", 2012, Vol. II, from the 2015 and 2016 "Report on the coordination of public finance" by the Court of Auditors and the Agenas Report on the monitoring of the spending of the Regions*

Table S/71 – Amount of total healthcare expenditure and public healthcare spending in relation to the GDP

% Values	*Total Healthcare Spending*			*Public Healthcare Spending*		
	2012	*2013*	*2014*	*2012*	*2013*	*2014*
United States	16.4	16.4	16.6	7.9	8.0	8.2
Japan	11.2	11.3	11.4	9.4	9.6	9.6
Germany	10.8	10.9	11.0	9.0	9.2	9.3
France	10.8	10.9	11.1	8.5	8.6	8.7
Italy	**8.8**	**8.8**	**9.1**	**6.8**	**6.8**	**6.8**
United Kingdom	8.5	9.9	9.9	6.9	7.9	7.9
Canada	10.3	10.2	10.0	7.2	7.2	7.1
Average of G7 countries (*)	11.0	11.2	11.3	8.0	8.2	8.2
Australia	8.7	8.8	9.0	5.9	6.0	6.0
Austria	10.1	10.1	10.3	7.7	7.7	7.8
Belgium	10.2	10.4	10.4	7.9	8.1	8.1
Denmark	10.3	10.3	10.6	8.8	8.7	8.9
Finland	9.3	9.5	9.5	7.0	7.2	7.2
Greece	8.9	8.7	8.3	6.0	5.6	4.9
Iceland	8.7	8.8	8.9	7.0	7.1	7.2
Ireland	10.1	10.5	10.1	7.7	7.3	7.0
Luxembourg	6.7	6.5	6.3	5.5	5.3	5.2
Holland	10.9	10.9	10.9	8.9	8.9	8.8
New Zealand	9.7	9.4	9.4	7.8	7.5	7.5
Norway	8.8	8.9	9.3	7.4	7.6	7.9
Portugal	9.3	9.1	9.0	6.1	6.1	6.0
Spain	9.1	9.0	9.1	6.5	6.4	6.3
Sweden	10.9	11.1	11.2	9.1	9.3	9.3
Switzerland	11.0	11.2	11.4	7.1	7.4	7.4
Turkey	5.0	5.1	5.1	3.9	4.0	3.9
Average of European OECD countries (*)	9.4	9.5	9.6	7.3	7.3	7.3
Average of all OECD countries (*)	9.8	9.9	9.9	7.3	7.4	7.4

(*) Average values are calculated as unweighted arithmetic means.
Source: *data processed by Ermeneia from "OECD Health Data 2016", OECD, Paris, November 2016*

Table S/72 –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*		
	2012	*2013*	*2014*	*2012*	*2013*	*2014*
United States	37.7	37.4	36.4	3.0	3.0	3.0
Japan	44.9	44.3	-	4.2	4.2	-
Germany	33.8	33.6	33.5	3.0	3.1	3.1
France	47.0	46.9	47.0	4.0	4.0	4.1
Italy	**54.3**	**54.2**	**54.3**	**3.9**	**3.9**	**3.9**
United Kingdom	-	47.6	47.7	-	3.8	3.8
Canada	39.8	39.5	39.3	2.9	2.8	2.8
Average of G7 countries (*)	42.9	43.4	43.0	3.5	3.5	3.5
Australia	50.2	50.5	-	3.0	3.0	-
Austria	47.0	46.4	46.4	3.6	3.6	3.6
Belgium	33.7	33.5	33.2	2.7	2.7	2.7
Denmark	51.0	51.3	50.2	4.5	4.5	4.5
Finland	42.1	42.6	41.8	3.0	3.1	3.0
Greece	47.9	49.2	50.1	2.9	2.7	2.5
Iceland	47.4	48.0	48.1	3.3	3.4	3.5
Ireland	-	35.0	35.2	-	2.6	2.5
Luxembourg	36.2	35.3	34.5	2.0	1.9	1.8
Holland	40.6	42.9	42.5	3.6	3.8	3.7
New Zealand	-	-	-	-	-	-
Norway	45.0	45.2	-	3.3	3.4	-
Portugal	53.8	54.3	54.1	3.3	3.3	3.2
Spain	54.5	54.4	55.4	3.6	3.5	3.5
Sweden	44.7	44.9	45.4	4.1	4.2	4.2
Switzerland	44.7	45.2	44.7	3.2	3.3	3.3
Turkey	53.2	54.6	54.5	2.1	2.2	2.2
Average of European OECD countries (*)	45.7	45.5	45.5	3.3	3.3	3.3
Average of all OECD countries (*)	45.2	45.1	44.7	3.3	3.3	3.2

(*) Average values are calculated as unweighted arithmetic means.
Source: *data processed by Ermeneia from "OECD Health Data 2016", OECD, Paris, November 2016*

Appendices

1. Methods applied

The 2016 report, too has, as usual, employed multiple methods.

The first is based on the identification and review of some key phenomena distinctive of the last twelve months: the whole was placed in Part One of this volume.

More precisely, the following situations were examined as they relate to two main interpretative aspects, namely:

a) the risk of "deflating" the services and benefits to users by means of their de facto rationing through:
   - a combination of increased costs to patients (co-payment charges, use of *intramoenia* services, costs of access, etc.), and the shrinkage of the real opportunities of access to the same services (long waiting lists, freezes on extra-regional healthcare mobility, etc.);
   - the subsequent emergence of the phenomena postponing and/or foregoing of services, which will have a negative impact in the mid-term on citizens' health status (with an inevitable increase in costs for the National Health System);
   - and the progressive attrition of the National Health System, which is clearly evident to users;
b) the persistent difficulty of reducing the provision of healthcare services, which tends to "freeze" the current situation: leaving inefficiencies substantially unchanged (except for the cutting/deterioration of services) and thus unable to free up resources, while keeping the "Additional Revenues" detected unchanged instead of directing resources, for example, towards the qualification of the dated technology infrastructure and especially to the actual improvement of services and benefits to patients.

The first of these interpretations is discussed in the first section of Part I, while the second is discussed in the second section of the same Part.

It is now particularly beneficial to take a special in-depth look at point b), given the complexity of the examination undertaken.

The analysis considered the 2015 Income Statements of all Italian Hospitals (including those affiliated with Universities), following up on what has been shown over the past few years in terms of implied rescheduling of "real" budget deficits. In particular, the focus time was on Revenues instead of Costs, which had been looked at in the previous Report. This led us to estimate the amount of Additional Revenues through the analyses and simulations conducted, starting with the finalized Income Statements of the Hospital Centers.

The line of reasoning about the possible "Additional Revenues" passed through an assessment of the rather large item of the so-called "by function" activities, which lend themselves to a fairly flexible interpretation by the Regional Health Systems, given the fact that there is no specific DRG-based pricing and that the activities can vary greatly (by quantity, quality and type) among different Hospital Centers as well as among different Regions.

Indeed, to be more explicit, the Legislative Decree of December 30, 1992 no. 502 (Art. 8-*sexies*) states that "by function" activities may include:

a) programs that strongly integrate hospital and community care, health and social care, with special reference to lengthy or recurrent chronic illnesses;
b) assistance programs with a high degree of customization of the service or the service rendered to the person;
c) activities carried out by participating in prevention programs;
d) assistance programs for rare diseases;
e) activities with significant waiting costs, including the First Aid and emergency transport system, as well as Control Center operations;
f) experimental assistance programs;
g) organ, bone marrow and tissue transplant programs, including maintenance and monitoring of the donor, the removal of organs, transport activities, coordination and organization of the network of removal and transplants, and preliminary testing on donors.

If one then scrolls through the resolutions of the various Regions, there are further specifications which are carried forward to the categories just mentioned and in part are added to them. The following items are some examples of these:

- the funding of intensive care;
- financing of AIDS activities;
- financing related to infectious diseases;
- intensive activities for infants weighing less than 1,500 grams;
- neonatal transport;
- file F management;

– seasonal tourist medical assistance;
– expanded newborn screening;
– the Regional Fund for transfusion activities;
– drugs for hepatitis C;
– etc.

It is, therefore, evident that the "by function activity" item of the Income Statement constitutes a very large and, at the same time, extremely internally diversified item-container, which also permits final accounting adjustments to be made by the Regional Health Systems. Such adjustments largely reflect the work performed, but may also in part be a method of implicit rescheduling of the "real" budget deficits (in addition to those officially reported on the Income Statement).

In concrete terms, the following method was used, keeping in mind that we began from the data reported on the 2015 Income Statements of all Italian Hospital Centers, which, at the conclusion of the simulation, gave first an estimate of that which has been defined as Additional Revenue/1, relating to that which is implicitly present on the 2015 Income Statement, namely:

1) the preparation of Table App. 1, which, in addition to the average case-mix of services for each Hospital Center (2014), also contains the rounded number of hospitalizations for 2015 (see Columns 2 and 3). Thus the items reported on the final 2015 Income Statements have been indicated (see Columns 4 through 9):
   – revenues from healthcare services and health-related social health services;
   – revenues from co-payment charges for external specialist services;
   – revenues transferred from the Regional Health Fund for "by function" activities;
   – other revenues, calculated as the difference between total revenues reported on the Income Statement and the sum of the three types of revenues just mentioned;
   – total revenues as per the Income Statement;
   – and, finally, any operating deficits, once again for the 2015 fiscal year;
2) then, by performing an initial simulation, the value of "by function" activities was estimated according to what has been resolved (as the initial allocation) by the Regional Administrations for Hospital Centers in Lombardy, Emilia Romagna and Campania, respectively, which are home to 60% of all Italian Hospital Centers, whereas the average of "by function" activities for the remaining 40% was calculated on the basis of the resolutions of the Regions mentioned above (see Column 10);
3) at this point the difference between the amount "by function activities" indicated on the Income Statement of each Hospital Center (Column 6)

and the one relating to the resolutions of the Regional Administrations cited or an average of the relative amounts is (Column 10):
   - in part, the value attributed by the Regions to their Hospital Centers through a final accounting maneuver that should recognize the totality of the actual "by function" activities performed, not only as initially planned but also later requested by the Regional Health Service;
   - and in part, a kind of Additional Revenue/1 that – as such – may constitute a form of implicit budget rescheduling, which may also be seen in the perfect balance between Costs and Revenues, indicated by the majority of Hospital Centers in North Italy and some in Central and South Italy (see Column 11, again in Table App. 1);
4) for this reason, on the basis of qualitative interviews carried out and the experience gained in similar simulations carried out in previous "Health & Hospitals" Reports, the component of effective Additional Revenue/1 (referred to point 3 above) was estimated, differentiating its amount as between 20.0% and 30.0% of the values shown in Column 11, with the consequential calculation of the percentage of the total revenues (see Columns 12 and 13);
5) it was then deemed appropriate to also indicate any 2015 budget deficit that, in turn, may (indeed must) be considered part of the Additional Revenue/1 as, sooner or later, this deficit must be cleared, drawn from public expenditure and often recovered in whole or in part through additional taxation, beginning from additional income tax (see Column 9 for the absolute value and Column 14 for the corresponding percentage of total Revenues referred to in Column 8);
6) at this point the estimated Additional Revenue/1, derived from the possible increased funding of "by function" activities, has been differentiated as mentioned, in such a manner as to:
   - account for a minimum of 20% and a maximum of 30% (not 100%, except in the case of additional losses, indicated by the "-" sign for values in Column 11), by relating everything to the total of Revenues in Column 8 and thus obtaining the percentages shown in Column 12 and Column 13, respectively;
   - added to the percentages thus obtained are any operating losses out of total Revenues for 2015 (see Column 14), thus yielding the final differentiation of Total Additional Revenue/1 indicated in Column 15.

   The overall result is that this Total Additional Revenue/1 comprises:
   - between 3.5% and 4.9% for the Hospital Centers in the North (equal to Eur 505-707 million);
   - between 13.0% and 13.9% for the Hospital Centers in Central Italy (equal to Eur 538-575 million);

– between 5.4% and 7.2% for the Hospital Centers in the South (equal to Eur 330-440 million);
– and, finally, between 5.5% and 6.9% for all Hospital Centers in Italy (equal to Eur 1,373-1,722 million).

If the overall average differentiated percentages for Hospital Centers (5.5% and 6.9%) are applied to the expenditure for directly-managed hospitals (assuming – with a "generous" criterion – the same operational/efficiency level), this would yield a further Additional Revenue/1 amount of between Eur 1,197 and 1,502 million.

Starting from what has been set out in Table App. 1, which provides the estimated absolute and percentage values (minimum and maximum) of Total Additional Revenue/1, a further step was taken in the form of a second simulation which takes into account the provisions of the Ministerial Decree implementing Art. 1, paragraph 526 of the 2016 Stability Law, which, on the basis of Art. 8-*sexies* of Legislative Decree 502/1992 and subsequent modifications, set out that "the total value of the payment for "by function" activities may not in any case exceed – beginning from the 2016 Budget[1] – 30% of the assigned payment limit": all through a calculation under 100 based upon the Revenues for healthcare and social health services, complemented by the co-payment charges paid by patients, to which, however, would have to be added contributions by the Region or Autonomous Province (additional Fund) in the form of extra LEA coverage (contributions that have been overlooked, however, in the following calculations as they have relatively low values). In this way, the intention was to simulate a 2016 Income Statement taking into account the results of 2015, but adopting three "lump" calculation assumptions for "by function" activities, inspired by the provisions of the aforementioned Ministerial Decree, namely:

– a maximum scenario of 30% (Table App. 2);
– an intermediate scenario of 25% (Table App. 2A);
– and a minimum scenario of 20% (Table App. 2B);

To this end, the following steps were taken:

1) first of all, for convenience of analysis, Table App. 2 (showing the simulation of the maximum of 30% Scenario) contains part of the data presented in Table App. 1 (see Columns 1 to 10);
2) as the first step of the second simulation, the percentage of 2015 Total Revenues relating to healthcare services and co-payment charges corresponding to the value of "by function" activities indicated on the 2015 Income Statement of each individual Hospital Center were calculated: all

[1] For Hospital Centers and, since 2017, for directly managed hospitals.

Table App. 1 – Revenue from Hospital Centers as per the 2015 Income Statement and estimated Additional Revenue/I arising as a result of excessive recognition of "by function" activities (Revenue Values expressed in euros)

1	2	3	4	5	6		7	8
Hospital Centers (1)	Average case mix (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*
					A.V.	*%* (6)		
H.C. 1	1.23	14,000	111,525,000	2,627,000	31,735,000	27.8	8,384,000	154,271,000
H.C. 2	1.23	26,000	195,928,000	7,155,000	68,212,000	33.6	11,563,000	282,858,000
H.C. 3	1.18	31,000	182,182,000	5,921,000	45,863,000	24.4	5,967,000	239,933,000
H.C. 4	1.19	23,000	173,184,000	3,611,000	61,100,000	34.6	8,331,000	246,226,000
H.C. 5	1.26	17,000	139,180,000	4,244,000	41,894,000	29.2	1,976,000	187,294,000
H.C. 6	1.22	102,000	595,920,000	16,314,000	396,728,000	64.8	62,143,000	1,071,105,000
H.C. 7	1.03	39,000	284,698,000	10,024,000	63,867,000	21.7	27,362,000	385,951,000
H.C. 8	0.94	21,000	117,878,000	5,052,000	36,399,000	29.6	4,238,000	163,567,000
H.C. 9	0.92	36,000	225,197,000	8,200,000	55,525,000	23.8	9,734,000	298,656,000
H.C. 10	1.05	67,000	494,915,000	12,810,000	128,197,000	25.2	45,875,000	681,797,000
H.C. 11	0.91	15,000	93,629,000	4,995,000	31,702,000	32.1	4,341,000	134,667,000
H.C. 12	0.93	31,000	184,811,000	9,714,000	42,490,000	21.8	10,320,000	247,335,000
H.C. 13	1.01	26,000	187,490,000	5,676,000	48,399,000	25.1	18,661,000	260,226,000
H.C. 14	0.94	16,000	96,254,000	4,917,000	23,828,000	23.6	5,455,000	130,454,000
H.C. 15	0.98	28,000	203,242,000	8,591,000	88,900,000	42.0	39,863,000	340,596,000
H.C. 16	1.02	31,000	184,000,000	4,412,000	26,049,000	13.8	49,847,000	264,308,000
H.C. 17	1.22	34,000	325,387,000	9,324,000	106,078,000	31.7	45,145,000	485,934,000
H.C. 18	0.92	27,000	124,968,000	8,900,000	40,572,000	30.3	6,274,000	180,714,000
H.C. 19	0.94	26,000	140,780,000	7,150,000	17,241,000	11.7	15,878,000	181,049,000
H.C. 20	1.02	31,000	257,811,000	9,927,000	111,254,000	41.6	44,044,000	423,036,000
H.C. 21	1.11	20,000	220,381,000	4,066,000	36,557,000	16.3	12,547,000	273,551,000
H.C. 22	1.29	38,000	317,714,000	5,916,000	143,169,000	44.2	78,899,000	545,698,000
H.C. 23	0.85	29,000	145,000,000	2,940,000	34,897,000	23.6	60,050,000	242,887,000
H.C. 24	0.92	29,000	114,741,000	5,508,000	60,719,000	50.5	6,776,000	187,744,000
H.C. 25	0.93	19,000	150,900,000	3,655,000	45,931,000	29.7	37,130,000	237,616,000
H.C. 26	1.02	11,000	83,662,000	3,061,000	34,226,000	39.5	6,795,000	127,744,000
H.C. 27	0.98	34,000	273,960,000	5,380,000	100,365,000	35.9	15,081,000	394,786,000
H.C. 28	1.02	42,000	267,896,000	11,359,000	93,499,000	33.5	22,363,000	395,117,000
H.C. 29	0.92	24,000	160,858,000	6,533,000	107,748,000	64.4	11,917,000	287,056,000
H.C. 30	0.88	24,000	157,085,000	10,472,000	100,781,000	60.1	9,156,000	277,494,000
H.C. 31	0.90	43,000	260,280,000	12,600,000	63,257,000	23.2	20,626,000	356,763,000
H.C. 32	1.19	27,000	255,208,000	6,705,000	42,711,000	16.3	30,801,000	335,425,000
H.C. 33	0.91	21,000	129,689,000	6,789,000	63,355,000	46.4	13,220,000	213,053,000
H.C. 34	0.92	33,000	285,152,000	6,438,000	52,013,000	17.8	38,511,000	382,114,000
H.C. 35	0.96	22,000	136,574,000	6,014,000	63,491,000	44.5	24,953,000	231,032,000

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(continued) *Table App.* 1 – *Revenue from Hospital Centers as per the 2015 Income Statement and estimated Additional Revenue/1 arising as a result of excessive recognition of "by function" activities (Revenue Values expressed in euros)*

1	2	3	4	5	6		7	8
Hospital Centers (1)	Average case mix (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*
					A.V..	*%* (6)		
H.C. 36	1.22	52,000	415,815,000	8,844,000	83,433,000	19.6	36,562,000	544,654,000
H.C. 37	1.24	52,000	403,621,000	6,594,000	94,042,000	22.9	14,360,000	518,617,000
H.C. 38	1.16	26,000	156,120,000	3,641,000	93,721,000	58.7	22,318,000	275,800,000
H.C. 39	1.20	36,000	250,431,000	7,079,000	121,636,000	47.2	26,652,000	405,798,000
H.C. 40	1.16	47,000	264,300,000	7,252,000	58,150,000	21.4	56,331,000	386,033,000
H.C. 41	1.10	36,000	237,683,000	9,051,000	30,311,000	12.3	14,295,000	291,340,000
H.C. 42	1.11	35,000	206,135,000	3,255,000	44,960,000	21.5	10,375,000	264,725,000
H.C. 43	1.21	68,000	434,604,000	6,805,000	91,752,000	20.8	48,285,000	581,446,000
H.C. 44	1.14	32,000	203,645,000	6,085,000	85,220,000	40.6	25,968,000	320,918,000
North Italy Total	***1.08***	***1,441,000***	***9,850,433,000***	***305,606,000***	***3,211,977,000***	***31.6***	***1,069,372,000***	***14,437,388,000***
H.C. 45	1.25	68,000	378,064,000	11,725,000	147,828,000	37.9	30,055,000	567,672,000
H.C. 46	1.28	36,000	213,223,000	7,699,000	88,039,000	39.9	16,465,000	325,426,000
H.C. 47	1.27	74,000	395,180,000	12,259,000	183,787,000	45.1	27,079,000	618,305,000
H.C. 48	1.04	14,000	71,150,000	2,252,000	31,930,000	43.5	10,186,000	115,518,000
H.C. 49	1.03	28,000	164,035,000	4,171,000	70,763,000	42.1	7,242,000	246,211,000
H.C. 50	1.30	*45,000*	*297,989,000*	*4,870,000*	*80,319,000*	26.5	16,443,000	399,621,000
H.C. 51	1.10	39,000	281,734,000	7,149,000	37,548,000	13.0	19,070,000	345,501,000
H.C. 52	1.07	27,000	136,669,000	2,961,000	45,251,000	32.4	1,358,000	186,239,000
H.C. 53	1.25	49,000	232,965,000	5,336,000	53,604,000	22.5	15,059,000	306,964,000
H.C. 54	1.05	25,000	118,174,000	3,400,000	30,429,000	25.0	17,006,000	169,009,000
H.C. 55	1.14	53,000	315,050,000	10,188,000	88,896,000	27.3	26,804,000	440,938,000
H.C. 56	1.23	22,000	140,716,000	5,545,000	23,263,000	15.9	25,442,000	194,966,000
H.C. 57	1.51	29,000	173,951,000	5,580,000	37,438,000	20.9	5,443,000	222,412,000
Central Italy Total	***1.21***	***509,000***	***2,918,900,000***	***83,135,000***	***919,095,000***	***30.6***	***217,652,000***	***4,138,782,000***
H.C. 58	0.96	63,000	296,562,000	5,160,000	110,668,000	36.7	7,699,000	420,089,000
H.C. 59	0.92	46,000	173,831,000	2,793,000	73,480,000	41.6	2,896,000	253,000,000
H.C. 60	1.06	57,000	230,223,000	893,000	108,894,000	47.1	23,387,000	363,397,000
H.C. 61	0.81	23,000	92,897,000	1,126,000	39,210,000	41.7	16,045,000	149,278,000
H.C. 62	1.39	50,000	201,950,000	1,750,000	95,000,000	46.6	12,562,000	311,262,000
H.C. 63	1.04	50,000	201,950,000	2,795,000	77,935,000	38.1	31,720,000	314,400,000
H.C. 64	1.03	30,000	121,170,000	2,205,000	43,807,000	35.5	19,310,000	186,492,000
H.C. 65	1.05	21,000	84,819,000	2,066,000	33,768,000	38.9	13,095,000	133,748,000
H.C. 66	1.12	28,000	113,092,000	1,389,000	46,085,000	40.3	17,709,000	178,275,000
H.C. 67	0.94	24,000	96,936,000	2,141,000	37,224,000	37.6	13,241,000	149,542,000
H.C. 68	0.96	51,000	205,989,000	3,000,000	62,430,000	29.9	14,203,000	285,622,000

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(continued) *Table App. 1 – Revenue from Hospital Centers as per the 2015 Income Statement and estimated Additional Revenue/1 arising as a result of excessive recognition of "by function" activities (Revenue Values expressed in euros)*

1	2	3	4	5	6		7	8
Hospital Centers (1)	Average case mix (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*
					A.V.	*%* (6)		
H.C. 69	1.09	33,000	150,629,000	3,565,000	63,301,000	41.1	11,159,000	228,654,000
H.C. 70	1.08	*27,000*	*96,653,000*	*1,848,000*	*88,598,000*	89.9	3,957,000	191,056,000
H.C. 71	1.06	26,000	95,305,000	2,466,000	65,364,000	66.9	6,910,000	170,045,000
H.C. 72	1.20	8,000	36,571,000	1,910,000	9,226,000	24.0	10,245,000	57,952,000
H.C. 73	1.01	25,000	92,720,000	1,533,000	63,952,000	67.9	10,014,000	168,219,000
H.C. 74	1.08	32,000	119,975,000	1,497,000	68,619,000	56.5	5,790,000	195,881,000
H.C. 75	1.13	26,000	160,930,000	2,534,000	71,925,000	44.0	10,226,000	245,615,000
H.C. 76	1.11	43,000	233,490,000	3,897,000	139,004,000	58.6	17,852,000	394,243,000
H.C. 77	1.13	18,000	103,900,000	1,232,000	87,000,000	82.8	5,568,000	197,700,000
H.C. 78	1.05	23,000	122,022,000	2,479,000	54,069,000	43.4	20,275,000	198,845,000
H.C. 79	1.14	28,000	174,486,000	2,375,000	118,164,000	66.8	12,749,000	307,774,000
H.C. 80	1.01	31,000	169,513,000	2,176,000	161,146,000	93.9	17,088,000	349,923,000
H.C. 81	1.09	23,000	116,299,000	1,373,000	94,500,000	80.3	10,286,000	222,458,000
H.C. 82	1.15	24,000	120,000,000	1,450,000	35,000,000	28.8	6,550,000	163,000,000
H.C. 83	0.88	17,000	82,000,000	1,635,000	37,329,000	44.6	20,036,000	141,000,000
H.C. 84	0.85	26,000	90,000,000	2,990,000	28,000,000	30.1	24,010,000	145,000,000
South Italy Total	***1.04***	***853,000***	***3,783,912,000***	***60,278,000***	***1,913,698,000***	***49.8***	***364,582,000***	***6,122,470,000***
H.C. Total	***1.09***	***2,803,000***	***16,553,245,000***	***449,019,000***	***6,044,770,000***	***35.6***	***1,651,606,000***	***24,698,640,000***

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(continued) *Table App. 1 – Revenue from Hospital Centers as per the 2015 Income Statement and estimated Additional Revenue/1 arising as a result of excessive recognition of "by function" activities (Revenue Values expressed in euros)*

1	2	3	9	10	11	12	13	14	15	
Hospital Centers (1)	Average case mix (2)	*Total admissions* (3)	*Deficit as per the IS (Code ZZ9999)*	*"By function" activities recognized by Regional Administration resolutions* (8)	*Estimate of Additional Revenue/1 resulting from excessive funding of "by function" activities compared to allocation by Resolution or from major Losses resulting in less funding for said activities* (9)	*% "Minimum" Additional Revenue/1 (at 20% of the amounts in Column 11* (10)	*% "Maximum" Additional Revenue/1 (at 30% of the amounts in Column 11* (11)	*Deficit % of the Total Revenues* (12)	*Differentiation % of Total Additional Revenue/1 (conservatively estimated) out of total Revenues* (13)	
									Minimum	*Maximum*
H.C. 1	1.23	14,000	- 2,552,000	14,105,000	17,630,000	2.3	3.4	1.7	4.0	5.1
H.C. 2	1.23	26,000	- 1,203,000	26,725,000	41,487,000	2.9	4.4	0.4	3.3	4.8
H.C. 3	1.18	31,000	- 5,500,000	26,602,000	19,261,000	1.6	2.4	2.3	3.9	4.7
H.C. 4	1.19	23,000	- 4,485,000	24,146,000	36,954,000	3.0	4.5	1.8	4.8	6.3
H.C. 5	1.26	17,000	-	19,635,000	22,259,000	2.4	3.6	-	2.4	3.6
H.C. 6	1.22	102,000	- 4,188,000	125,475,000	271,253,000	5.1	7.6	0.4	5.5	8.0
H.C. 7	1.03	39,000	-	31,100,000	32,767,000	1.7	2.5	-	1.7	2.5
H.C. 8	0.94	21,000	-	13,044,000	23,355,000	2.9	4.3	-	2.9	4.3
H.C. 9	0.92	36,000	-	28,217,000	27,308,000	1.8	2.7	-	1.8	2.7
H.C. 10	1.05	67,000	-	41,504,000	86,693,000	2.5	3.8	-	2.5	3.8
H.C. 11	0.91	15,000	-	8,698,000	23,004,000	3.4	5.1	-	3.4	5.1
H.C. 12	0.93	31,000	-	16,947,000	25,543,000	2.1	3.1	-	2.1	3.1
H.C. 13	1.01	26,000	-	23,543,000	24,856,000	1.9	2.9	-	1.9	2.9
H.C. 14	0.94	16,000	-	9,181,000	14,647,000	2.2	3.4	-	2.2	3.4
H.C. 15	0.98	28,000	-	30,973,000	57,927,000	3.4	5.1	-	3.4	5.1
H.C. 16	1.02	31,000	-	26,049,000	-	-	-	-	-	-
H.C. 17	1.22	34,000	-	20,993,000	85,085,000	3.5	5.3	-	3.5	5.3
H.C. 18	0.92	27,000	-	18,418,000	22,154,000	2.5	3.7	-	2.5	3.7
H.C. 19	0.94	26,000	-	15,172,000	2,069,000	0.2	0.3	-	0.2	0.3
H.C. 20	1.02	31,000	-	26,350,000	84,904,000	4.0	6.0	-	4.0	6.0
H.C. 21	1.11	20,000	-	16,158,000	20,399,000	1.5	2.2	-	1.5	2.2
H.C. 22	1.29	38,000	-	23,804,000	119,365,000	4.4	6.6	-	4.4	6.6
H.C. 23	0.85	29,000	-	34,897,000	-	-	-	-	-	-
H.C. 24	0.92	29,000	-	13,757,000	46,962,000	5.0	7.5	-	5.0	7.5
H.C. 25	0.93	19,000	-	13,731,000	32,200,000	2.7	4.1	-	2.7	4.1
H.C. 26	1.02	11,000	-	1,913,000	32,313,000	5.1	7.6	-	5.1	7.6
H.C. 27	0.98	34,000	-	13,052,000	87,313,000	4.4	6.6	-	4.4	6.6
H.C. 28	1.02	42,000	-	32,212,000	61,287,000	3.1	4.7	-	3.1	4.7
H.C. 29	0.92	24,000	-	23,009,000	84,739,000	5.9	8.9	-	5.9	8.9
H.C. 30	0.88	24,000	-	13,995,000	86,786,000	6.3	9.4	-	6.3	9.4
H.C. 31	0.90	43,000	-	36,762,000	26,495,000	1.5	2.2	-	1.5	2.2

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(continued) *Table App. 1 – Revenue from Hospital Centers as per the 2015 Income Statement and estimated Additional Revenue/1 arising as a result of excessive recognition of "by function" activities (Revenue Values expressed in euros)*

1	2	3	9	10	11	12	13	14	15	
Hospital Centers (1)	Average case mix (2)	*Total admissions* (3)	*Deficit as per the IS (Code ZZ9999)*	*"By function" activities recognized by Regional Administration resolutions* (8)	*Estimate of Additional Revenue/1 resulting from excessive funding of "by function" activities compared to allocation by Resolution or from major Losses resulting in less funding for said activities* (9)	*% "Minimum" Additional Revenue/1 (at 20% of the amounts in Column 11* (10)	*% "Maximum" Additional Revenue/1 (at 30% of the amounts in Column 11* (11)	*Deficit % of the Total Revenues* (12)	*Differentiation % of Total Additional Revenue/1 (conservatively estimated) out of total Revenues* (13)	
									Minimum	*Maximum*
H.C. 32	1.19	27,000	-	19,958,000	22,753,000	1.4	2.0	-	1.4	2.0
H.C. 33	0.91	21,000	-	14,206,000	49,149,000	4.6	6.9	-	4.6	6.9
H.C. 34	0.92	33,000	-	20,496,000	31,517,000	1.6	2.5	-	1.6	2.5
H.C. 35	0.96	22,000	-	20,639,000	42,852,000	3.7	5.6	-	3.7	5.6
H.C. 36	1.22	52,000	- 77,700,000	54,120,000	29,313,000	1.1	1.6	14.3	15.4	15.9
H.C. 37	1.24	52,000	-	55,880,000	38,162,000	1.5	2.2	-	1.5	2.2
H.C. 38	1.16	26,000	0	25,960,000	67,761,000	4.9	7.4	-	4.9	7.4
H.C. 39	1.20	36,000	-	43,120,000	78,516,000	3.9	5.8	-	3.9	5.8
H.C. 40	1.16	47,000	-	42,000,000	16,150,000	0.8	1.3	-	0.8	1.3
H.C. 41	1.10	36,000	-	18,000,000	12,311,000	0.8	1.3	-	0.8	1.3
H.C. 42	1.11	35,000	0	31,000,000	13,960,000	1.1	1.6	-	1.1	1.6
H.C. 43	1.21	68,000	-	63,000,000	28,752,000	1.0	1.5	-	1.0	1.5
H.C. 44	1.14	32,000	-	32,146,000	53,074,000	3.3	5.0	-	3.3	5.0
North Italy Total	***1.08***	***1,441,000***	***-95,628,000***	***1,210,692,000***	***2,001,285,000***	***2.8***	***4.2***	***0.7***	***3.5***	***4.9***
H.C. 45	1.25	68,000	-	63,054,000	84,774,000	3.0	4.5	-	3.0	4.5
H.C. 46	1.28	36,000	-	31,866,000	56,173,000	3.5	5.2	-	3.5	5.2
H.C. 47	1.27	74,000	-	111,720,000	72,067,000	2.3	3.5	-	2.3	3.5
H.C. 48	1.04	14,000	-	11,074,000	20,856,000	3.6	5.4	-	3.6	5.4
H.C. 49	1.03	28,000	-	23,052,000	47,711,000	3.9	5.8	-	3.9	5.8
H.C. 50	1.30	*45,000*	-	46,782,000	33,537,000	1.7	2.5	-	1.7	2.5
H.C. 51	1.10	39,000	-	34,000,000	3,548,000	0.2	0.3	-	0.2	0.3
H.C. 52	1.07	27,000	-	21,000,000	24,251,000	2.6	3.9	-	2.6	3.9
H.C. 53	1.25	49,000	- 161,799,000	57,122,000	-3,518,000	1.1	1.1	52.7	53.8	53.8
H.C. 54	1.05	25,000	- 82,941,000	31,096,000	- 667,000	0.4	0.4	49.1	49.5	49.5
H.C. 55	1.14	53,000	- 92,545,000	57,798,000	31,098,000	1.4	2.1	21.0	22.4	23.1
H.C. 56	1.23	22,000	- 54,100,000	26,026,000	-2,763,000	1.4	1.4	27.7	29.1	29.1
H.C. 57	1.51	29,000	- 68,133,000	34,476,000	2,962,000	0.3	0.4	30.6	30.9	31.0
Central Italy Total	***1.21***	***509,000***	***- 459,518,000***	***549,066,000***	***383,925,000***	***1.9***	***2.8***	***11.1***	***13.0***	***13.9***
H.C. 58	0.96	63,000	-	62,650,000	48,018,000	2.3	3.4	-	2.3	3.4
H.C. 59	0.92	46,000	-	28,702,000	44,778,000	3.5	5.3	-	3.5	5.3
H.C. 60	1.06	57,000	-	66,900,000	41,994,000	2.3	3.5	-	2.3	3.5

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(continued) *Table App. 1 – Revenue from Hospital Centers as per the 2015 Income Statement and estimated Additional Revenue/1 arising as a result of excessive recognition of "by function" activities (Revenue Values expressed in euros)*

1	2	3	9	10	11	12	13	14	15	
Hospital Centers (1)	Average case mix (2)	*Total admissions* (3)	*Deficit as per the IS (Code ZZ9999)*	*"By function" activities recognized by Regional Administration resolutions* (8)	*Estimate of Additional Revenue/1 resulting from excessive funding of "by function" activities compared to allocation by Resolution or from major Losses resulting in less funding for said activities* (9)	*% "Minimum" Additional Revenue/1 (at 20% of the amounts in Column 11* (10)	*% "Maximum" Additional Revenue/1 (at 30% of the amounts in Column 11* (11)	*Deficit % of the Total Revenues* (12)	*Differentiation % of Total Additional Revenue/1 (conservatively estimated) out of total Revenues* (13)	
									Minimum	*Maximum*
H.C. 61	0.81	23,000	-	21,600,000	17,610,000	2.4	3.5	-	2.4	3.5
H.C. 62	1.39	50,000	-	59,200,000	35,800,000	2.3	3.5	-	2.3	3.5
H.C. 63	1.04	50,000	-	61,600,000	16,335,000	1.0	1.6	-	1.0	1.6
H.C. 64	1.03	30,000	- 4,000,000	32,300,000	11,507,000	1.2	1.9	2.1	3.3	4.0
H.C. 65	1.05	21,000	-	28,400,000	5,368,000	0.8	1.2	-	0.8	1.2
H.C. 66	1.12	28,000	- 7,426,000	29,900,000	16,185,000	1.8	2.7	4.2	6.0	6.9
H.C. 67	0.94	24,000	-	24,432,000	12,792,000	1.7	2.6	-	1.7	2.6
H.C. 68	0.96	51,000	-	45,900,000	16,530,000	1.2	1.7	-	1.2	1.7
H.C. 69	1.09	33,000	-	25,764,000	37,537,000	3.3	4.9	-	3.3	4.9
H.C. 70	1.08	*27,000*	- 1,800,000	15,576,000	73,022,000	7.6	11.5	0.9	8.5	12.4
H.C. 71	1.06	26,000	- 3,000,000	15,021,000	50,343,000	5.9	8.9	1.8	7.7	10.7
H.C. 72	1.20	8,000	- 29,858,000	5,276,000	3,950,000	1.4	2.0	51.5	52.9	53.5
H.C. 73	1.01	25,000	0	14,795,000	49,157,000	5.8	8.8	-	5.8	8.8
H.C. 74	1.08	32,000	-	22,500,000	46,119,000	4.7	7.1	-	4.7	7.1
H.C. 75	1.13	26,000	-	28,500,000	43,425,000	3.5	5.3	-	3.5	5.3
H.C. 76	1.11	43,000	-	41,250,000	97,754,000	5.0	7.4	-	5.0	7.4
H.C. 77	1.13	18,000	- 2,000,000	19,000,000	68,000,000	6.9	10.3	1.0	7.9	11.3
H.C. 78	1.05	23,000	-	21,750,000	32,319,000	3.3	4.9	-	3.3	4.9
H.C. 79	1.14	28,000	-	30,250,000	87,914,000	5.7	8.6	-	5.7	8.6
H.C. 80	1.01	31,000	-	30,750,000	130,396,000	7.5	11.2	-	7.5	11.2
H.C. 81	1.09	23,000	-	21,500,000	73,000,000	6.6	9.8	-	6.6	9.8
H.C. 82	1.15	24,000	- 28,000,000	19,436,000	15,564,000	1.9	2.9	17.2	19.1	20.1
H.C. 83	0.88	17,000	- 18,000,000	16,046,000	21,283,000	3.0	4.5	12.8	15.8	17.3
H.C. 84	0.85	26,000	- 14,000,000	15,000,000	13,000,000	1.8	2.7	9.7	11.5	12.4
South Italy Total	***1.04***	***853,000***	***- 108,084,000***	***803,998,000***	***1,109,700,000***	***3.6***	***5.4***	***1.8***	***5.4***	***7.2***
H.C. Total	***1.09***	***2,803,000***	***- 663,230,000***	***2,563,756,000***	***3,494,910,000***	***2.8***	***4.2***	***2.7***	***5.5***	***6.9***

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(1) Includes Hospital Centers integrated with Universities (AOU).
(2) Updated to 2014.
(3) Updated to 2015 (rounded values).
(4) Includes: revenues for hospitalization, specialized internal services and each healthcare and social healthcare activity.
(5) Revenues transferred from the Regional Health Fund under the item "non-fee and by function activities".
(6) % Calculated as the ratio between Column 6 values and the values of Columns 4 + 5.
(7) Calculated as the difference between total Revenues reported on the Income Statement and the sum of the values in columns 4 + 5 + 6 and may include items such as those mentioned by the Decree of the Ministry of Health implementing Art. 1, paragraph 526 of the 2016 Stability Law (operating grants from the fixed Regional Health Fund, additional fixed Fund contributions, fixed contributions from public health authorities, contributions from other public entities (additional Fund), operating grants for research, operating grants from private entities, use of funds from unused fixed contributions for prior fiscal years, revenues from healthcare and social health-related services provided to other public entities, revenues for health services from active mobility, revenues from healthcare services and social healthcare services provided to individuals, revenues from intramoenia healthcare services, collections and repayments, fiscal year contributions into the capital account, fixed asset increases for internal work, other revenues and income, interest income, other income, revaluations).
(8) As defined by the resolutions of the Regional Administrations of Lombardy, Emilia Romagna and Campania, respectively, which are home to 60% of all Italian Hospital Centers, whereas the average of "by function" activities for the remaining 40% was calculated on the basis of the resolutions of the 3 Regions mentioned.
(9) Difference between Columns 6 and 10.
(10) $$\% \text{ Minimum} = \frac{\text{Column 11} * 20\%}{\text{Column 8}} * 100$$
(This is based on a scenario of estimated improper Additional Revenue/1 equal to 20% of what is currently recognized for "by function" activities, except in the case of major Losses, which should be considered 100%).
(11) $$\% \text{ Maximum} = \frac{\text{Column 11} * 30\%}{\text{Column 8}} * 100$$
(This is based on a scenario of estimated improper Additional Revenue/1 equal to 30% of what is currently recognized for "by function" activities, except in the case of major Losses, which should be considered 100%).
(12) Ratio of the values in Column 9 and those in Column 8.
(13) The minimum value is the sum of the % present in Column 12 and those in Column 14; while the maximum value is represented by the sum of the % shown in Column 13 and those in Column 14.

Source: *Survey by Ermeneia – Studi & Strategie di Sistema*. 2016

reconstructed according to the provisions of the aforementioned Ministerial Decree. The amounts are reported in Column 11 of Table App. 2 and range from a minimum of 10.4% for Hospital Center in the North to a maximum of 48.4% (!) for a Hospital Center in the South (indicating that the Income Statement result can only get worse in this second case, as it must – according to the Ministerial Decree – report lower Revenues for the "by function" activities compared to those already indicated in the 2015 Income Statement);

3) then, the entirely theoretical increase (or decrease) of the actual percentage of "by function" activity was reported, and calculated as per the maximum 30% Scenario provided for by the Ministerial Decree (Column 12): it is obvious that this is purely an arithmetic exercise, as it will be the special Ministerial Commission to define the criteria for the application or non-application of increments to the percentage of "by function" activity; it being understood that we must verify that there is a real correspondence between recognition of a certain percentage and the presence of greater activities actually performed and above all that there are sufficient resources to be allocated for this purpose (all of which naturally falls under the responsibility of the relevant Regional Health System);
4) after this the theoretical value of "by function" activities was calculated for the maximum 30% Scenario (see Column 13) and this result was compared with what was already indicated in the Income Statement, to detect any positive or negative differences. In the first case, this would obviously result in additional theoretical Revenue (maybe even with a just-as-theoretical operational surplus), while in the second case, it would produce an additional operating deficit (see the positive and negative values with the "-" sign in Column 14).

   The calculation of the percentage of Additional Revenue/2 did not consider any positive values contained in Column 14, which would have ended up by generating operational Surpluses. Conversely, in the case that the value of the latter, calculated as per the cited Ministerial Decree and again for a maximum 30% Scenario, is lower than what already appears in the 2015 Income Statement, it would in fact generate a further deficit. This deficit, duly considered in relation to the 2015 Total Revenues (assumed to be the same as those of 2016 for the simulation), permits defining the percentage of the so-called Additional Revenue/2, which would be equal to:

   – 1.8% for Hospital Centers in North Italy;
   – 0.2% for Hospital Centers in Central Italy;

- 6.4% for Hospital Centers in South Italy;
- and 2.7% for all Italian Hospital Centers;

5) at this point, a similar procedure was undertaken with regard to the 25% intermediate Scenario and then, for the minimum 20% Scenario (see Table App. 2A and Table App. 2B, respectively);
6) when selecting the results achieved in terms of the percentage of minimum Additional Revenue/2 (for the 30% Scenario) and the maximum (for the 20% Scenario), the differentiation turns out to be the following:

Hospital centers by geographical area	*Scenario for the maximum of 30%*	*Scenario for the minimum of 20%*
– Hospital Centers in North Italy	1.8	5.0
– Hospital Centers in Central Italy	0.2	4.1
– Hospital Centers in South Italy	6.4	13.5
– Total Hospital Centers in Italy	2.7	7.0

In terms of economic value, the results for Additional Revenue/2 are the following, achieved by applying the above percentages to the total Revenues of the Italian Hospital Centers, indicated in Column 8:

Hospital centers by geographical area	*Scenario for the maximum of 30% (mil. of €)*	*Scenario for the minimum of 20% (mil. of €)*
– Hospital Centers in North Italy	260.0	721.8
– Hospital Centers in Central Italy	8.3	169.7
– Hospital Centers in South Italy	394.0	831.0
– Total Hospital Centers in Italy	662.3	1,722.5

Of course these figures are entirely theoretical, relating to the maximum and minimum scenarios for all Hospital Centers, while in reality adjustments will be made in each case, based on the criteria defined by the special Ministerial Commission and the decisions of the Regional Health Systems.

The simulation serves to give a general idea of the differentiation of Additional Revenue/2, to keep in mind as a possible additional source of implicit budget rescheduling which complements the Additional Revenue/1 previously considered.

The simulations shown so far only apply to Hospital Centers, but closely related to the latter are also the hospitals directly managed by local health authorities. Thus, the percentages of Total Additional Revenue calculated for the first, could also be applied to the latter in aggregate terms.

It should also be stated that, following this approach, it would take a relatively "generous" criterion as the directly-managed Hospitals probably have levels of inefficiency greater than the Hospital Centers, for a variety of reasons: size of the facilities, methods of preparing and managing budgets, type of accounting and auditing levels, etc.

And yet it is good for achieving an overall estimate that relates to the entire public hospital system, in terms of Total Additional Revenue, that – as already mentioned – ends up consisting of forms of implicit budget rescheduling.

The line of reasoning adopted for determining the spending related only to public hospitals under direct management was as follows[2]:

	Mil. of euro
Total Public Expenditure for the whole of Italian Hospital Centers and directly-managed public Hospitals (latest data available for 2014), for which:	52,744
– Total Revenues for the whole of Italian Hospital Centers, according to data from the 2015 Income Statements	*24,732*
– Estimate of the Spending on other public institutions (non-hospital center university polyclinics + public IRCCS and public foundations + USL facilities + Research Institutes)	*6,255*[3]
– Estimate (difference) of expenditure relating to directly-managed public hospitals	*21,757*

Thus, by applying the same percentage levels of Additional Revenue/1 and potential Additional Revenue/2 used for the Hospital Centers to the expenditure for the above directly-managed Hospitals (Eur 21.7 billion), the national differentiation would be as follows:

- for Additional Revenue/1 between 5.5% and 6.9% (equal to Eur 1,197 and 1,501 mil.);
- and for Additional Revenue/2 between 2.7% and 7.0% (equal to Eur 587 and 1,523 mil.).

[2] The same estimation method was used for the 2014 "Health & Hospitals" Report (see Section 1 of the Appendices, p. 266), later repeated by the 2015 "Health & Hospitals" Report.

[3] With regard to the incidence of spending on such public institutes calculated in the 2014 "Health & Hospitals" Report, as mentioned in the preceding note.

Table App. 2 – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum 30% Scenario (Revenue Values in millions of euro)

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 1	1.23	14,000	111,525,000	2,627,000	31,735,000	27.8	8,384,000	154,271,000	- 2,552,000	- 1.7
H.C. 2	1.23	26,000	195,928,000	7,155,000	68,212,000	33.6	11,563,000	282,858,000	- 1,203,000	- 0.4
H.C. 3	1.18	31,000	182,182,000	5,921,000	45,863,000	24.4	5,967,000	239,933,000	- 5,500,000	- 2.3
H.C. 4	1.19	23,000	173,184,000	3,611,000	61,100,000	34.6	8,331,000	246,226,000	- 4,485,000	- 1.8
H.C. 5	1.26	17,000	139,180,000	4,244,000	41,894,000	29.2	1,976,000	187,294,000	-	-
H.C. 6	1.22	102,000	595,920,000	16,314,000	396,728,000	64.8	62,143,000	1,071,105,000	- 4,188,000	- 0.4
H.C. 7	1.03	39,000	284,698,000	10,024,000	63,867,000	21.7	27,362,000	385,951,000	-	-
H.C. 8	0.94	21,000	117,878,000	5,052,000	36,399,000	29.6	4,238,000	163,567,000	-	-
H.C. 9	0.92	36,000	225,197,000	8,200,000	55,525,000	23.8	9,734,000	298,656,000	-	-
H.C. 10	1.05	67,000	494,915,000	12,810,000	128,197,000	25.2	45,875,000	681,797,000	-	-
H.C. 11	0.91	15,000	93,629,000	4,995,000	31,702,000	32.1	4,341,000	134,667,000	-	-
H.C. 12	0.93	31,000	184,811,000	9,714,000	42,490,000	21.8	10,320,000	247,335,000	-	-
H.C. 13	1.01	26,000	187,490,000	5,676,000	48,399,000	25.1	18,661,000	260,226,000	-	-
H.C. 14	0.94	16,000	96,254,000	4,917,000	23,828,000	23.6	5,455,000	130,454,000	-	-
H.C. 15	0.98	28,000	203,242,000	8,591,000	88,900,000	42.0	39,863,000	340,596,000	-	-
H.C. 16	1.02	31,000	184,000,000	4,412,000	26,049,000	13.8	49,847,000	264,308,000	-	-
H.C. 17	1.22	34,000	325,387,000	9,324,000	106,078,000	31.7	45,145,000	485,934,000	-	-
H.C. 18	0.92	27,000	124,968,000	8,900,000	40,572,000	30.3	6,274,000	180,714,000	-	-
H.C. 19	0.94	26,000	140,780,000	7,150,000	17,241,000	11.7	15,878,000	181,049,000	-	-
H.C. 20	1.02	31,000	257,811,000	9,927,000	111,254,000	41.6	44,044,000	423,036,000	-	-
H.C. 21	1.11	20,000	220,381,000	4,066,000	36,557,000	16.3	12,547,000	273,551,000	-	-
H.C. 22	1.29	38,000	317,714,000	5,916,000	143,169,000	44.2	78,899,000	545,698,000	-	-
H.C. 23	0.85	29,000	145,000,000	2,940,000	34,897,000	23.6	60,050,000	242,887,000	-	-
H.C. 24	0.92	29,000	114,741,000	5,508,000	60,719,000	50.5	6,776,000	187,744,000	-	-
H.C. 25	0.93	19,000	150,900,000	3,655,000	45,931,000	29.7	37,130,000	237,616,000	-	-
H.C. 26	1.02	11,000	83,662,000	3,061,000	34,226,000	39.5	6,795,000	127,744,000	-	-
H.C. 27	0.98	34,000	273,960,000	5,380,000	100,365,000	35.9	15,081,000	394,786,000	-	-
H.C. 28	1.02	42,000	267,896,000	11,359,000	93,499,000	33.5	22,363,000	395,117,000	-	-
H.C. 29	0.92	24,000	160,858,000	6,533,000	107,748,000	64.4	11,917,000	287,056,000	-	-
H.C. 30	0.88	24,000	157,085,000	10,472,000	100,781,000	60.1	9,156,000	277,494,000	-	-
H.C. 31	0.90	43,000	260,280,000	12,600,000	63,257,000	23.2	20,626,000	356,763,000	-	-
H.C. 32	1.19	27,000	255,208,000	6,705,000	42,711,000	16.3	30,801,000	335,425,000	-	-
H.C. 33	0.91	21,000	129,689,000	6,789,000	63,355,000	46.4	13,220,000	213,053,000	-	-
H.C. 34	0.92	33,000	285,152,000	6,438,000	52,013,000	17.8	38,511,000	382,114,000	-	-

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(continued) *Table App. 2 – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum 30% Scenario (Revenue Values in millions of euro)*

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 35	0.96	22,000	136,574,000	6,014,000	63,491,000	44.5	24,953,000	231,032,000	-	-
H.C. 36	1.22	52,000	415,815,000	8,844,000	83,433,000	19.6	36,562,000	544,654,000	- 77,700,000	- 14.3
H.C. 37	1.24	52,000	403,621,000	6,594,000	94,042,000	22.9	14,360,000	518,617,000	-	-
H.C. 38	1.16	26,000	156,120,000	3,641,000	93,721,000	58.7	22,318,000	275,800,000	0	-
H.C. 39	1.20	36,000	250,431,000	7,079,000	121,636,000	47.2	26,652,000	405,798,000	-	-
H.C. 40	1.16	47,000	264,300,000	7,252,000	58,150,000	21.4	56,331,000	386,033,000	-	-
H.C. 41	1.10	36,000	237,683,000	9,051,000	30,311,000	12.3	14,295,000	291,340,000	-	-
H.C. 42	1.11	35,000	206,135,000	3,255,000	44,960,000	21.5	10,375,000	264,725,000	0	-
H.C. 43	1.21	68,000	434,604,000	6,805,000	91,752,000	20.8	48,285,000	581,446,000	-	-
H.C. 44	1.14	32,000	203,645,000	6,085,000	85,220,000	40.6	25,968,000	320,918,000	-	-
North Italy Total	***1.08***	***1,441,000***	***9,850,433,000***	***305,606,000***	***3,211,977,000***	***31.6***	***1,069,372,000***	***14,437,388,000***	***-95,628,000***	***- 0.7***
H.C. 45	1.25	68,000	378,064,000	11,725,000	147,828,000	37.9	30,055,000	567,672,000	-	-
H.C. 46	1.28	36,000	213,223,000	7,699,000	88,039,000	39.9	16,465,000	325,426,000	-	-
H.C. 47	1.27	74,000	395,180,000	12,259,000	183,787,000	45.1	27,079,000	618,305,000	-	-
H.C. 48	1.04	14,000	71,150,000	2,252,000	31,930,000	43.5	10,186,000	115,518,000	-	-
H.C. 49	1.03	28,000	164,035,000	4,171,000	70,763,000	42.1	7,242,000	246,211,000	-	-
H.C. 50	1.30	*45,000*	*297,989,000*	*4,870,000*	*80,319,000*	26.5	16,443,000	399,621,000	-	-
H.C. 51	1.10	39,000	281,734,000	7,149,000	37,548,000	13.0	19,070,000	345,501,000	-	-
H.C. 52	1.07	27,000	136,669,000	2,961,000	45,251,000	32.4	1,358,000	186,239,000	-	-
H.C. 53	1.25	49,000	232,965,000	5,336,000	53,604,000	22.5	15,059,000	306,964,000	- 161,799,000	- 52.7
H.C. 54	1.05	25,000	118,174,000	3,400,000	30,429,000	25.0	17,006,000	169,009,000	- 82,941,000	- 49.1
H.C. 55	1.14	53,000	315,050,000	10,188,000	88,896,000	27.3	26,804,000	440,938,000	- 92,545,000	- 21.0
H.C. 56	1.23	22,000	140,716,000	5,545,000	23,263,000	15.9	25,442,000	194,966,000	- 54,100,000	- 27.7
H.C. 57	1.51	29,000	173,951,000	5,580,000	37,438,000	20.9	5,443,000	222,412,000	- 68,133,000	- 30.6
Central Italy Total	***1.21***	***509,000***	***2,918,900,000***	***83,135,000***	***919,095,000***	***30.6***	***217,652,000***	***4,138,782,000***	***- 459,518,000***	***- 11.1***
H.C. 58	0.96	63,000	296,562,000	5,160,000	110,668,000	36.7	7,699,000	420,089,000	-	-
H.C. 59	0.92	46,000	188,997,000	3,738,000	89,544,000	46.5	3,880,000	286,159,000	-	-
H.C. 60	1.06	57,000	230,223,000	893,000	108,894,000	47.1	23,387,000	363,397,000	-	-
H.C. 61	0.81	23,000	92,897,000	1,126,000	39,210,000	41.7	16,045,000	149,278,000	-	-
H.C. 62	1.39	50,000	201,950,000	1,750,000	95,000,000	46.6	12,562,000	311,262,000		-
H.C. 63	1.04	50,000	201,950,000	2,795,000	77,935,000	38.1	31,720,000	314,400,000	-	-
H.C. 64	1.03	30,000	121,170,000	2,205,000	43,807,000	35.5	19,310,000	186,492,000	- 4,000,000	- 2.1
H.C. 65	1.05	21,000	84,819,000	2,066,000	33,768,000	38.9	13,095,000	133,748,000	-	-
H.C. 66	1.12	28,000	113,092,000	1,389,000	46,085,000	40.3	17,709,000	178,275,000	- 7,426,000	- 4.2

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(continued) *Table App. 2 – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum 30% Scenario (Revenue Values in millions of euro)*

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 67	0.94	24,000	96,936,000	2,141,000	37,224,000	37.6	13,241,000	149,542,000	-	-
H.C. 68	0.96	51,000	205,989,000	3,000,000	62,430,000	29.9	14,203,000	285,622,000	-	-
H.C. 69	1.09	33,000	150,629,000	3,565,000	63,301,000	41.1	11,159,000	228,654,000	-	-
H.C. 70	1.08	*27,000*	*96,653,000*	*1,848,000*	*88,598,000*	89.9	3,957,000	191,056,000	- 1,800,000	- 0.9
H.C. 71	1.06	26,000	95,305,000	2,466,000	65,364,000	66.9	6,910,000	170,045,000	- 3,000,000	- 1.8
H.C. 72	1.20	8,000	36,571,000	1,910,000	9,226,000	24.0	10,245,000	57,952,000	- 29,858,000	- 51.5
H.C. 73	1.01	25,000	92,720,000	1,533,000	63,952,000	67.9	10,014,000	168,219,000	0	-
H.C. 74	1.08	32,000	119,975,000	1,497,000	68,619,000	56.5	5,790,000	195,881,000	-	-
H.C. 75	1.13	26,000	160,930,000	2,534,000	71,925,000	44.0	10,226,000	245,615,000	-	-
H.C. 76	1.11	43,000	233,490,000	3,897,000	139,004,000	58.6	17,852,000	394,243,000	-	-
H.C. 77	1.13	18,000	103,900,000	1,232,000	87,000,000	82.8	5,568,000	197,700,000	- 2,000,000	- 1.0
H.C. 78	1.05	23,000	122,022,000	2,479,000	54,069,000	43.4	20,275,000	198,845,000	-	-
H.C. 79	1.14	28,000	174,486,000	2,375,000	118,164,000	66.8	12,749,000	307,774,000	-	-
H.C. 80	1.01	31,000	169,513,000	2,176,000	161,146,000	93.9	17,088,000	349,923,000	-	-
H.C. 81	1.09	23,000	116,299,000	1,373,000	94,500,000	80.3	10,286,000	222,458,000	-	-
H.C. 82	1.15	24,000	120,000,000	1,450,000	35,000,000	28.8	6,550,000	163,000,000	- 28,000,000	- 17.2
H.C. 83	0.88	17,000	82,000,000	1,635,000	37,329,000	44.6	20,036,000	141,000,000	- 18,000,000	- 12.8
H.C. 84	0.85	26,000	90,000,000	2,990,000	28,000,000	30.1	24,010,000	145,000,000	- 14,000,000	- 9.7
South Italy Total	***1.04***	***853,000***	***3,799,078,000***	***61,223,000***	***1,929,762,000***	***50.0***	***365,566,000***	***6,155,629,000***	***- 108,084,000***	***- 1.8***
H.C. Total	***1.09***	***2,803,000***	***16,568,411,000***	***449,964,000***	***6,060,834,000***	***35.6***	***1,652,590,000***	***24,731,799,000***	***- 663,230,000***	***- 2.7***

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(continued) *Table App. 2 – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum 30% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			30% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 1	1.23	14,000	21.8	8.2	48,922,286	17,187,286	11.1		0.0
H.C. 2	1.23	26,000	25.1	4.9	87,035,571	18,823,571	6.7		0.0
H.C. 3	1.18	31,000	19.6	10.4	80,615,571	34,752,571	14.5		0.0
H.C. 4	1.19	23,000	25.7	4.3	75,769,286	14,669,286	6.0		0.0
H.C. 5	1.26	17,000	22.6	7.4	61,467,429	19,573,429	10.5		0.0
H.C. 6	1.22	102,000	39.3	- 9.3	262,386,000	- 134,342,000	12.5	- 134,342,000	12.5
H.C. 7	1.03	39,000	17.8	12.2	126,309,429	62,442,429	16.2		0.0
H.C. 8	0.94	21,000	22.8	7.2	52,684,286	16,285,286	10.0		0.0
H.C. 9	0.92	36,000	19.2	10.8	100,027,286	44,502,286	14.9		0.0
H.C. 10	1.05	67,000	20.2	9.8	217,596,429	89,399,429	13.1		0.0
H.C. 11	0.91	15,000	24.3	5.7	42,267,429	10,565,429	7.8		0.0
H.C. 12	0.93	31,000	17.9	12.1	83,367,857	40,877,857	16.5		0.0
H.C. 13	1.01	26,000	20.0	10.0	82,785,429	34,386,429	13.2		0.0
H.C. 14	0.94	16,000	19.1	10.9	43,359,000	19,531,000	15.0		0.0
H.C. 15	0.98	28,000	29.6	0.4	90,785,571	1,885,571	0.6		0.0
H.C. 16	1.02	31,000	12.1	17.9	80,748,000	54,699,000	20.7		0.0
H.C. 17	1.22	34,000	24.1	5.9	143,447,571	37,369,571	7.7		0.0
H.C. 18	0.92	27,000	23.3	6.7	57,372,000	16,800,000	9.3		0.0
H.C. 19	0.94	26,000	10.4	19.6	63,398,571	46,157,571	25.5		0.0
H.C. 20	1.02	31,000	29.4	0.6	114,744,857	3,490,857	0.8		0.0
H.C. 21	1.11	20,000	14.0	16.0	96,191,571	59,634,571	21.8		0.0
H.C. 22	1.29	38,000	30.7	- 0.7	138,698,571	- 4,470,429	0.8	- 4,470,429	0.8
H.C. 23	0.85	29,000	19.1	10.9	63,402,857	28,505,857	11.7		0.0
H.C. 24	0.92	29,000	33.6	- 3.6	51,535,286	- 9,183,714	4.9	- 9,183,714	4.9
H.C. 25	0.93	19,000	22.9	7.1	66,237,857	20,306,857	8.5		0.0
H.C. 26	1.02	11,000	28.3	1.7	37,167,000	2,941,000	2.3		0.0
H.C. 27	0.98	34,000	26.4	3.6	119,717,143	19,352,143	4.9		0.0
H.C. 28	1.02	42,000	25.1	4.9	119,680,714	26,181,714	6.6		0.0
H.C. 29	0.92	24,000	39.2	- 9.2	71,739,000	- 36,009,000	12.5	- 36,009,000	12.5
H.C. 30	0.88	24,000	37.6	- 7.6	71,810,143	- 28,970,857	10.4	- 28,970,857	10.4
H.C. 31	0.90	43,000	18.8	11.2	116,948,571	53,691,571	15.0		0.0
H.C. 32	1.19	27,000	14.0	16.0	112,248,429	69,537,429	20.7		0.0

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(continued) *Table App. 2 – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum 30% Scenario and the minimum 20% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			30% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 33	0.91	21,000	31.7	- 1.7	58,490,571	- 4,864,429	2.3	- 4,864,429	2.3
H.C. 34	0.92	33,000	15.1	14.9	124,967,143	72,954,143	19.1		0.0
H.C. 35	0.96	22,000	30.8	- 0.8	61,109,143	- 2,381,857	1.0	- 2,381,857	1.0
H.C. 36	1.22	52,000	16.4	13.6	181,996,714	98,563,714	18.1		0.0
H.C. 37	1.24	52,000	18.6	11.4	175,806,429	81,764,429	15.8		0.0
H.C. 38	1.16	26,000	37.0	- 7.0	68,469,000	- 25,252,000	9.2	- 25,252,000	9.2
H.C. 39	1.20	36,000	32.1	- 2.1	110,361,429	- 11,274,571	2.8	- 11,274,571	2.8
H.C. 40	1.16	47,000	17.6	12.4	116,379,429	58,229,429	15.1		0.0
H.C. 41	1.10	36,000	10.9	19.1	105,743,143	75,432,143	25.9		0.0
H.C. 42	1.11	35,000	17.7	12.3	89,738,571	44,778,571	16.9		0.0
H.C. 43	1.21	68,000	17.2	12.8	189,175,286	97,423,286	16.8		0.0
H.C. 44	1.14	32,000	28.9	1.1	89,884,286	4,664,286	1.5		0.0
North Italy Total	***1.08***	***1,441,000***	***24.0***	***6.0***	***4,352,588,143***	***1,654,108,857***	***11.5***	***- 256,748,857***	***1.8***
H.C. 45	1.25	68,000	27.5	2.5	167,052,429	19,224,429	3.4		0.0
H.C. 46	1.28	36,000	28.5	1.5	94,680,857	6,641,857	2.0		0.0
H.C. 47	1.27	74,000	31.1	- 1.1	174,616,714	- 9,170,286	1.5	- 9,170,286	1.5
H.C. 48	1.04	14,000	30.3	- 0.3	31,458,000	- 472,000	0.4	- 472,000	0.4
H.C. 49	1.03	28,000	29.6	0.4	72,088,286	1,325,286	0.5		0.0
H.C. 50	1.30	*45,000*	21.0	9.0	129,796,714	49,477,714	12.4		0.0
H.C. 51	1.10	39,000	11.5	18.5	123,807,000	86,259,000	25.0		0.0
H.C. 52	1.07	27,000	24.5	5.5	59,841,429	14,590,429	7.8		0.0
H.C. 53	1.25	49,000	18.4	11.6	102,129,000	48,525,000	15.8		0.0
H.C. 54	1.05	25,000	20.0	10.0	52,103,143	21,674,143	12.8		0.0
H.C. 55	1.14	53,000	21.5	8.5	139,387,714	50,491,714	11.5		0.0
H.C. 56	1.23	22,000	13.7	16.3	62,683,286	39,420,286	20.2		0.0
H.C. 57	1.51	29,000	17.3	12.7	76,941,857	39,503,857	17.8		0.0
Central Italy Total	***1.21***	***509,000***	***23.4***	***6.6***	***1,286,586,429***	***386,776,000***	***9.3***	***- 9,642,286***	***0.2***
H.C. 58	0.96	63,000	26.8	3.2	129,309,429	18,641,429	4.4		0.0
H.C. 59	0.92	46,000	31.7	- 1.7	82,600,714	- 6,943,286	2.4	- 6,943,286	2.4
H.C. 60	1.06	57,000	32.0	- 2.0	99,049,714	- 9,844,286	2.7	- 9,844,286	2.7
H.C. 61	0.81	23,000	29.4	0.6	40,295,571	1,085,571	0.7		0.0
H.C. 62	1.39	50,000	31.8	- 1.8	87,300,000	- 7,700,000	2.5	- 7,700,000	2.5

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(continued) *Table App. 2 – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the maximum 30% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			30% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 63	1.04	50,000	27.6	2.4	87,747,857	9,812,857	3.1		0.0
H.C. 64	1.03	30,000	26.2	3.8	52,875,000	9,068,000	4.9		0.0
H.C. 65	1.05	21,000	28.0	2.0	37,236,429	3,468,429	2.6		0.0
H.C. 66	1.12	28,000	28.7	1.3	49,063,286	2,978,286	1.7		0.0
H.C. 67	0.94	24,000	27.3	2.7	42,461,571	5,237,571	3.5		0.0
H.C. 68	0.96	51,000	23.0	7.0	89,566,714	27,136,714	9.5		0.0
H.C. 69	1.09	33,000	29.1	0.9	66,083,143	2,782,143	1.2		0.0
H.C. 70	1.08	*27,000*	47.4	- 17.4	42,214,714	- 46,383,286	24.3	- 46,383,286	24.3
H.C. 71	1.06	26,000	40.1	- 10.1	41,901,857	- 23,462,143	13.8	- 23,462,143	13.8
H.C. 72	1.20	8,000	19.3	10.7	16,491,857	7,265,857	12.5		0.0
H.C. 73	1.01	25,000	40.4	- 10.4	40,394,143	- 23,557,857	14.0	- 23,557,857	14.0
H.C. 74	1.08	32,000	36.1	- 6.1	52,059,429	- 16,559,571	8.5	- 16,559,571	8.5
H.C. 75	1.13	26,000	30.6	- 0.6	70,056,000	- 1,869,000	0.8	- 1,869,000	0.8
H.C. 76	1.11	43,000	36.9	- 6.9	101,737,286	- 37,266,714	9.5	- 37,266,714	9.5
H.C. 77	1.13	18,000	45.3	- 15.3	45,056,571	- 41,943,429	21.2	- 41,943,429	21.2
H.C. 78	1.05	23,000	30.3	- 0.3	53,357,571	- 711,429	0.4	- 711,429	0.4
H.C. 79	1.14	28,000	40.1	- 10.1	75,797,571	- 42,366,429	13.8	- 42,366,429	13.8
H.C. 80	1.01	31,000	48.4	- 18.4	73,581,000	- 87,565,000	25.0	- 87,565,000	25.0
H.C. 81	1.09	23,000	44.5	- 14.5	50,430,857	- 44,069,143	19.8	- 44,069,143	19.8
H.C. 82	1.15	24,000	22.4	7.6	52,050,000	17,050,000	10.5		0.0
H.C. 83	0.88	17,000	30.9	- 0.9	35,843,571	- 1,485,429	1.1	- 1,485,429	1.1
H.C. 84	0.85	26,000	23.1	6.9	39,852,857	11,852,857	8.2		0.0
South Italy Total	***1.04***	***853,000***	***33.3***	***- 3.3***	***1,654,414,714***	***508,106,714***	***8.3***	***- 391,727,000***	***6.4***
H.C. Total	***1.09***	***2,803,000***	***26.3***	***3.7***	***7,293,589,286***	***2,548,991,571***	***10.3***	***- 658,118,143***	***2.7***

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(1) Includes Hospital Centers integrated with Universities (AOU).
(2) Updated to 2014.
(3) Updated to 2015 (rounded values).
(4) Includes: revenues for hospitalization, specialized internal services and each healthcare and social healthcare activity.
(5) Revenues transferred from the Regional Health Fund under the item "non-fee and by function activities".
(6) % Calculated as the ratio between Column 6 values and the values of Columns 4 + 5.
(7) Calculated as the difference between total Revenues reported on the Income Statement and the sum of the values in columns 4 + 5 + 6 and may include items such as those mentioned by the Decree of the Ministry of Health implementing Art. 1, paragraph 526 of the 2016 Stability Law (operating grants from the fixed Regional Health Fund, additional fixed Fund contributions, fixed contributions from public health authorities, contributions from other public entities (additional Fund), operating grants for research, operating grants from private entities, use of funds from unused fixed contributions for prior fiscal years, revenues from healthcare and social health-related services provided to other public entities, revenues for health services from active mobility, revenues from healthcare services and social healthcare services provided to individuals, revenues from intramoenia healthcare services, collections and repayments, fiscal year contributions into the capital account, fixed asset increases for internal work, other revenues and income, interest income, other income, revaluations).
(8) The percentages have been calculated as the ratio between the values contained in Column 9 and the values contained in Column 8 (the formula is: Column 9: Column 8 x 100).
(9) The percentage is calculated according to the mechanism provided by the Ministerial Decree, but applied to the values in Column 6, in order to verify the existing coverage percentages taking into account the values of the 2015 IS. The formula is as follows:

$$\frac{\text{Column 6 Values}}{\text{Values of Columns 4 + 5 + 6}} * 100$$

(10) The indicated percentage values were obtained by subtracting the values of Column 11 from the 30% (maximum Scenario).
(11) Application was made of the maximum recognizable value, equal to 30% of the values contained in Columns 4 + 5 (with a calculation below 100), as per the Ministerial Decree of the Ministry of Health implementation Art. 1, paragraph 526, of the 2016 Stability Law. The formula is as follows:

$$\frac{\text{Values of Columns 4 + 5}}{70} * 30$$

(12) The values shown were obtained as the difference between those contained in Column 13 and those contained in Column 6 (the sums of the values contained in column 14 are independent of the "-" signs because the latter are to be understood as potential increase in losses and therefore in calculating they must be added to the values with a positive sign).
(13) In the case of positive values in Column 14 the corresponding percentage value present in Column 15 is equal to 0 (as it is not deemed reasonable to hypothesize an operational surplus due to the 30% Scenario calculation). In the case that there is a negative value in Column 14 the corresponding percentage of Column 15 will be calculated as the ratio between the values of Column 14 with the values of Column 8.
(14) These consider only the additional Losses due to the fact that the amount of "by function" activities, although calculated according to the maximum scenario of 30% as per the Ministerial Decree, ends up being less than the value of the "by function" activities already reported on the Income Statement and reported in Column 6. While they do not take into account the values that exceed the current value of "by function" activities reported on the 2015 Income Statement (again in Column 6).
(15) The percentages shown are calculated as the ratio of the values in Column 16 and the values of Column 8.

Source: *Survey by Ermeneia – Studi & Strategie di Sistema. 2016*

Table App. 2A – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the intermediate 25% Scenario (Revenue Values in millions of euro)

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 1	1.23	14,000	111,525,000	2,627,000	31,735,000	27.8	8,384,000	154,271,000	- 2,552,000	- 1.7
H.C. 2	1.23	26,000	195,928,000	7,155,000	68,212,000	33.6	11,563,000	282,858,000	- 1,203,000	- 0.4
H.C. 3	1.18	31,000	182,182,000	5,921,000	45,863,000	24.4	5,967,000	239,933,000	- 5,500,000	- 2.3
H.C. 4	1.19	23,000	173,184,000	3,611,000	61,100,000	34.6	8,331,000	246,226,000	- 4,485,000	- 1.8
H.C. 5	1.26	17,000	139,180,000	4,244,000	41,894,000	29.2	1,976,000	187,294,000	-	-
H.C. 6	1.22	102,000	595,920,000	16,314,000	396,728,000	64.8	62,143,000	1,071,105,000	- 4,188,000	- 0.4
H.C. 7	1.03	39,000	284,698,000	10,024,000	63,867,000	21.7	27,362,000	385,951,000	-	-
H.C. 8	0.94	21,000	117,878,000	5,052,000	36,399,000	29.6	4,238,000	163,567,000	-	-
H.C. 9	0.92	36,000	225,197,000	8,200,000	55,525,000	23.8	9,734,000	298,656,000	-	-
H.C. 10	1.05	67,000	494,915,000	12,810,000	128,197,000	25.2	45,875,000	681,797,000	-	-
H.C. 11	0.91	15,000	93,629,000	4,995,000	31,702,000	32.1	4,341,000	134,667,000	-	-
H.C. 12	0.93	31,000	184,811,000	9,714,000	42,490,000	21.8	10,320,000	247,335,000	-	-
H.C. 13	1.01	26,000	187,490,000	5,676,000	48,399,000	25.1	18,661,000	260,226,000	-	-
H.C. 14	0.94	16,000	96,254,000	4,917,000	23,828,000	23.6	5,455,000	130,454,000	-	-
H.C. 15	0.98	28,000	203,242,000	8,591,000	88,900,000	42.0	39,863,000	340,596,000	-	-
H.C. 16	1.02	31,000	184,000,000	4,412,000	26,049,000	13.8	49,847,000	264,308,000	-	-
H.C. 17	1.22	34,000	325,387,000	9,324,000	106,078,000	31.7	45,145,000	485,934,000	-	-
H.C. 18	0.92	27,000	124,968,000	8,900,000	40,572,000	30.3	6,274,000	180,714,000	-	-
H.C. 19	0.94	26,000	140,780,000	7,150,000	17,241,000	11.7	15,878,000	181,049,000	-	-
H.C. 20	1.02	31,000	257,811,000	9,927,000	111,254,000	41.6	44,044,000	423,036,000	-	-
H.C. 21	1.11	20,000	220,381,000	4,066,000	36,557,000	16.3	12,547,000	273,551,000	-	-
H.C. 22	1.29	38,000	317,714,000	5,916,000	143,169,000	44.2	78,899,000	545,698,000	-	-
H.C. 23	0.85	29,000	145,000,000	2,940,000	34,897,000	23.6	60,050,000	242,887,000	-	-
H.C. 24	0.92	29,000	114,741,000	5,508,000	60,719,000	50.5	6,776,000	187,744,000	-	-
H.C. 25	0.93	19,000	150,900,000	3,655,000	45,931,000	29.7	37,130,000	237,616,000	-	-
H.C. 26	1.02	11,000	83,662,000	3,061,000	34,226,000	39.5	6,795,000	127,744,000	-	-
H.C. 27	0.98	34,000	273,960,000	5,380,000	100,365,000	35.9	15,081,000	394,786,000	-	-
H.C. 28	1.02	42,000	267,896,000	11,359,000	93,499,000	33.5	22,363,000	395,117,000	-	-
H.C. 29	0.92	24,000	160,858,000	6,533,000	107,748,000	64.4	11,917,000	287,056,000	-	-
H.C. 30	0.88	24,000	157,085,000	10,472,000	100,781,000	60.1	9,156,000	277,494,000	-	-
H.C. 31	0.90	43,000	260,280,000	12,600,000	63,257,000	23.2	20,626,000	356,763,000	-	-
H.C. 32	1.19	27,000	255,208,000	6,705,000	42,711,000	16.3	30,801,000	335,425,000	-	-
H.C. 33	0.91	21,000	129,689,000	6,789,000	63,355,000	46.4	13,220,000	213,053,000	-	-
H.C. 34	0.92	33,000	285,152,000	6,438,000	52,013,000	17.8	38,511,000	382,114,000	-	-

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(continued) *Table App. 2A – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the intermediate 25% Scenario (Revenue Values in millions of euro)*

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 35	0.96	22,000	136,574,000	6,014,000	63,491,000	44.5	24,953,000	231,032,000	-	-
H.C. 36	1.22	52,000	415,815,000	8,844,000	83,433,000	19.6	36,562,000	544,654,000	- 77,700,000	- 14.3
H.C. 37	1.24	52,000	403,621,000	6,594,000	94,042,000	22.9	14,360,000	518,617,000	-	-
H.C. 38	1.16	26,000	156,120,000	3,641,000	93,721,000	58.7	22,318,000	275,800,000	0	-
H.C. 39	1.20	36,000	250,431,000	7,079,000	121,636,000	47.2	26,652,000	405,798,000	-	-
H.C. 40	1.16	47,000	264,300,000	7,252,000	58,150,000	21.4	56,331,000	386,033,000	-	-
H.C. 41	1.10	36,000	237,683,000	9,051,000	30,311,000	12.3	14,295,000	291,340,000	-	-
H.C. 42	1.11	35,000	206,135,000	3,255,000	44,960,000	21.5	10,375,000	264,725,000	0	-
H.C. 43	1.21	68,000	434,604,000	6,805,000	91,752,000	20.8	48,285,000	581,446,000	-	-
H.C. 44	1.14	32,000	203,645,000	6,085,000	85,220,000	40.6	25,968,000	320,918,000	-	-
North Italy Total	***1.08***	***1,441,000***	***9,850,433,000***	***305,606,000***	***3,211,977,000***	***31.6***	***1,069,372,000***	***14,437,388,000***	***-95,628,000***	***- 0.7***
H.C. 45	1.25	68,000	378,064,000	11,725,000	147,828,000	37.9	30,055,000	567,672,000	-	-
H.C. 46	1.28	36,000	213,223,000	7,699,000	88,039,000	39.9	16,465,000	325,426,000	-	-
H.C. 47	1.27	74,000	395,180,000	12,259,000	183,787,000	45.1	27,079,000	618,305,000	-	-
H.C. 48	1.04	14,000	71,150,000	2,252,000	31,930,000	43.5	10,186,000	115,518,000	-	-
H.C. 49	1.03	28,000	164,035,000	4,171,000	70,763,000	42.1	7,242,000	246,211,000	-	-
H.C. 50	1.30	*45,000*	*297,989,000*	*4,870,000*	*80,319,000*	26.5	16,443,000	399,621,000	-	-
H.C. 51	1.10	39,000	281,734,000	7,149,000	37,548,000	13.0	19,070,000	345,501,000	-	-
H.C. 52	1.07	27,000	136,669,000	2,961,000	45,251,000	32.4	1,358,000	186,239,000	-	-
H.C. 53	1.25	49,000	232,965,000	5,336,000	53,604,000	22.5	15,059,000	306,964,000	- 161,799,000	- 52.7
H.C. 54	1.05	25,000	118,174,000	3,400,000	30,429,000	25.0	17,006,000	169,009,000	- 82,941,000	- 49.1
H.C. 55	1.14	53,000	315,050,000	10,188,000	88,896,000	27.3	26,804,000	440,938,000	- 92,545,000	- 21.0
H.C. 56	1.23	22,000	140,716,000	5,545,000	23,263,000	15.9	25,442,000	194,966,000	- 54,100,000	- 27.7
H.C. 57	1.51	29,000	173,951,000	5,580,000	37,438,000	20.9	5,443,000	222,412,000	- 68,133,000	- 30.6
Central Italy Total	***1.21***	***509,000***	***2,918,900,000***	***83,135,000***	***919,095,000***	***30.6***	***217,652,000***	***4,138,782,000***	***- 459,518,000***	***- 11.1***
H.C. 58	0.96	63,000	296,562,000	5,160,000	110,668,000	36.7	7,699,000	420,089,000	-	-
H.C. 59	0.92	46,000	188,997,000	3,738,000	89,544,000	46.5	3,880,000	286,159,000	-	-
H.C. 60	1.06	57,000	230,223,000	893,000	108,894,000	47.1	23,387,000	363,397,000	-	-
H.C. 61	0.81	23,000	92,897,000	1,126,000	39,210,000	41.7	16,045,000	149,278,000	-	-
H.C. 62	1.39	50,000	201,950,000	1,750,000	95,000,000	46.6	12,562,000	311,262,000		-
H.C. 63	1.04	50,000	201,950,000	2,795,000	77,935,000	38.1	31,720,000	314,400,000	-	-
H.C. 64	1.03	30,000	121,170,000	2,205,000	43,807,000	35.5	19,310,000	186,492,000	- 4,000,000	- 2.1
H.C. 65	1.05	21,000	84,819,000	2,066,000	33,768,000	38.9	13,095,000	133,748,000	-	-
H.C. 66	1.12	28,000	113,092,000	1,389,000	46,085,000	40.3	17,709,000	178,275,000	- 7,426,000	- 4.2

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(continued) *Table App. 2A – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the intermediate 25% Scenario (Revenue Values in millions of euro)*

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 67	0.94	24,000	96,936,000	2,141,000	37,224,000	37.6	13,241,000	149,542,000	-	-
H.C. 68	0.96	51,000	205,989,000	3,000,000	62,430,000	29.9	14,203,000	285,622,000	-	-
H.C. 69	1.09	33,000	150,629,000	3,565,000	63,301,000	41.1	11,159,000	228,654,000	-	-
H.C. 70	1.08	*27,000*	*96,653,000*	*1,848,000*	*88,598,000*	89.9	3,957,000	191,056,000	- 1,800,000	- 0.9
H.C. 71	1.06	26,000	95,305,000	2,466,000	65,364,000	66.9	6,910,000	170,045,000	- 3,000,000	- 1.8
H.C. 72	1.20	8,000	36,571,000	1,910,000	9,226,000	24.0	10,245,000	57,952,000	- 29,858,000	- 51.5
H.C. 73	1.01	25,000	92,720,000	1,533,000	63,952,000	67.9	10,014,000	168,219,000	0	-
H.C. 74	1.08	32,000	119,975,000	1,497,000	68,619,000	56.5	5,790,000	195,881,000	-	-
H.C. 75	1.13	26,000	160,930,000	2,534,000	71,925,000	44.0	10,226,000	245,615,000	-	-
H.C. 76	1.11	43,000	233,490,000	3,897,000	139,004,000	58.6	17,852,000	394,243,000	-	-
H.C. 77	1.13	18,000	103,900,000	1,232,000	87,000,000	82.8	5,568,000	197,700,000	- 2,000,000	- 1.0
H.C. 78	1.05	23,000	122,022,000	2,479,000	54,069,000	43.4	20,275,000	198,845,000	-	-
H.C. 79	1.14	28,000	174,486,000	2,375,000	118,164,000	66.8	12,749,000	307,774,000	-	-
H.C. 80	1.01	31,000	169,513,000	2,176,000	161,146,000	93.9	17,088,000	349,923,000	-	-
H.C. 81	1.09	23,000	116,299,000	1,373,000	94,500,000	80.3	10,286,000	222,458,000	-	-
H.C. 82	1.15	24,000	120,000,000	1,450,000	35,000,000	28.8	6,550,000	163,000,000	- 28,000,000	- 17.2
H.C. 83	0.88	17,000	82,000,000	1,635,000	37,329,000	44.6	20,036,000	141,000,000	- 18,000,000	- 12.8
H.C. 84	0.85	26,000	90,000,000	2,990,000	28,000,000	30.1	24,010,000	145,000,000	- 14,000,000	- 9.7
South Italy Total	***1.04***	***853,000***	***3,799,078,000***	***61,223,000***	***1,929,762,000***	***50.0***	***365,566,000***	***6,155,629,000***	***- 108,084,000***	***- 1.8***
H.C. Total	***1.09***	***2,803,000***	***16,568,411,000***	***449,964,000***	***6,060,834,000***	***35.6***	***1,652,590,000***	***24,731,799,000***	***- 663,230,000***	***- 2.7***

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(continued) *Table App. 2A – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the intermediate 25% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			25% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 1	1.23	14,000	21.8	3.2	40,768,571	9,033,571	5.9		0.0
H.C. 2	1.23	26,000	25.1	- 0.1	72,529,643	4,317,643	1.5		0.0
H.C. 3	1.18	31,000	19.6	5.4	67,179,643	21,316,643	8.9		0.0
H.C. 4	1.19	23,000	25.7	- 0.7	63,141,071	2,041,071	0.8		0.0
H.C. 5	1.26	17,000	22.6	2.4	51,222,857	9,328,857	5.0		0.0
H.C. 6	1.22	102,000	39.3	- 14.3	218,655,000	- 178,073,000	16.6	- 178,073,000	16.6
H.C. 7	1.03	39,000	17.8	7.2	105,257,857	41,390,857	10.7		0.0
H.C. 8	0.94	21,000	22.8	2.2	43,903,571	7,504,571	4.6		0.0
H.C. 9	0.92	36,000	19.2	5.8	83,356,071	27,831,071	9.3		0.0
H.C. 10	1.05	67,000	20.2	4.8	181,330,357	53,133,357	7.8		0.0
H.C. 11	0.91	15,000	24.3	0.7	35,222,857	3,520,857	2.6		0.0
H.C. 12	0.93	31,000	17.9	7.1	69,473,214	26,983,214	10.9		0.0
H.C. 13	1.01	26,000	20.0	5.0	68,987,857	20,588,857	7.9		0.0
H.C. 14	0.94	16,000	19.1	5.9	36,132,500	12,304,500	9.4		0.0
H.C. 15	0.98	28,000	29.6	- 4.6	75,654,643	- 13,245,357	3.9	- 13,245,357	3.9
H.C. 16	1.02	31,000	12.1	12.9	67,290,000	41,241,000	15.6		0.0
H.C. 17	1.22	34,000	24.1	0.9	119,539,643	13,461,643	2.8		0.0
H.C. 18	0.92	27,000	23.3	1.7	47,810,000	7,238,000	4.0		0.0
H.C. 19	0.94	26,000	10.4	14.6	52,832,143	35,591,143	19.7		0.0
H.C. 20	1.02	31,000	29.4	- 4.4	95,620,714	- 15,633,286	3.7	- 15,633,286	3.7
H.C. 21	1.11	20,000	14.0	11.0	80,159,643	43,602,643	15.9		0.0
H.C. 22	1.29	38,000	30.7	- 5.7	115,582,143	- 27,586,857	5.1	- 27,586,857	5.1
H.C. 23	0.85	29,000	19.1	5.9	52,835,714	17,938,714	7.4		0.0
H.C. 24	0.92	29,000	33.6	- 8.6	42,946,071	- 17,772,929	9.5	- 17,772,929	9.5
H.C. 25	0.93	19,000	22.9	2.1	55,198,214	9,267,214	3.9		0.0
H.C. 26	1.02	11,000	28.3	- 3.3	30,972,500	- 3,253,500	2.5	- 3,253,500	2.5
H.C. 27	0.98	34,000	26.4	- 1.4	99,764,286	- 600,714	0.2	- 600,714	0.2
H.C. 28	1.02	42,000	25.1	- 0.1	99,733,929	6,234,929	1.6		0.0
H.C. 29	0.92	24,000	39.2	- 14.2	59,782,500	- 47,965,500	16.7	- 47,965,500	16.7
H.C. 30	0.88	24,000	37.6	- 12.6	59,841,786	- 40,939,214	14.8	- 40,939,214	14.8
H.C. 31	0.90	43,000	18.8	6.2	97,457,143	34,200,143	9.6		0.0
H.C. 32	1.19	27,000	14.0	11.0	93,540,357	50,829,357	15.2		0.0

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(continued) *Table App. 2A – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the intermediate 25% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			25% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 33	0.91	21,000	31.7	- 6.7	48,742,143	- 14,612,857	6.9	- 14,612,857	6.9
H.C. 34	0.92	33,000	15.1	9.9	104,139,286	52,126,286	13.6		0.0
H.C. 35	0.96	22,000	30.8	- 5.8	50,924,286	- 12,566,714	5.4	- 12,566,714	5.4
H.C. 36	1.22	52,000	16.4	8.6	151,663,929	68,230,929	12.5		0.0
H.C. 37	1.24	52,000	18.6	6.4	146,505,357	52,463,357	10.1		0.0
H.C. 38	1.16	26,000	37.0	- 12.0	57,057,500	- 36,663,500	13.3	- 36,663,500	13.3
H.C. 39	1.20	36,000	32.1	- 7.1	91,967,857	- 29,668,143	7.3	- 29,668,143	7.3
H.C. 40	1.16	47,000	17.6	7.4	96,982,857	38,832,857	10.1		0.0
H.C. 41	1.10	36,000	10.9	14.1	88,119,286	57,808,286	19.8		0.0
H.C. 42	1.11	35,000	17.7	7.3	74,782,143	29,822,143	11.3		0.0
H.C. 43	1.21	68,000	17.2	7.8	157,646,071	65,894,071	11.3		0.0
H.C. 44	1.14	32,000	28.9	- 3.9	74,903,571	- 10,316,429	3.2	- 10,316,429	3.2
North Italy Total	***1.08***	***1,441,000***	***24.0***	***1.0***	***3,627,156,786***	***1,312,975,786***	***9.1***	***- 448,898,000***	***3.1***
H.C. 45	1.25	68,000	27.5	- 2.5	139,210,357	- 8,617,643	1.5	- 8,617,643	1.5
H.C. 46	1.28	36,000	28.5	- 3.5	78,900,714	- 9,138,286	2.8	- 9,138,286	2.8
H.C. 47	1.27	74,000	31.1	- 6.1	145,513,929	- 38,273,071	6.2	- 38,273,071	6.2
H.C. 48	1.04	14,000	30.3	- 5.3	26,215,000	- 5,715,000	4.9	- 5,715,000	4.9
H.C. 49	1.03	28,000	29.6	- 4.6	60,073,571	- 10,689,429	4.3	- 10,689,429	4.3
H.C. 50	1.30	*45,000*	21.0	4.0	108,163,929	27,844,929	7.0		0.0
H.C. 51	1.10	39,000	11.5	13.5	103,172,500	65,624,500	19.0		0.0
H.C. 52	1.07	27,000	24.5	0.5	49,867,857	4,616,857	2.5		0.0
H.C. 53	1.25	49,000	18.4	6.6	85,107,500	31,503,500	10.3		0.0
H.C. 54	1.05	25,000	20.0	5.0	43,419,286	12,990,286	7.7		0.0
H.C. 55	1.14	53,000	21.5	3.5	116,156,429	27,260,429	6.2		0.0
H.C. 56	1.23	22,000	13.7	11.3	52,236,071	28,973,071	14.9		0.0
H.C. 57	1.51	29,000	17.3	7.7	64,118,214	26,680,214	12.0		0.0
Central Italy Total	***1.21***	***509,000***	***23.4***	***1.6***	***1,072,155,357***	***297,927,214***	***7.2***	***- 72,433,429***	***1.8***
H.C. 58	0.96	63,000	26.8	- 1.8	107,757,857	- 2,910,143	0.7	- 2,910,143	0.7
H.C. 59	0.92	46,000	31.7	- 6.7	68,833,929	- 20,710,071	7.2	- 20,710,071	7.2
H.C. 60	1.06	57,000	32.0	- 7.0	82,541,429	- 26,352,571	7.3	- 26,352,571	7.3
H.C. 61	0.81	23,000	29.4	- 4.4	33,579,643	- 5,630,357	3.8	- 5,630,357	3.8
H.C. 62	1.39	50,000	31.8	- 6.8	72,750,000	- 22,250,000	7.1	- 22,250,000	7.1

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(continued) *Table App. 2A – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the intermediate 25% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			25% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 63	1.04	50,000	27.6	- 2.6	73,123,214	- 4,811,786	1.5	- 4,811,786	1.5
H.C. 64	1.03	30,000	26.2	- 1.2	44,062,500	255,500	0.1		0.0
H.C. 65	1.05	21,000	28.0	- 3.0	31,030,357	- 2,737,643	2.0	- 2,737,643	2.0
H.C. 66	1.12	28,000	28.7	- 3.7	40,886,071	- 5,198,929	2.9	- 5,198,929	2.9
H.C. 67	0.94	24,000	27.3	- 2.3	35,384,643	- 1,839,357	1.2	- 1,839,357	1.2
H.C. 68	0.96	51,000	23.0	2.0	74,638,929	12,208,929	4.3		0.0
H.C. 69	1.09	33,000	29.1	- 4.1	55,069,286	- 8,231,714	3.6	- 8,231,714	3.6
H.C. 70	1.08	*27,000*	47.4	- 22.4	35,178,929	- 53,419,071	28.0	- 53,419,071	28.0
H.C. 71	1.06	26,000	40.1	- 15.1	34,918,214	- 30,445,786	17.9	- 30,445,786	17.9
H.C. 72	1.20	8,000	19.3	5.7	13,743,214	4,517,214	7.8		0.0
H.C. 73	1.01	25,000	40.4	- 15.4	33,661,786	- 30,290,214	18.0	- 30,290,214	18.0
H.C. 74	1.08	32,000	36.1	- 11.1	43,382,857	- 25,236,143	12.9	- 25,236,143	12.9
H.C. 75	1.13	26,000	30.6	- 5.6	58,380,000	- 13,545,000	5.5	- 13,545,000	5.5
H.C. 76	1.11	43,000	36.9	- 11.9	84,781,071	- 54,222,929	13.8	- 54,222,929	13.8
H.C. 77	1.13	18,000	45.3	- 20.3	37,547,143	- 49,452,857	25.0	- 49,452,857	25.0
H.C. 78	1.05	23,000	30.3	- 5.3	44,464,643	- 9,604,357	4.8	- 9,604,357	4.8
H.C. 79	1.14	28,000	40.1	- 15.1	63,164,643	- 54,999,357	17.9	- 54,999,357	17.9
H.C. 80	1.01	31,000	48.4	- 23.4	61,317,500	- 99,828,500	28.5	- 99,828,500	28.5
H.C. 81	1.09	23,000	44.5	- 19.5	42,025,714	- 52,474,286	23.6	- 52,474,286	23.6
H.C. 82	1.15	24,000	22.4	2.6	43,375,000	8,375,000	5.1		0.0
H.C. 83	0.88	17,000	30.9	- 5.9	29,869,643	- 7,459,357	5.3	- 7,459,357	5.3
H.C. 84	0.85	26,000	23.1	1.9	33,210,714	5,210,714	3.6		0.0
South Italy Total	***1.04***	***853,000***	***33.3***	***- 8.3***	***1,378,678,929***	***612,217,786***	***9.9***	***- 581,650,429***	***9.4***
H.C. Total	***1.09***	***2,803,000***	***26.3***	***- 1.3***	***6,077,991,071***	***2,223,120,786***	***9.0***	***- 1,102,981,857***	***4.5***

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(1) Includes Hospital Centers integrated with Universities (AOU).
(2) Updated to 2014.
(3) Updated to 2015 (rounded values).
(4) Includes: revenues for hospitalization, specialized internal services and each healthcare and social healthcare activity.
(5) Revenues transferred from the Regional Health Fund under the item "non-fee and by function activities".
(6) % Calculated as the ratio between Column 6 values and the values of Columns 4 + 5.
(7) Calculated as the difference between total Revenues reported on the Income Statement and the sum of the values in columns 4 + 5 + 6 and may include items such as those mentioned by the Decree of the Ministry of Health implementing Art. 1, paragraph 526 of the 2016 Stability Law (operating grants from the fixed Regional Health Fund, additional fixed Fund contributions, fixed contributions from public health authorities, contributions from other public entities (additional Fund), operating grants for research, operating grants from private entities, use of funds from unused fixed contributions for prior fiscal years, revenues from healthcare and social health-related services provided to other public entities, revenues for health services from active mobility, revenues from healthcare services and social healthcare services provided to individuals, revenues from intramoenia healthcare services, collections and repayments, fiscal year contributions into the capital account, fixed asset increases for internal work, other revenues and income, interest income, other income, revaluations).
(8) The percentages have been calculated as the ratio between the values contained in Column 9 and the values contained in Column 8 (the formula is: Column 9: Column 8 x 100).
(9) The percentage is calculated according to the mechanism provided by the Ministerial Decree, but applied to the values in Column 6, in order to verify the existing coverage percentages taking into account the values of the 2015 IS. The formula is as follows:

$$\frac{\text{Column 6 Values}}{\text{Values of Columns 4 + 5 + 6}} * 100$$

(10) The indicated percentage values were obtained by subtracting the values of Column 11 from the 30% (maximum Scenario).
(11) Application was made of the maximum recognizable value, equal to 30% of the values contained in Columns 4 + 5 (with a calculation below 100), as per the Ministerial Decree of the Ministry of Health implementation Art. 1, paragraph 526, of the 2016 Stability Law. The formula is as follows:

$$\frac{\text{Values of Columns 4 + 5}}{70} * 25$$

(12) The values shown were obtained as the difference between those contained in Column 13 and those contained in Column 6 (the sums of the values contained in column 14 are independent of the "-" signs because the latter are to be understood as potential increase in losses and therefore in calculating they must be added to the values with a positive sign).
(13) In the case of positive values in Column 14 the corresponding percentage value present in Column 15 is equal to 0 (as it is not deemed reasonable to hypothesize an operational surplus due to the 30% Scenario calculation). In the case that there is a negative value in Column 14 the corresponding percentage of Column 15 will be calculated as the ratio between the values of Column 14 with the values of Column 8.
(14) These consider only the additional Losses due to the fact that the amount of "by function" activities, although calculated according to the maximum scenario of 30% as per the Ministerial Decree, ends up being less than the value of the "by function" activities already reported on the Income Statement and reported in Column 6. While they do not take into account the values that exceed the current value of "by function" activities reported on the 2015 Income Statement (again in Column 6).
(15) The percentages shown are calculated as the ratio of the values in Column 16 and the values of Column 8.

Source: *Survey by Ermeneia – Studi & Strategie di Sistema. 2016*

Table App. 2B – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the minimum 20% Scenario (Revenue Values in millions of euro)

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 1	1.23	14,000	111,525,000	2,627,000	31,735,000	27.8	8,384,000	154,271,000	- 2,552,000	- 1.7
H.C. 2	1.23	26,000	195,928,000	7,155,000	68,212,000	33.6	11,563,000	282,858,000	- 1,203,000	- 0.4
H.C. 3	1.18	31,000	182,182,000	5,921,000	45,863,000	24.4	5,967,000	239,933,000	- 5,500,000	- 2.3
H.C. 4	1.19	23,000	173,184,000	3,611,000	61,100,000	34.6	8,331,000	246,226,000	- 4,485,000	- 1.8
H.C. 5	1.26	17,000	139,180,000	4,244,000	41,894,000	29.2	1,976,000	187,294,000	-	-
H.C. 6	1.22	102,000	595,920,000	16,314,000	396,728,000	64.8	62,143,000	1,071,105,000	- 4,188,000	- 0.4
H.C. 7	1.03	39,000	284,698,000	10,024,000	63,867,000	21.7	27,362,000	385,951,000	-	-
H.C. 8	0.94	21,000	117,878,000	5,052,000	36,399,000	29.6	4,238,000	163,567,000	-	-
H.C. 9	0.92	36,000	225,197,000	8,200,000	55,525,000	23.8	9,734,000	298,656,000	-	-
H.C. 10	1.05	67,000	494,915,000	12,810,000	128,197,000	25.2	45,875,000	681,797,000	-	-
H.C. 11	0.91	15,000	93,629,000	4,995,000	31,702,000	32.1	4,341,000	134,667,000	-	-
H.C. 12	0.93	31,000	184,811,000	9,714,000	42,490,000	21.8	10,320,000	247,335,000	-	-
H.C. 13	1.01	26,000	187,490,000	5,676,000	48,399,000	25.1	18,661,000	260,226,000	-	-
H.C. 14	0.94	16,000	96,254,000	4,917,000	23,828,000	23.6	5,455,000	130,454,000	-	-
H.C. 15	0.98	28,000	203,242,000	8,591,000	88,900,000	42.0	39,863,000	340,596,000	-	-
H.C. 16	1.02	31,000	184,000,000	4,412,000	26,049,000	13.8	49,847,000	264,308,000	-	-
H.C. 17	1.22	34,000	325,387,000	9,324,000	106,078,000	31.7	45,145,000	485,934,000	-	-
H.C. 18	0.92	27,000	124,968,000	8,900,000	40,572,000	30.3	6,274,000	180,714,000	-	-
H.C. 19	0.94	26,000	140,780,000	7,150,000	17,241,000	11.7	15,878,000	181,049,000	-	-
H.C. 20	1.02	31,000	257,811,000	9,927,000	111,254,000	41.6	44,044,000	423,036,000	-	-
H.C. 21	1.11	20,000	220,381,000	4,066,000	36,557,000	16.3	12,547,000	273,551,000	-	-
H.C. 22	1.29	38,000	317,714,000	5,916,000	143,169,000	44.2	78,899,000	545,698,000	-	-
H.C. 23	0.85	29,000	145,000,000	2,940,000	34,897,000	23.6	60,050,000	242,887,000	-	-
H.C. 24	0.92	29,000	114,741,000	5,508,000	60,719,000	50.5	6,776,000	187,744,000	-	-
H.C. 25	0.93	19,000	150,900,000	3,655,000	45,931,000	29.7	37,130,000	237,616,000	-	-
H.C. 26	1.02	11,000	83,662,000	3,061,000	34,226,000	39.5	6,795,000	127,744,000	-	-
H.C. 27	0.98	34,000	273,960,000	5,380,000	100,365,000	35.9	15,081,000	394,786,000	-	-
H.C. 28	1.02	42,000	267,896,000	11,359,000	93,499,000	33.5	22,363,000	395,117,000	-	-
H.C. 29	0.92	24,000	160,858,000	6,533,000	107,748,000	64.4	11,917,000	287,056,000	-	-
H.C. 30	0.88	24,000	157,085,000	10,472,000	100,781,000	60.1	9,156,000	277,494,000	-	-
H.C. 31	0.90	43,000	260,280,000	12,600,000	63,257,000	23.2	20,626,000	356,763,000	-	-
H.C. 32	1.19	27,000	255,208,000	6,705,000	42,711,000	16.3	30,801,000	335,425,000	-	-
H.C. 33	0.91	21,000	129,689,000	6,789,000	63,355,000	46.4	13,220,000	213,053,000	-	-
H.C. 34	0.92	33,000	285,152,000	6,438,000	52,013,000	17.8	38,511,000	382,114,000	-	-

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(continued) *Table App. 2B – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the minimum 20% Scenario (Revenue Values in millions of euro)*

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 35	0.96	22,000	136,574,000	6,014,000	63,491,000	44.5	24,953,000	231,032,000	-	-
H.C. 36	1.22	52,000	415,815,000	8,844,000	83,433,000	19.6	36,562,000	544,654,000	- 77,700,000	- 14.3
H.C. 37	1.24	52,000	403,621,000	6,594,000	94,042,000	22.9	14,360,000	518,617,000	-	-
H.C. 38	1.16	26,000	156,120,000	3,641,000	93,721,000	58.7	22,318,000	275,800,000	0	-
H.C. 39	1.20	36,000	250,431,000	7,079,000	121,636,000	47.2	26,652,000	405,798,000	-	-
H.C. 40	1.16	47,000	264,300,000	7,252,000	58,150,000	21.4	56,331,000	386,033,000	-	-
H.C. 41	1.10	36,000	237,683,000	9,051,000	30,311,000	12.3	14,295,000	291,340,000	-	-
H.C. 42	1.11	35,000	206,135,000	3,255,000	44,960,000	21.5	10,375,000	264,725,000	0	-
H.C. 43	1.21	68,000	434,604,000	6,805,000	91,752,000	20.8	48,285,000	581,446,000	-	-
H.C. 44	1.14	32,000	203,645,000	6,085,000	85,220,000	40.6	25,968,000	320,918,000	-	-
North Italy Total	***1.08***	***1,441,000***	***9,850,433,000***	***305,606,000***	***3,211,977,000***	***31.6***	***1,069,372,000***	***14,437,388,000***	***-95,628,000***	***- 0.7***
H.C. 45	1.25	68,000	378,064,000	11,725,000	147,828,000	37.9	30,055,000	567,672,000	-	-
H.C. 46	1.28	36,000	213,223,000	7,699,000	88,039,000	39.9	16,465,000	325,426,000	-	-
H.C. 47	1.27	74,000	395,180,000	12,259,000	183,787,000	45.1	27,079,000	618,305,000	-	-
H.C. 48	1.04	14,000	71,150,000	2,252,000	31,930,000	43.5	10,186,000	115,518,000	-	-
H.C. 49	1.03	28,000	164,035,000	4,171,000	70,763,000	42.1	7,242,000	246,211,000	-	-
H.C. 50	1.30	*45,000*	*297,989,000*	*4,870,000*	*80,319,000*	26.5	16,443,000	399,621,000	-	-
H.C. 51	1.10	39,000	281,734,000	7,149,000	37,548,000	13.0	19,070,000	345,501,000	-	-
H.C. 52	1.07	27,000	136,669,000	2,961,000	45,251,000	32.4	1,358,000	186,239,000	-	-
H.C. 53	1.25	49,000	232,965,000	5,336,000	53,604,000	22.5	15,059,000	306,964,000	- 161,799,000	- 52.7
H.C. 54	1.05	25,000	118,174,000	3,400,000	30,429,000	25.0	17,006,000	169,009,000	- 82,941,000	- 49.1
H.C. 55	1.14	53,000	315,050,000	10,188,000	88,896,000	27.3	26,804,000	440,938,000	- 92,545,000	- 21.0
H.C. 56	1.23	22,000	140,716,000	5,545,000	23,263,000	15.9	25,442,000	194,966,000	- 54,100,000	- 27.7
H.C. 57	1.51	29,000	173,951,000	5,580,000	37,438,000	20.9	5,443,000	222,412,000	- 68,133,000	- 30.6
Central Italy Total	***1.21***	***509,000***	***2,918,900,000***	***83,135,000***	***919,095,000***	***30.6***	***217,652,000***	***4,138,782,000***	***- 459,518,000***	***- 11.1***
H.C. 58	0.96	63,000	296,562,000	5,160,000	110,668,000	36.7	7,699,000	420,089,000	-	-
H.C. 59	0.92	46,000	188,997,000	3,738,000	89,544,000	46.5	3,880,000	286,159,000	-	-
H.C. 60	1.06	57,000	230,223,000	893,000	108,894,000	47.1	23,387,000	363,397,000	-	-
H.C. 61	0.81	23,000	92,897,000	1,126,000	39,210,000	41.7	16,045,000	149,278,000	-	-
H.C. 62	1.39	50,000	201,950,000	1,750,000	95,000,000	46.6	12,562,000	311,262,000		-
H.C. 63	1.04	50,000	201,950,000	2,795,000	77,935,000	38.1	31,720,000	314,400,000	-	-
H.C. 64	1.03	30,000	121,170,000	2,205,000	43,807,000	35.5	19,310,000	186,492,000	- 4,000,000	- 2.1
H.C. 65	1.05	21,000	84,819,000	2,066,000	33,768,000	38.9	13,095,000	133,748,000	-	-

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(continued) *Table App. 2B – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the minimum 20% Scenario (Revenue Values in millions of euro)*

1	2	3	4	5	6		7	8	9	10
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*Revenues from healthcare services and health-related social health services as per the IS (Code A0320)* (4)	*Revenues from co-payment charges for external specialist services as per the IS (Code A0940)*	*Revenues from FSR transfer for "by function" activities as per the IS (Code AA0020)* (5)		*Other revenues as per the IS* (7)	*Total Revenues as per the IS (Code AZ999)*	*Deficit as per the IS (Code ZZ9999)*	*% of deficit out of the total Revenues* (8)
					A.V.	*%* (6)				
H.C. 66	1.12	28,000	113,092,000	1,389,000	46,085,000	40.3	17,709,000	178,275,000	- 7,426,000	- 4.2
H.C. 67	0.94	24,000	96,936,000	2,141,000	37,224,000	37.6	13,241,000	149,542,000	-	-
H.C. 68	0.96	51,000	205,989,000	3,000,000	62,430,000	29.9	14,203,000	285,622,000	-	-
H.C. 69	1.09	33,000	150,629,000	3,565,000	63,301,000	41.1	11,159,000	228,654,000	-	-
H.C. 70	1.08	*27,000*	*96,653,000*	*1,848,000*	*88,598,000*	89.9	3,957,000	191,056,000	- 1,800,000	- 0.9
H.C. 71	1.06	26,000	95,305,000	2,466,000	65,364,000	66.9	6,910,000	170,045,000	- 3,000,000	- 1.8
H.C. 72	1.20	8,000	36,571,000	1,910,000	9,226,000	24.0	10,245,000	57,952,000	- 29,858,000	- 51.5
H.C. 73	1.01	25,000	92,720,000	1,533,000	63,952,000	67.9	10,014,000	168,219,000	0	-
H.C. 74	1.08	32,000	119,975,000	1,497,000	68,619,000	56.5	5,790,000	195,881,000	-	-
H.C. 75	1.13	26,000	160,930,000	2,534,000	71,925,000	44.0	10,226,000	245,615,000	-	-
H.C. 76	1.11	43,000	233,490,000	3,897,000	139,004,000	58.6	17,852,000	394,243,000	-	-
H.C. 77	1.13	18,000	103,900,000	1,232,000	87,000,000	82.8	5,568,000	197,700,000	- 2,000,000	- 1.0
H.C. 78	1.05	23,000	122,022,000	2,479,000	54,069,000	43.4	20,275,000	198,845,000	-	-
H.C. 79	1.14	28,000	174,486,000	2,375,000	118,164,000	66.8	12,749,000	307,774,000	-	-
H.C. 80	1.01	31,000	169,513,000	2,176,000	161,146,000	93.9	17,088,000	349,923,000	-	-
H.C. 81	1.09	23,000	116,299,000	1,373,000	94,500,000	80.3	10,286,000	222,458,000	-	-
H.C. 82	1.15	24,000	120,000,000	1,450,000	35,000,000	28.8	6,550,000	163,000,000	- 28,000,000	- 17.2
H.C. 83	0.88	17,000	82,000,000	1,635,000	37,329,000	44.6	20,036,000	141,000,000	- 18,000,000	- 12.8
H.C. 84	0.85	26,000	90,000,000	2,990,000	28,000,000	30.1	24,010,000	145,000,000	- 14,000,000	- 9.7
South Italy Total	***1.04***	***853,000***	***3,799,078,000***	***61,223,000***	***1,929,762,000***	***50.0***	***365,566,000***	***6,155,629,000***	***- 108,084,000***	***- 1.8***
H.C. Total	***1.09***	***2,803,000***	***16,568,411,000***	***449,964,000***	***6,060,834,000***	***35.6***	***1,652,590,000***	***24,731,799,000***	***- 663,230,000***	***- 2.7***

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(continued) *Table App. 2B – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the minimum 20% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			20% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 1	1.23	14,000	21.8	- 1.8	32,614,857	879,857	0.6		0.0
H.C. 2	1.23	26,000	25.1	- 5.1	58,023,714	- 10,188,286	3.6	- 10,188,286	3.6
H.C. 3	1.18	31,000	19.6	0.4	53,743,714	7,880,714	3.3		0.0
H.C. 4	1.19	23,000	25.7	- 5.7	50,512,857	- 10,587,143	4.3	- 10,587,143	4.3
H.C. 5	1.26	17,000	22.6	- 2.6	40,978,286	- 915,714	0.5	- 915,714	0.5
H.C. 6	1.22	102,000	39.3	- 19.3	174,924,000	- 221,804,000	20.7	- 221,804,000	20.7
H.C. 7	1.03	39,000	17.8	2.2	84,206,286	20,339,286	5.3		0.0
H.C. 8	0.94	21,000	22.8	- 2.8	35,122,857	- 1,276,143	0.8	- 1,276,143	0.8
H.C. 9	0.92	36,000	19.2	0.8	66,684,857	11,159,857	3.7		0.0
H.C. 10	1.05	67,000	20.2	- 0.2	145,064,286	16,867,286	2.5		0.0
H.C. 11	0.91	15,000	24.3	- 4.3	28,178,286	- 3,523,714	2.6	- 3,523,714	2.6
H.C. 12	0.93	31,000	17.9	2.1	55,578,571	13,088,571	5.3		0.0
H.C. 13	1.01	26,000	20.0	- 0.0	55,190,286	6,791,286	2.6		0.0
H.C. 14	0.94	16,000	19.1	0.9	28,906,000	5,078,000	3.9		0.0
H.C. 15	0.98	28,000	29.6	- 9.6	60,523,714	- 28,376,286	8.3	- 28,376,286	8.3
H.C. 16	1.02	31,000	12.1	7.9	53,832,000	27,783,000	10.5		0.0
H.C. 17	1.22	34,000	24.1	- 4.1	95,631,714	- 10,446,286	2.1	- 10,446,286	2.1
H.C. 18	0.92	27,000	23.3	- 3.3	38,248,000	- 2,324,000	1.3	- 2,324,000	1.3
H.C. 19	0.94	26,000	10.4	9.6	42,265,714	25,024,714	13.8		0.0
H.C. 20	1.02	31,000	29.4	- 9.4	76,496,571	- 34,757,429	8.2	- 34,757,429	8.2
H.C. 21	1.11	20,000	14.0	6.0	64,127,714	27,570,714	10.1		0.0
H.C. 22	1.29	38,000	30.7	- 10.7	92,465,714	- 50,703,286	9.3	- 50,703,286	9.3
H.C. 23	0.85	29,000	19.1	0.9	42,268,571	7,371,571	3.0		0.0
H.C. 24	0.92	29,000	33.6	- 13.6	34,356,857	- 26,362,143	14.0	- 26,362,143	14.0
H.C. 25	0.93	19,000	22.9	- 2.9	44,158,571	- 1,772,429	0.7	- 1,772,429	0.7
H.C. 26	1.02	11,000	28.3	- 8.3	24,778,000	- 9,448,000	7.4	- 9,448,000	7.4
H.C. 27	0.98	34,000	26.4	- 6.4	79,811,429	- 20,553,571	5.2	- 20,553,571	5.2
H.C. 28	1.02	42,000	25.1	- 5.1	79,787,143	- 13,711,857	3.5	- 13,711,857	3.5
H.C. 29	0.92	24,000	39.2	- 19.2	47,826,000	- 59,922,000	20.9	- 59,922,000	20.9
H.C. 30	0.88	24,000	37.6	- 17.6	47,873,429	- 52,907,571	19.1	- 52,907,571	19.1
H.C. 31	0.90	43,000	18.8	1.2	77,965,714	14,708,714	4.1		0.0
H.C. 32	1.19	27,000	14.0	6.0	74,832,286	32,121,286	9.6		0.0

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(continued) *Table App. 2B – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the minimum 20% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			20% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 33	0.91	21,000	31.7	- 11.7	38,993,714	- 24,361,286	11.4	- 24,361,286	11.4
H.C. 34	0.92	33,000	15.1	4.9	83,311,429	31,298,429	8.2		0.0
H.C. 35	0.96	22,000	30.8	- 10.8	40,739,429	- 22,751,571	9.8	- 22,751,571	9.8
H.C. 36	1.22	52,000	16.4	3.6	121,331,143	37,898,143	7.0		0.0
H.C. 37	1.24	52,000	18.6	1.4	117,204,286	23,162,286	4.5		0.0
H.C. 38	1.16	26,000	37.0	- 17.0	45,646,000	- 48,075,000	17.4	- 48,075,000	17.4
H.C. 39	1.20	36,000	32.1	- 12.1	73,574,286	- 48,061,714	11.8	- 48,061,714	11.8
H.C. 40	1.16	47,000	17.6	2.4	77,586,286	19,436,286	5.0		0.0
H.C. 41	1.10	36,000	10.9	9.1	70,495,429	40,184,429	13.8		0.0
H.C. 42	1.11	35,000	17.7	2.3	59,825,714	14,865,714	5.6		0.0
H.C. 43	1.21	68,000	17.2	2.8	126,116,857	34,364,857	5.9		0.0
H.C. 44	1.14	32,000	28.9	- 8.9	59,922,857	- 25,297,143	7.9	- 25,297,143	7.9
North Italy Total	***1.08***	***1,441,000***	***24.0***	***- 4.0***	***2,901,725,429***	***1,146,001,571***	***7.9***	***- 728,126,571***	***5.0***
H.C. 45	1.25	68,000	27.5	- 7.5	111,368,286	- 36,459,714	6.4	- 36,459,714	6.4
H.C. 46	1.28	36,000	28.5	- 8.5	63,120,571	- 24,918,429	7.7	- 24,918,429	7.7
H.C. 47	1.27	74,000	31.1	- 11.1	116,411,143	- 67,375,857	10.9	- 67,375,857	10.9
H.C. 48	1.04	14,000	30.3	- 10.3	20,972,000	- 10,958,000	9.5	- 10,958,000	9.5
H.C. 49	1.03	28,000	29.6	- 9.6	48,058,857	- 22,704,143	9.2	- 22,704,143	9.2
H.C. 50	1.30	*45,000*	21.0	- 1.0	86,531,143	6,212,143	1.6		0.0
H.C. 51	1.10	39,000	11.5	8.5	82,538,000	44,990,000	13.0		0.0
H.C. 52	1.07	27,000	24.5	- 4.5	39,894,286	- 5,356,714	2.9	- 5,356,714	2.9
H.C. 53	1.25	49,000	18.4	1.6	68,086,000	14,482,000	4.7		0.0
H.C. 54	1.05	25,000	20.0	- 0.0	34,735,429	4,306,429	2.5		0.0
H.C. 55	1.14	53,000	21.5	- 1.5	92,925,143	4,029,143	0.9		0.0
H.C. 56	1.23	22,000	13.7	6.3	41,788,857	18,525,857	9.5		0.0
H.C. 57	1.51	29,000	17.3	2.7	51,294,571	13,856,571	6.2		0.0
Central Italy Total	***1.21***	***509,000***	***23.4***	***- 3.4***	***857,724,286***	***274,175,000***	***6.6***	***- 167,772,857***	***4.1***
H.C. 58	0.96	63,000	26.8	- 6.8	86,206,286	- 24,461,714	5.8	- 24,461,714	5.8
H.C. 59	0.92	46,000	31.7	- 11.7	55,067,143	- 34,476,857	12.0	- 34,476,857	12.0
H.C. 60	1.06	57,000	32.0	- 12.0	66,033,143	- 42,860,857	11.8	- 42,860,857	11.8
H.C. 61	0.81	23,000	29.4	- 9.4	26,863,714	- 12,346,286	8.3	- 12,346,286	8.3
H.C. 62	1.39	50,000	31.8	- 11.8	58,200,000	- 36,800,000	11.8	- 36,800,000	11.8

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(continued) *Table App. 2B – Simulation of the possible Additional Revenue/2, coming from the financing of "by function" activities as per the Ministerial Decree implementing Art. 1, paragraph 526, of the 2016 Stability Law, taking into account the minimum 20% Scenario (Revenue Values in millions of euro)*

1	2	3	11	12	13	14	15	16	17
			20% SCENARIO						
Hospital Centers (1)	*Average case mix* (2)	*Total admissions* (3)	*% of "by function" activities corresponding to the absolute values of the 2015 Income Statement, but calculated according to the Ministerial Decree* (9)	*Increase (+) or decrease (-) in % of "by function" activity compared to the current value* (10)	*Theoretical estimation of "by function" activities in accordance with the provisions of the Ministerial Decree* (11)	*Additional share of theoretical Revenues (+) or Losses (-) resulting from the calculation of "by function" activities* (12)	*% of theoretical Additional Revenue/2 (+) or increase of theoretical additional Losses (-) out of total Revenues* (13)	*Amount of further Losses (-) resulting from the reduction of "by function" activity values recognized today* (14)	*% of Additional Revenue/2 due solely to additional Losses arising from the 30% Scenario* (15)
H.C. 63	1.04	50,000	27.6	- 7.6	58,498,571	- 19,436,429	6.2	- 19,436,429	6.2
H.C. 64	1.03	30,000	26.2	- 6.2	35,250,000	- 8,557,000	4.6	- 8,557,000	4.6
H.C. 65	1.05	21,000	28.0	- 8.0	24,824,286	- 8,943,714	6.7	- 8,943,714	6.7
H.C. 66	1.12	28,000	28.7	- 8.7	32,708,857	- 13,376,143	7.5	- 13,376,143	7.5
H.C. 67	0.94	24,000	27.3	- 7.3	28,307,714	- 8,916,286	6.0	- 8,916,286	6.0
H.C. 68	0.96	51,000	23.0	- 3.0	59,711,143	- 2,718,857	1.0	- 2,718,857	1.0
H.C. 69	1.09	33,000	29.1	- 9.1	44,055,429	- 19,245,571	8.4	- 19,245,571	8.4
H.C. 70	1.08	*27,000*	47.4	- 27.4	28,143,143	- 60,454,857	31.6	- 60,454,857	31.6
H.C. 71	1.06	26,000	40.1	- 20.1	27,934,571	- 37,429,429	22.0	- 37,429,429	22.0
H.C. 72	1.20	8,000	19.3	0.7	10,994,571	1,768,571	3.1		0.0
H.C. 73	1.01	25,000	40.4	- 20.4	26,929,429	- 37,022,571	22.0	- 37,022,571	22.0
H.C. 74	1.08	32,000	36.1	- 16.1	34,706,286	- 33,912,714	17.3	- 33,912,714	17.3
H.C. 75	1.13	26,000	30.6	- 10.6	46,704,000	- 25,221,000	10.3	- 25,221,000	10.3
H.C. 76	1.11	43,000	36.9	- 16.9	67,824,857	- 71,179,143	18.1	- 71,179,143	18.1
H.C. 77	1.13	18,000	45.3	- 25.3	30,037,714	- 56,962,286	28.8	- 56,962,286	28.8
H.C. 78	1.05	23,000	30.3	- 10.3	35,571,714	- 18,497,286	9.3	- 18,497,286	9.3
H.C. 79	1.14	28,000	40.1	- 20.1	50,531,714	- 67,632,286	22.0	- 67,632,286	22.0
H.C. 80	1.01	31,000	48.4	- 28.4	49,054,000	- 112,092,000	32.0	- 112,092,000	32.0
H.C. 81	1.09	23,000	44.5	- 24.5	33,620,571	- 60,879,429	27.4	- 60,879,429	27.4
H.C. 82	1.15	24,000	22.4	- 2.4	34,700,000	- 300,000	0.2	- 300,000	0.2
H.C. 83	0.88	17,000	30.9	- 10.9	23,895,714	- 13,433,286	9.5	- 13,433,286	9.5
H.C. 84	0.85	26,000	23.1	- 3.1	26,568,571	- 1,431,429	1.0	- 1,431,429	1.0
South Italy Total	***1.04***	***853,000***	***33.3***	***- 13.3***	***1,102,943,143***	***830,356,000***	***13.5***	***- 828,587,429***	***13.5***
H.C. Total.	***1.09***	***2,803,000***	***26.3***	***- 6.3***	***4,862,392,857***	***2,250,532,571***	***9.1***	***- 1,724,486,857***	***7.0***

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(1) Includes Hospital Centers integrated with Universities (AOU).
(2) Updated to 2014.
(3) Updated to 2015 (rounded values).
(4) Includes: revenues for hospitalization, specialized internal services and each healthcare and social healthcare activity.
(5) Revenues transferred from the Regional Health Fund under the item "non-fee and by function activities".
(6) % Calculated as the ratio between Column 6 values and the values of Columns 4 + 5.
(7) Calculated as the difference between total Revenues reported on the Income Statement and the sum of the values in columns 4 + 5 + 6 and may include items such as those mentioned by the Decree of the Ministry of Health implementing Art. 1, paragraph 526 of the 2016 Stability Law (operating grants from the fixed Regional Health Fund, additional fixed Fund contributions, fixed contributions from public health authorities, contributions from other public entities (additional Fund), operating grants for research, operating grants from private entities, use of funds from unused fixed contributions for prior fiscal years, revenues from healthcare and social health-related services provided to other public entities, revenues for health services from active mobility, revenues from healthcare services and social healthcare services provided to individuals, revenues from intramoenia healthcare services, collections and repayments, fiscal year contributions into the capital account, fixed asset increases for internal work, other revenues and income, interest income, other income, revaluations).
(8) The percentages have been calculated as the ratio between the values contained in Column 9 and the values contained in Column 8 (the formula is: Column 9: Column 8 x 100).
(9) The percentage is calculated according to the mechanism provided by the Ministerial Decree, but applied to the values in Column 6, in order to verify the existing coverage percentages taking into account the values of the 2015 IS. The formula is as follows:

$$\frac{\text{Column 6 Values}}{\text{Values of Columns 4 + 5 + 6}} * 100$$

(10) The indicated percentage values were obtained by subtracting the values of Column 11 from the 30% (maximum Scenario).
(11) Application was made of the maximum recognizable value, equal to 30% of the values contained in Columns 4 + 5 (with a calculation below 100), as per the Ministerial Decree of the Ministry of Health implementation Art. 1, paragraph 526, of the 2016 Stability Law. The formula is as follows:

$$\frac{\text{Values of Columns 4 + 5}}{70} * 20$$

(12) The values shown were obtained as the difference between those contained in Column 13 and those contained in Column 6 (the sums of the values contained in column 14 are independent of the "-" signs because the latter are to be understood as potential increase in losses and therefore in calculating they must be added to the values with a positive sign).
(13) In the case of positive values in Column 14 the corresponding percentage value present in Column 15 is equal to 0 (as it is not deemed reasonable to hypothesize an operational surplus due to the 30% Scenario calculation). In the case that there is a negative value in Column 14 the corresponding percentage of Column 15 will be calculated as the ratio between the values of Column 14 with the values of Column 8.
(14) These consider only the additional Losses due to the fact that the amount of "by function" activities, although calculated according to the maximum scenario of 30% as per the Ministerial Decree, ends up being less than the value of the "by function" activities already reported on the Income Statement and reported in Column 6. While they do not take into account the values that exceed the current value of "by function" activities reported on the 2015 Income Statement (again in Column 6).
(15) The percentages shown are calculated as the ratio of the values in Column 16 and the values of Column 8.

Source: *Survey by Ermeneia – Studi & Strategie di Sistema. 2016*

The second method used involved conducting two situation surveys, both relating to the relationship Italian families enjoy with hospital services.

More specifically, the first survey was in the form of a questionnaire given to a nationally representative sample of Italian adults 18 years and older. The survey included a set of questions – as every year – designed to measure differences in opinions and assessments of the actual users of the services, on one hand, and of citizens, on the other hand.

The key issues regarding access to hospital services and their perceived quality, as well as the overall evaluation of the mixed public/accredited private hospital system, taking into account the different types of facilities (public and accredited private facilities, and private clinics).

To this end, a questionnaire was developed which included, according to a logic of continuity that allows comparison of:

a) questions directed at users of hospital services in the last twelve months, specific to:
   - the type of hospital service used;
   - the type of hospital visited (public, accredited private, or private clinic);
   - the level of satisfaction with the services received the last time any of these facilities were visited;
   - the manner in which the respondent made his/her decision to make use of the hospital facility most recently visited;
   - the level of the respondent's 'loyalty' to the most recent facility visited.

b) and some questions were instead addressed to the entire survey sample of citizens 18 years and older.

   These questions pertained to information including:
   - whether or not hospital services had been accessed in the last twelve months by the interviewee and/or members of his/her family;
   - the level of awareness regarding the ability to access both public and accredited private hospitals for which there are no charges for patients;
   - the ability to choose hospitals outside the Region in which the respondent resides;
   - awareness of the new legislation that beginning in October 2013 allows patients to seek healthcare and hospital services from facilities of other EU countries under coverage of the Italian Health Service (even if said opportunity remains subject to prior authorization from the local healthcare authorities and the advance payment of expenses by the patient);

- the inclination of the respondent to make use of facilities other than those located in their town, province, Region, or even, Italy, in the event of the need for serious health reasons;
- the level of satisfaction with Italian hospitals;
- opinions on some statements with a view to keeping the current mixed public/accredited private healthcare system as an integrated service provider and how more precise information might be provided to users;
- the willingness of the respondent to ideally take on some additional costs in order to have more choices than are currently available.

The survey was conducted in September 2016 and resulted in 4,020 valid questionnaires being collected through a special electronic panel made up of 2,000 Italian households, whose individual members aged 18 and older responded to the questions on the questionnaire mentioned above.

The above panel is maintenanced constantly (annually) in order to compensate for any lack of functional collaboration by part of the respondents, and to ensure the ongoing representative nature of the survey sample used (such maintenance affecting approximately 15% of the total survey sample each year).

The data collected from the survey were then reassembled in such a manner so as to render them completely useful as an ideal sample of the Italian adult population 18 years and older as a whole.

The survey sample's level of error is approximately ±1.55%, with a confidence interval of 95%.

Subsequently, the information thus collected was processed in order to obtain simple distribution tables, which were then used to make some cross-checks of variable groups considered particularly significant, as shown in Section 3 of the Appendices.

The overall results of the survey and comments relating to it are found in Part Two of the Report.

The social-personal profiles for the 4,020 respondents are given in the tables below. They illustrate the basic characteristics of the samples used in the situation surveys conducted annually.

Table App. 3 – Gender of the respondents (%)

Gender	*2016*	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*
– Male	47.7	47.7	47.7	47.7	48.0	48.0	48.0	48.0	48.0	48.0	47.8	47.8
– Female	52.3	52.3	52.3	52.3	52.0	52.0	52.0	52.0	52.0	52.0	52.2	52.2
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
A.V.	4,020	4,020	4,020	4,020	4,070	4,070	4,110	4,140	4,210	4,160	4,350	4,011

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 4 – Age of the respondents (%)

Age range	*2016*	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*
– 18-24 years	8.6	8.6	8.6	8.6	8.6	8.6	8.7	8.7	8.7	9.0	9.9	9.9
– 25-34 years	14.3	14.3	14.3	14.3	15.4	15.4	15.9	16.3	16.7	17.7	18.6	18.6
– 35-54 years	36.9	36.9	37.0	37.0	36.9	36.9	36.6	36.3	36.0	35.4	34.5	34.5
– ≥ 55 years	40.2	40.1	40.1	40.1	39.1	39.1	38.8	38.7	38.6	37.9	37.0	37.0
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
A.V.	4,020	4,020	4,020	4,020	4,070	4,070	4,110	4,140	4,210	4,160	4,350	4,011

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 5 – Distribution of respondents by residence (%)

Distribution	*2016*	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*
– North-West	26.7	26.7	26.7	26.7	26.8	26.8	26.8	26.9	26.9	26.9	26.7	26.9
– North-East	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.2	19.2	19.2	19.2	19.1
– Center	19.1	18.1	18.2	18.2	18.1	18.0	18.4	18.6	18.6	17.9	17.6	17.6
– South and Islands	34.9	35.9	35.8	35.8	35.8	35.9	35.5	35.3	35.3	36.0	36.5	36.4
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
A.V.	4,020	4,020	4,020	4,020	4,070	4,070	4,110	4,140	4,210	4,160	4,350	4,011

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 6 – Distribution of respondents by size of town of residence (%)

Size	*2016*	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*
– Up to 20,000 inhabitants	47.6	47.6	47.6	47.6	46.9	46.9	47.0	47.2	47.2	47.4	47.8	47.8
– 20,001 to 100,000 inhabitants	29.2	29.2	29.2	29.2	29.7	39.7	29.5	29.2	29.4	29.1	28.4	28.4
– 100,001 inhabitants and more	23.2	23.2	23.2	23.2	23.4	23.4	23.5	23.6	23.4	23.5	23.8	23.8
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
A.V.	4,020	4,020	4,020	4,020	4,070	4,070	4,110	4,140	4,210	4,160	4,350	4,011

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 7 – Occupational activity of the respondents (%)

Occupational Activity	*2016*	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*
– Self-employed	11.4	11.4	11.4	11.4	11.5	11.6	12.0	12.4	12.2	12.6	12.6	12.6
– Employed	18.9	18.9	18.9	18.9	18.5	18.5	18.8	19.0	18.6	18.1	18.2	33.8
– Laborer	15.4	15.4	15.4	15.4	16.2	16.2	16.4	15.9	15.7	15.6	15.6	-
– Housewife/Pensioner	40.0	40.0	40.0	40.0	41.0	40.9	39.8	40.0	40.6	38.6	38.7	38.7
– Job seekers	4.1	4.1	4.1	4.1	3.8	3.8	3.3	3.0	2.9	6.1	6.1	6.1
– Other	10.2	10.2	10.2	10.2	9.0	9.0	9.7	9.7	10.0	9.0	8.8	8.8
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
A.V.	4,020	4,020	4,020	4,020	4,070	4,070	4,110	4,140	4,210	4,160	4,350	4,011

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 8 – Education of the respondents (%)

Qualification	*2016*	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*
– No qualifications/Primary school	23.2	23.2	23.2	23.2	24.9	24.9	25.8	26.8	27.8	28.6	28.0	28.0
– Lower secondary school Certificate	35.5	35.5	35.5	35.5	35.5	35.5	35.4	35.0	34.6	34.5	36.3	36.3
– Higher secondary school certificate/First cycle degree, Second cycle degree, Third cycle degree	41.3	41.3	41.3	41.3	39.6	39.6	38.8	38.2	37.6	36.9	35.7	35.7
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
A.V.	4,020	4,020	4,020	4,020	4,070	4,070	4,110	4,140	4,210	4,160	4,350	4,011

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 9 – Estimated socioeconomic status of the respondents (%)

Status	*2016*	*2015*	*2014*	*2013*	*2012*	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*
– Low/Low-Middle	47.2	47.5	49.3	49.5	50.3	50.2	48.7	50.8	47.4	45.8	42.8	44.8
– Middle	48.3	37.4	27.3	27.3	25.5	25.9	26.6	24.4	20.1	20.4	21.1	20.3
– Middle-High/High	4.5	15.1	23.4	23.2	24.2	23.9	24.7	24.8	32.5	33.8	36.1	34.9
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
A.V.	4,020	4,020	4,020	4,020	4,070	4,070	4,110	4,097	4,210	4,160	4,350	4,011

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

The second survey used to prepare the Report specifically targeted care-givers, which this year is aimed at examining inter-regional healthcare mobility and the foregoing (or postponement) of healthcare services. Here a second questionnaire was developed to be given to a nationally representative survey sample of care-givers.

Questions contained in this questionnaire related to:

- the position of the care-giver being interviewed within the family;
- the type of hospital services directly used by the respondent and/or members of his/her "immediate" or possibly "extended" family in the last twelve months;
- the level of awareness about the possibility of using some alternatives in terms of hospital facilities: public hospitals or accredited private hospitals, hospitals present in the respondent's home region or in other Italian regions, Italian hospital facilities, or those belonging to EU Countries, always with the coverage of the National Health Service (subject to prior authorization by the local health authorities and the advance payment of expenses by the patient, which are subsequently refunded);
- use by the care-givers or other members of the "immediate" or "extended" family of hospitals present in Italian regions other than that of residence for treatment or surgical procedures;
- the reasons which might have been or may be behind any extra-regional healthcare mobility;
- the level of satisfaction with the services received, if indeed hospitals outside the home Region were used;
- the opinion of satisfaction with healthcare and social welfare services in the Region of residence and for the hospitals there;
- an assessment of how the home Region's Health System handles patient inter-regional healthcare mobility through the respondent's local health authorities;
- and, finally, any experiences relating to foregoing and/or postponing of tests, treatment, hospitalizations, etc. in 2016, to which is added an assessment of the level of solidity (as perceived by the respondent) of the National Health System based – as it currently is – on the stated principle of universal and inclusive care.

The survey was conducted in September 2016, and resulted in the collection of 2,000 valid questionnaires. Again in this case, use was made of the telematic panel mentioned for the previous survey, obtaining responses from a nationally representative sample (after a slight weighting) with an error level assessable around ± 2.42%, with a confidence interval of 95%.

The information thus collected was then processed in order to obtain simple distribution tables, which were then used to make some crosschecks, using some variables deemed particularly significant that are described below in Chapter 4 of the Appendices.

The overall results of the survey and comments relating to it are found in Part Three of the Report.

The social-personal profiles for the 2,000 care-givers surveyed are given in the tables below. They illustrate the characteristics of the sample used for the survey.

Table App. 10 – Gender of the respondents (%)

Gender	*2016*	*2015*	*2014*	*2013*
– Male	42.2	42.2	39.0	37.6
– Female	57.8	57.8	61.0	62.4
Total	100.0	100.0	100.0	100.0
A.V.	2,000	2,000	2,000	2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 11 – Age ranges of the respondents (%)

Age ranges	*2016*	*2015*	*2014*	*2013*
– 18-34 years	10.5	10.5	9.5	10.3
– 35-54 years	45.7	45.7	41.6	41.8
– ≥ 55 years	43.8	438	48.9	47.9
Total	100.0	100.0	100.0	100.0
A.V.	2,000	2,000	2,000	2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 12 – Education of the respondents (%)

Education	*2016*	*2015*	*2014*	*2013*
– None/Primary	7.3	7.3	5.0	5.6
– Lower secondary school	18.0	18.0	27.6	26.9
– Higher secondary school	49.4	49.4	46.8	47.3
– University degree	25.3	25.3	20.6	20.2
Total	100.0	100.0	100.0	100.0
A.V.	2,000	2,000	2,000	2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 13 – Occupational activity of the respondents (%)

Occupational Activity	*2016*	*2015*	*2014*	*2013*
– Self-employed	5.2	14.7	11.7	11.6
– Employed	39.3	35.3	34.0	33.5
– Laborer	8.2	7.4	7.8	7.3
– Housewife	10.8	9.7	14.0	14.8
– Pensioner	25.2	22.7	26.5	26.6
– Job seekers	8.1	7.3	5.3	5.1
– Other	3.2	2.9	0.7	1.1
Total	100.0	100.0	100.0	100.0
A.V.	2,000	2,000	2,000	2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 14 – Estimated socioeconomic status of the respondents (%)

Status declared	*2016*	*2015*	*2014*	*2013*
– High	9.7	1.9	8.2	8.8
– Middle-High	26.2	16.1	23.0	22.4
– Middle	46.1	46.1	34.5	33.7
– Low-Middle	16.1	26.2	23.9	24.7
– Low	1.9	9.7	10.4	10.4
Total	100.0	100.0	100.0	100.0
A.V.	2,000	2,000	2,000	2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 15 – Geographical distribution of respondents by residence (%)

Distribution	*2016*	*2015*	*2014*	*2013*
– North-West	28.1	28.2	28.2	28.2
– North-East	19.8	19.8	19.8	19.8
– Center	20.2	19.4	18.7	18.8
– South and Islands	31.9	32.6	33.3	33.2
Total	100.0	100.0	100.0	100.0
A.V.	2,000	2,000	2,000	2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 16 – Distribution of respondents by size of town of residence (%)

Size	*2016*	*2015*	*2014*	*2013*
– Up to 20,000 inhabitants	47.0	47.0	47.0	47.0
– 20,001 to 100,000 inhabitants	28.5	28.5	28.5	28.5
– 100,001 inhabitants and more	24.5	24.5	24.5	24.5
Total	100.0	100.0	100.0	100.0
A.V.	2,000	2,000	2,000	2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Table App. 17 – Distribution of respondents by region of residence (%)

Region		*%*
North	– Piedmont	8.3
	– Aosta Valley	0.3
	– Liguria	2.6
	– Lombardy	17.0
	– Veneto	8.0
	– Trentino Alto Adige	0.6
	– Friuli V.G.	3.4
	– Emilia Romagna	7.8
Center	– Tuscany	7.9
	– Marche	1.8
	– Umbria	1.0
	– Lazio	9.5
South	– Abruzzo	2.7
	– Molise	0.0
	– Campania	6.3
	– Apulia	8.2
	– Basilicata	1.1
	– Calabria	3.3
	– Sicily	7.7
	– Sardinia	2.5
Total		100.0
A.V.		2,000

Source: *Survey by Ermeneia – Studi & Strategie di Sistema, 2016*

Finally, the third method used to prepare the Report was that of defining the usual set of facility indicators, containing the most recent data available on the Italian hospital system. These have to do with the number and type of facilities, the relevant activity data, the size of the staff and spending. These indicators may be found in Part Four of this Report.

2. The complete list of contents of the 2016 Report

Part Two
THE OPINIONS OF USERS AND CITIZENS IN THE 2016 SITUATION SURVEY

Part Three
EXTRA-REGIONAL HEALTHCARE MOBILITY AND THE POSTPONING/FOREGOING OF CARE IN THE EXPERIENCE OF CARE-GIVERS

Part Four
STATISTICAL INDICATORS

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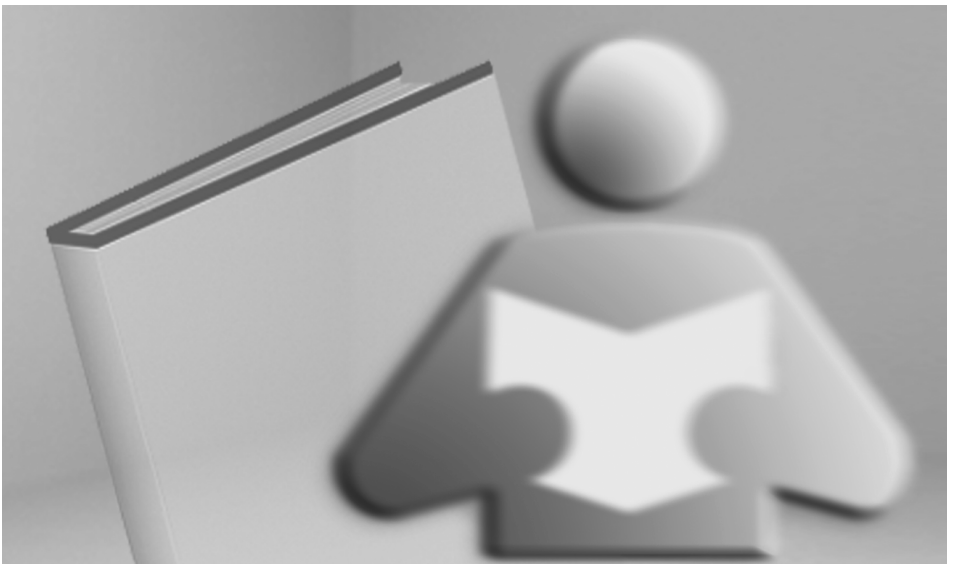

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The 2016 Health & Hospitals Report focuses, as it does every year, on the progress of the Italian hospital system: a system comprisiing 1,100 healthcare institutions with 200,000 patient beds, more than 9 million hospitalizations per year and 630,000 employees. All of this operates with a total hospital expenditure of EUR 61.2 billion, corresponding to 54.3% of the EUR 113 billion public health expenditure.

It is a complex system of services that meets the people's needs and demands for care and assistance and the reason why the Report always presents two aspects: that of users and citizens and that of the "machine", whose financial and management features relate to a mixed public/accredited private system, defined by an established law that now dates back to 25 years ago and is perceived, as well as experienced, as such by Italians.

This year it was decided to detect the effects of a "process of accumulation" of official and de facto financial and operational measures that over the past few years have resulted in placing the difficulties of restructuring and reorganization the public hospital system onto the users: through higher charges and access restrictions for users who have reacted by seeking out alternative solutions in the private sector as well as in hospital facilities outside their home region, or even by deciding to postpone or forego treatment. The result has been an increased sense of loss of integrity in the universal and inclusive principle upon which our National Health Service is based (or should be based), and the danger of a future deterioration in citizen health outcomes given the current difficulties for access and the progressive population aging process.

And this is taking place while there are still areas of "Additional Revenues" from the insufficiently transparent funding to public Hospital Centers and directly-managed Hospitals, that may be used to cover implicit budget deficits. Whereas, on the contrary, these could free up resources for the improvement of equipment, organization and especially services for users.

The path is getting narrow and the need for a major overhaul of the public hospital system (and the entire health system) is becoming increasingly clear, as is the fact that the inherent difficulties of this profound change cannot be passed on to users and accredited private service providers. The National Health System is a fundamental public asset, but there is a clear need for it to undergo repairs that include the redefinition of its priorities, more efficient use of available resources, and consideration of the consequences of today's actions on the health of citizens in the medium term.

Ermeneia – Studi & Strategie di Sistema is a company that specializes in providing analytical and consulting activities to trade associations and public and private clients, including those operating in the healthcare service sector, who are actively redesigning their presence and operational methods to remain in step with progressive changes in Italy.

AIOP – Associazione Italiana Ospedalità Privata (Italian Association of Private Hospitals) is a trade association that represents private healthcare facilities and hospitals, accredited or otherwise, throughout every region of Italy, which employ some 65,000, accounting for 10% of the operators of the entire system, who provide hospital services to 15% of patients.

FrancoAngeli
La passione per le conoscenze

ISBN 978-88-917-3434-1