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ON HEALTH CARE

Italian Observatory on Healthcare Report 2013

Health status and quality of care in the Italian Regions

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Osservasalute Report 2013– Summary

The analysis and indicators presented in the Osservasalute report 2013, better clarify some public health implications of the economic crisis that is sweeping across the country. Some reported evidence should not be necessarily interpreted in a negative sense, as they offer some insights useful for future choices. On the other hand, critical elements still persisting, such as increasing regional gaps, require an interventions planning aimed at rebalancing the resources and the performance of the System.

Economic indicators show that we entered a period of decline in the allocation of resources to National Health Service (NHS), and the expenditure has begun to decline since 2010. The reduction in public spending also damages families, forcing them to support the public payment and the tickets for the consumption of drugs. On the supply side, the number of public employees has been undergoing noticeable contractions since 2010 and the turnover rate dropped to more than 78%.

These elements can be the first sign of a period of reduced supply and public health activity, to be read positively if this was the result of interventions aimed at improving efficiency, reducing waste and inappropriateness. On the contrary, these signals may represent the first alarming signs of an overall strategy of downsizing government intervention in the health sector.

Waiting to better understand the newly proposed framework, the presented indicators back the image of a country that will have to face, in the future, the health needs of a population continuing its aging process and housing migrants. Survival data show that life expectancy continues to increase, but there is also an increase of territorial imbalances that penalize the southern regions.

Some indicators show positive signals on prevention, as evidenced by the mortality decrease in circulatory system diseases, i.e. diseases for which prevention plays a central role, giving a positive outcome of the system. With regard to primary prevention, on the one hand, the decreasing trend in smoking prevalence and consumers at risk of alcohol is confirmed, on the other hand the increase in overweight people, especially among children (27%), and poor sport practice still persist. With regard to overweight in children, this phenomenon is more prevalent in families with low levels of education, suggesting the need to implement prevention policies suitable to reach the lower social classes. Other indicators slightly improving are found in the data relating to the waste separate collection and those on road accidents. Separate disposal of waste, in 2012, increased by 2%, largely due to the southern regions. Road accidents are decreasing (-42% between 2001 and 2010), as well as the wounded and death people. This reduction, however, is still not enough to meet the target set by the European Union, planning to halve in the same time the number of deaths.

PART ONE – Health and population needs

Population - The study of the age structure of the population is central to the policies and interventions planning in the health sector, since many phenomena related to the health needs are directly related to or influenced by the age structure of the population.

Demographic indicators confirm that in our country the process of population agingis advanced and its consequences are emphasizing over time. The share of young people in the total population is very limited, while the absolute and relative weight of the elderly population gradually becomes more consistent. Regarding the relation between genders, it is shown that, at older ages, this is heavily biased in favor of women who have a higher survival.

Going into the details of individual indicators presented, it is observed that the “Index of Old Age” clearly shows how the age structure of the population is skewed towards the older age classes. In fact, for every 100 young people aged <15 years living in Italy, there are more than 148 people aged 65 years and older. The regions with the greater rate of elderly are Liguria (238.4 to 100), Friuli Venezia Giulia (190.0 to 100) and Toscana (187.3 to 100). In contrast, lower values were recorded in Campania (101.9 to 100), in the PA Bolzano (111.1 to 100) and Sicilia (126.2 to 100).

Also important are the data of the “Index of Dependence”: nationwide every 100 people of working age (15-64 years), there are 53.5 that, because of their age, have the potential to “depend” on those younger.

The “Index of Population Structure”of the active population tells us that for every 100 residents aged 15-39 years, there are just over 120 of the age group 40-64 years. The indicator, which again reaches its maximum in Liguria (150.5 to 100) and its minimum in Campania (102.0 to 100), is one of the measure of the aging population.

The “Index of Replacement” of the active population, which compares the five younger generations of collective working age people with the five older, is 130.3 to 100 at national level. Once again in Liguria we found the highest value (174.9 to 100) and in Campania the lowest (93.0 to 100).

Interesting is the “Indicator on Centenarians”: the data show that the over 100 years people amount has grown consistently over the last decade (2002-2011). In particular, centenarians doubled from just over 6,100 units in 2002 to over 13,500 in 2011. The female gender is most represented: in 2011, in fact, women account for 82,8% of the total number of centenarians.

Survival and cause-specific mortality - In Italy, the difference in the average length of life of men and women continues to shrink. The life expectancy at birth in 2010 was 79.4 years for men and 84.5 years for women. Overall, since 2006, men have gained 1 year of life (365 days) and women only 0.5 years (i.e. 183 days).

The reduction of gender differential is almost entirely attributable to the worst dynamics of mortality of women compared to men aged 0-74 years (+124 days versus +276 days). The causes that further explain this evolution are circulatory system diseases and malignant tumors for which it is observed, an overall smaller reduction in mortality for women than men.

At the regional level, there are still strong differences. For both genders the lowest values of life expectancy are observed in Campania and Sicilia, both in 2006 and in 2010, and the gap with the national average and the regions with the highest values increase over time.

The impact of the causes of death on the evolution of life expectancy, analyzed separately for two broad age groups, shows that, for the class 0-84 years, in all regions an increased survival is observed, due to the reduction in mortality of the circulatory system diseases for both men and women. In men it is always positive, in terms of increasing life expectancy, the contribution of tumors, while for women it is almost always negative the contribution of the mortality of mental and behavioral disorders.

In the 85 and over age class, there is a positive contribution of the increasing survival of circulatory system diseases, while the negative contribution is found for mental and behavioral disorders. In this age segment of the population such effects are generalized to both genders.

Risk factors, lifestyles and prevention

Smoking - In 2012, the proportion of smokers among population aged 14 and over amounted to 21.9%. The amount is slightly lower than the previous year, but is part of a trend characterized by a slow and steady decline in the percentage of smokers, from 2001 to 2012. By contrast, there has not been an increase in people who stopped smoking, stopping the growing line of recent years. Referring to smoking habits, there are not large regional differences. Cigarette smoking is more prevalent among young people aged 25-34 years and among adults aged 45-54 years. In these age group, almost three out of ten people are smoking (respectively, 28.6% and 28.7%).

Alcohol - The prevalence of non-drinkers and abstainers in the last 12 months amounted to 33.6% (in 2011), increased by one percentage point if compared to last year. Significant decreases were also registered in Toscana and Abruzzo (+3.6).

The prevalence of consumers at risk amounted to 23.9% for men (in 2011), with a reduction of 1.5 percentage points compared to 2010, and 6.9% for women. Analyzing the prevalence recorded in recent years, there has been a linear trend of decreasing prevalence of consumers men at risk in Toscana, Umbria, Emilia-Romagna, Calabria and, also evident for women, in Puglia.

Among young people (11-18 years) the prevalence of consumers at risk in 2011 is 14.1% for man and 8.4% for woman, confirming the decreasing trend at national level in recent years. At the regional level, the decrease is statistically significant for men, if compared to 2007, in Piemonte, Puglia and Sicilia. The prevalence of binge drinker in Italy is 9.5% (15.0% among men and 4.1% among women), with very high peaks in the PA Bolzano (21.7%) and in the Valle d'Aosta (17.0%). The lower prevalence can be found in Puglia and Campania, respectively 5.3% and 5.7%.

Food- Guidelines for a healthy diet assign a central role to the variety of foods. In particular, the consumption of fruits and vegetables (FV) has a strong positive value in reducing the risk of cardiovascular diseases and the ability to convey antioxidants within the human body. Following the international data, the consumption of 5 FV portion a day is a fundamental objective of nutrition policy. In Italy, in 2012, the percentage of people who adhere to this international standard stood at 4.7%, with a stable trend since 2005.

Overweight and obesity - In Italy, in 2012, more than a third of the adult population (35.6%) are overweight, while one in ten is obese (10.4%); a total of 46.0% of subjects aged> 18 years is overweight.

The differences found in the regions are considerable and it is confirmed the North-South gradient: the southern regions have the highest prevalence of obese people (12.9% Puglia and Molise 13.5%) and overweight (39.9% Basilicata and Campania 41.1%) than in northern regions (obese: Liguria 6.9% and 7.5% of Bolzano PA; overweight: 32.3% Liguria and PA Bolzano 32.5%).

Comparing the data with those of previous years, it should be noted that, since 2001, there has been an increase of 3.6 percentage points for overweight people.

Data for specific age groups (adolescents 14-17 years, children 6-10 years old) showed that overweight children and adolescents amounted to 26.9%. There are striking gender differences: the phenomenon is more prevalent among males than among females (30.1% vs. 23.6%). These differences were more pronounced among adolescents (14-17 years). The phenomenon of excess weight is more frequent among children and young people living in households with scarce or insufficient economic resources, but especially where the level of parental education is lower.

Physical Activity - In 2012, in Italy, 31.1% of people aged 3 years and over claim to practice one or more sports in their free time, i.e. approximately 18 million. Among them, 21.9% usually play sports and 9.2% do it occasionally. 29.2% of the population perform physical activity, while inactive people are about 23 million (39.2% of the population, 43.5% of women). The long-term data show an increase in the percentage of people usually playing sport (from 19.1% in 2001 to 21.9% in 2012). The northern regions, especially the PA Bolzano and Trento and Veneto, have the highest proportion of people who play sports continuously, followed by the regions of the North-West and

Central, while the southern regions have the lowest percentage of people who say they play sport in their spare time. The regions with the lowest share of sports practitioners are Campania (19.3%) and Puglia (21.7%).

Cancer screening - At the national level, in 2011, the percentage of women in the target age group and residents in an area where there is an active program of mammographic screening is around 96%, with a slight increase if compared to 2010. The increase is due, essentially, to the regions of the South, because the regions of Central and North of Italy show a slight decrease.

The cytological screening programs are followed by 84% of women. In the North, this percentage stood at 71% in the Centre at 98%, while in the South and Islands stood at 93%.

Finally, with regard to screening for colorectal cancer in Italy, in 2011, the percentage of people aged 50-69 included in a colorectal cancer screening program stands at 69%, reaching 94% to North and 80% in the Center. In the South and in the Islands, however, the percentage remains stable and stood at 31%.

Accidents - In 2012, in Italy, traffic accidents with people injured were 186,726 and caused 3,653 deaths and 264,716 varying severity wounded people. Every day, in the same year, there were an average of 512 road accidents with injuries, for a daily average of 10 killed and 725 wounded people. Compared to the previous year, there is a decrease of 9.2% in the number of accidents and 9.3% in the number of wounded. The number of deaths has decreased, however, by 5.4%. Most of the accident in Italy, takes place in the city. In 2012, in fact, 75.9% of the accidents occurred on urban roads, causing over 191,000 injured (72.3% of the total) and 1,500 deaths (42.8% of the total). In our country, the phenomenon of road accidents by region varies with mortality rates ranging from 3.9 to 8.6 per million inhabitants.
In recent years there have been noticeable improvements in the number of road accidents, but we have not yet achieved the goals set in 2001 by the European Commission that aimed to halve the number of fatalities in road accidents by 2010.

Environment - The production of municipal solid waste in 2012, has nearly reached 30 million tons, an intermediate value between the 2002 and 2003 ones. After a long period of growth, a modest reversal of production is confirmed, more marked in the South (-4.8%) and North (-4,6%) than in the Centre (3.9%).
The per capita production amounted in 2012 to 504 kg/inhabitant per year, reaching the lowest value with a progressive decline since 2006, year in which every citizen produced 546 kg.
The highest amounts of production are found in the Centre, with about 582 kg/inhabitant per year, and in the North, with 503 kg/inhabitant per year, while the lowest values are recorded in the South and the Islands with approximately 463 kg/inhabitant per year. Finally, Lombardia (15.4%) and Lazio (10.7%) together generate a quarter of the total national production of municipal solid waste.
With regard to the main mode of management, the analysis of the data shows that municipal solid waste disposed of in landfills in 2012 amounted to more than 11.6 million tons, registering a reduction of 11,7% if compared to 2011; a decrease was also observed with regard to the number of landfills, progressively reduced over the years (from 303 in 2006 to 186 in 2012). However, despite the reduction of municipal solid waste treated, landfilling again confirms the most common form of management.In particular, the regions of the Centre confer a higher amount of landfill waste (56.0%), compared to both the South and Islands (51.0%) and the North (22.0%).
As for the incineration, the national incineration capacity has reached the 17.0% of the total municipal solid waste, still below the European average (23%) and exceeded the 5 million tons of waste treated. In particular, incineration in 2012, compared to the previous year, showed a modest decrease in absolute amount of waste incinerated (195 thousand tons) and, with regard to the relationship with the waste products, a very slight increase, from 16.9% in 2011 to 17.0% in 2012.
The separate collection peaked in 2012 a national percentage equal to 39.9% of the total production of municipal solid waste, an increase of 2.2 percentage points compared to 2011, while in absolute terms, the increase corresponds to about 116 thousand tons. The macro area that contributed most to this increase is the South, which increases the amount of recycling in absolute value, between 2011-2012, approximately 145 thousand tons (corresponding to 6.1%), followed by Centre, an increase of approximately 96 thousand tons (+4.5%), while in the North there has been a drop of about 125 thousand tons (-1.7%).

Cardiovascular and cerebrovascular diseases - Hospitalization for ischemic heart disease shows that men rates continue to be, as in previous years, more than double of women (in 2012 amounted to 399.1 admissions per 100,000 men vs. 162.3 hospitalizations per 100,000 women). Between 2011 and 2012, the hospitalization rates for ischemic heart disease as a whole continued to decrease in both men and women.

In 2011-2012 the men rate of hospitalization for cerebrovascular diseases is 34.4% higher than the women's. Between 2011 and 2012, in almost all regions and in both genders, there was a reduction in hospital admissions for cerebrovascular diseases in their entirety. Concerning the hemorrhagic stroke the turnaround of admissions with an overall increase of more than 3% in men and 4% in women is alarming.

In our country, in 2010, the mortality rate for ischemic heart disease continues to affect men almost twice than women; in particular, in 2010, there were 13.53 deaths (per 10,000) among men and 7.31 deaths (per 10,000) among women, and it is to be noted that both the mortality rates are reducing if compared to 2009.

Metabolic diseases – Diabetes mellitus is one of the most common chronic diseases worldwide, representing one of the major health problems with a growing demand of resources.

About hospitalization, the distribution of values for both types of admission (Ordinary admission and Day Hospital - DH), shows that the regions of the South have higher discharge rates than the national average (77.66 per 10,000), while the regions of the Centre-North have the lowest values, with the exception of Lazio (89.58 per 10,000). Considering separately the regimes of hospitalization, a high rate of hospitalizations in DH may not be necessarily a bad community care, but it can be due to the particular organization of local health care (DH in some regions is used as an alternative outpatient visits). Although this year is not possible to make comparisons with previous years due to the change in the source of data for the reference population of standardized rates, the distribution of these values for both types of hospitalization shows higher numbers in the South and Islands, a phenomenon already pointed out in previous years. Regarding the gender distribution, the rates are higher in men for both types of hospitalization.

In the natural history of diabetes mellitus, acute and chronic complications are very frequent events. The frequency of acute complications (ketoacidosis, and hyperosmolar coma) is considered an indicator of quality of care for people with diabetes and may provide information to assess the services and support at the local level.

In the period 2001-2010, 204,700 hospitalizations for acute complications were identified, involving, in 2010, 15,000 people. The diabetic decompensation is indicated as the principal diagnosis in 33.6% of admissions only, while the highest number of hospitalizations reported in diagnosing diabetes with ketoacidosis (50.5%), with hyperosmolarity (24.0%) and other coma (25.5%). Considering the population with diabetes in 2010, every thousand people with diabetes, 5 were hospitalized for a complication in the short term. In the period 2001-2010, it is stressed a strong downward trend in admissions: the standardized rate is reduced from 52.7 (per 100,000) to 32.1 (per 100,000).

It shows a considerable regional variability with standardized rates which vary, in 2010, from 17.1 (per 100,000) in Lombardia 72.4 (per 100,000) in the Basilicata region.

Infectious Diseases - Infectious diseases represent a major public health problem despite the availability, for many of them, of effective preventive and therapeutic interventions. In this edition of the Report the rate of incidence of HIV and AIDS were considered.

In 2011, the incidence of new diagnoses of HIV infections was equal to 5.8 per 100,000 residents, showing higher values the Centre-North than in the South. By comparison with previous years, the incidence seems to have a stable trend in most of the regions, while it appears increasing in PA Bolzano, Sardegna, Valle d'Aosta, Umbria, Sicilia, and a slight decrease in Lazio, Piemonte, Emilia-Romagna, Marche and PA Trento. The median age of the subjects at the time of diagnosis increases in the last 30 years (26 years for men and 24 years for women in 1985, respectively, 38 and 34 years in 2011) and increases the proportion of cases attributable to transmission sex, while decreasing the infection associated with the use of intravenous drugs.

In 2011, there were 1,260 reported cases of AIDS, confirming the stable trend in the incidence of AIDS cases being recorded in our country since 2001. It is evident, as in previous years, the persistence of a North-South gradient and Islands in the spread of the disease in our country, with lower incidence rates in the southern regions. The median age at diagnosis of AIDS cases shows an increase over time, both among men than among women.

Health and disability - The number of persons aged 6 years and over with severe limitations in daily activities who live in a family, amounts to about 2 million 900 thousand, i.e. 5.1% of the Italian population, of which approximately 66% are elderly (> 65 years old). In this cohort, more than 1 million 500 thousand people have three or more chronic diseases (53.1%) and approximately 530,000 have 2 chronic diseases (18.3%). Approximately 370,000 people with severe limitations in daily activities do not suffer from any disease (12.8%).

The factors of distress of the families result, very often, in economic difficulties arising both from the actual ability to produce income, than the various economic requirements needed to face higher costs. The presence in the family of a person with a disability, not self-sufficient, can be a strong economic hardship in terms of the production of income (related to the difficult conciliation between work and care activities and personal care), and in terms of monetary resources needed for the necessities of daily living (e.g. for home care, transportation, health care, etc.). In fact, the indicators at the national level, showed that people with limitations in daily activities present a risk of living in a family with severe material deprivation 80% higher than people without limitations. This risk is highest in the Centre-North than in the South.

Mental health and addictions - Overall, the number of hospitalizations for mental disorders continues to decrease over the years (from 2003 to 2012 amounted to -14.6% for men and -17.5% for women), with a trend fairly constant over the past seven years. Although the situation is improving globally, marked differences still remain among regions. If considering the rate of hospitalization in the main macro areas, there are not substantial differences because of rates above the national average in regions of each macro for both genders.

With regard to the consumption of antidepressants, after the steady increase recorded in the decade 2001-2011, the prescriptive volume seems to have reached a stability in 2012 (36.9 DDD/1.000 inhabitants die in 2011; 36.8 DDD/1.000 inhabitants die in 2012). The increasing trend may be attributable to several factors, among which, for example, the use of this class of drugs for milder forms of depression (anxiety and depression) or for support therapy in subjects with degenerative diseases or cancer, the reduction of the stigma referring to problems of depression and the

increased attention of the General Practitioner (GP) on such diseases. The higher consumption in 2012 were recorded in Liguria, Toscana and in the PA Bolzano, while the lowest consumption in Friuli Venezia Giulia, Campania, Puglia and Basilicata.

Finally, we calculated the rate of suicide that can be read as an indicator of discomfort and lack of social cohesion and integration. In 2009-2010, the annual rate of suicide mortality was equal to 7.46 (per 100,000) of residents aged 15 and over; in 78.1% of cases, suicide victim is a man. It is important to note that the distribution of rates by age shows, for both genders, an increase with age, especially marked for men over 65 years, reaching maximum values in the older groups. For women, however, the suicide mortality data reaches higher values in the age group 70-74 years and then fall in the older groups. The indicator has also a strong geographical variability with rates generally higher in the northern regions (with the exception of Sardegna). About the trend, after the historical low value reached in 2006, there was a new upward trend in recent years, mainly focused on men for whom, in the last 4 years, there was an increase in mortality suicide in the working age group (30-69 years), if compared to a reduction of the youngest and among the elderly (except for the extreme age).

Mother and child health - The maternal and child health is an important part of public health as pregnancy, childbirth and the postnatal period are, in Italy, the first cause of hospitalization for women.

One of the most troubling data is the proportion of Caesarean section, which was 36.62% in 2012, ranging from a minimum of 22.95% recorded in Friuli Venezia Giulia to a maximum of 61.15% registered in Campania. There is, however, a trend of slight but continuous decrease since 2006, when the highest value was recorded (39.30%). It is noteworthy that, positively, for the first time are also reduced repeated Caesarean section.

Concerning the indicator Medically Assisted Procreation, the data presented refer to the activity of 2011. The data confirm a reduction of multiple births equal to 8,8% (the percentage of multiple births is 19.8% compared to 21.7% in 2010), compared to a slight decrease of the rate of pregnancies obtained.

Nationally, in 2011, the number of cycles started with the application of FIVET and ICSI techniques was 924 per million inhabitants. This value is constantly growing.

In our country, 21.8 per 1,000 live births born from pregnancies obtained with the application of assisted reproduction procedures. This value appears to be in a slight decrease compared to 2010 (22.3 per 1,000).

The risk of miscarriage increase in woman over 35 years old. In 2011, the number of miscarriages recorded is 76,334, which is equivalent to 137.36 cases per 1,000 live births. The temporal trend of the phenomenon that appears to be slightly increasing (the normalized ratio increased by 9.4% between 1982 and 2011), was also affected by the trend of fertility and its age structure.

The voluntary abortion in Italy, already mentioned as a country with the lowest values, continues its slow decline going from 7.9 Voluntary Interruption of Pregnancy per 1,000 women in 2010 to 7.8 per 1,000 in 2011. It is confirmed, therefore, that the Voluntary Interruption of Pregnancy is not a preference in our country, but in particularly disadvantaged population subgroups.

Immigrants and Health - The analysis of data concerning the presence of foreigners in Italy shows that, in Census 2011, there were 4 million and 29,145 foreign residing (6.8% of the total resident population), of which 53.3% were women. About 95% of the total number of foreign residents are from countries with a strong migratory pressure. The regions in which there is the highest number of foreign residents are in the North, led by Lombardia, which lies less than a quarter of all foreign residents in Italy, followed by Veneto (11.4%) and Emilia-Romagna (11.2%). Central regions with the highest percentage of foreigners are Lazio (10.6%) and Toscana (8.0%). At the same time, there is a more limited presence in the southern regions (Campania, for example, lies 3.7% of the total number of foreigners).

Foreigners residing in Italy have an age structure typical of a young population: in fact, 45.9% of foreign residents are between 25-44 years (referring to Italian people, this age group accounts for 26%). The average age of the entire quota is 31.1 years (the average age of the male component of foreigners is equal to 29.7 years, for females 32.3 years).

In all age groups the percentage of foreigners declaring to enjoy "good health" is higher than Italians. In the class 55 years and over, 59.9% of the foreigners said to be good or very good, compared with 42.4% of Italians.

The investigation of the physical, mental and psychological well being of foreigners was carried out through indices (index of physical health, psychological state and Index of mental health) related to the perception of the physical conditions of individuals. Foreigners who have resorted to the emergency department within 3 months prior to the interview were 67.2 (per 1,000) (age-standardized rate), especially in the age group 25-34 years, compared with a value of 50.5 (per 1,000) among Italians, who are making more use after 55 years. Foreigners who have resorted to the doctor in the 3 months preceding the interview, however, were 21 per 1,000, a value similar to that estimated for the Italians, with distribution by age comparable to the use of emergency department.

Indicators regarding language barriers, organizational and administrative bureaucracy that foreigners encounter in accessing health services were also presented. 13.8% of foreigners aged 14 and over represent they have difficulty in explaining in Italian disorders or symptoms of one's state of health at the doctor; 14.9% report having difficulty in understanding what the doctor says; 8,6% said also to have some difficulty in making visits or medical tests because of family and personal obligations (especially men), 16% because of work commitments.

The chapter concludes with a Focus which explains the important developments in the Italian regional realities in terms of health policy, organization of services and right to the assistance of the immigrant population, with particular reference to the document "Indicazioni per la corretta applicazione della normativa per l'assistenza sanitaria alla popolazione straniera da parte delle Regioni e Province Autonome italiane" (Guidelines for the correct application of legislation on health care to the foreign population from the Italian Regions and Autonomous Provinces) approved by the Permanent Conference for relations between the State, the Regions and the Autonomous Provinces on December 20th 2012 and published in Gazzetta Ufficiale S.O. n. 32 of 7th February 2013.

PART TWO – *Regional Health Systems and quality of services*

Economic-financial framework - The indicators analyzed in this chapter confirm the effectiveness of the policies of spending restraint. The expenditure/GDP ratio in 2012 was unchanged compared to 2011 (7.0%) but lower than 2009-2010 period (7.2%). At the regional level, the expenditure/GDP ratio in 2012 was lower than the 2009 in all the central and southern regions except Sicilia and Sardegna, as well as in 7 regions of the Centre-North, including Piemonte and Liguria that have a Realignment Plans. The analysis of some budget indicators calculated on a provincial aggregated shows that the high losses (i.e. more than 5% of income) are now a fairly small number (12 against 52 for the three years 2002-2004) and poorly focused from the geographical point of view (maximum two per region, in contrast to the period 2002-2004, in which seven regions were characterized by the presence of high losses in all provincial aggregates).

Institutional and organizational structure - The Report Osservasalute analyzes and monitors the impact of organizational and managerial determinants underpinning currently Regional Health Services, and in particular it focuses on the analysis of staff employed by the NHS. The data relating to staff expenditure for the 2008-2011 period showed an increase of 1,0%, rising from € 590 to € 596.3 per capita. This growth trend was reversed between 2010 and 2011, years for which there is a reduction in spending by 1.7%. The downward trend is also observed in the 2008-2011 period if we consider only the regions subject to repayment plan (Campania, Lazio, Molise, Abruzzo and Sicilia).

Nationally, from 2008 to 2011, the rate of compensation of turnover, show for all the years considered a value less than 100, in particular, in 2011 the rate fell to 78.2%. This result demonstrates that essentially the staff of the NHS has undergone a significant contraction. At the regional level, there is a strong heterogeneity in the rate of compensation of the turnover with only 4 regions (Valle d'Aosta, Umbria, Abruzzo and Basilicata) showing, in both 2011 and in 2010, values greater than 100.

Local and community care – Nationally, in 2011, 609,023 patients were assisted in their own homes. The rate of people that can be assisted in "Integrated Home Health" (IHH) continues to grow, reaching a value of 1,005 cases (per 100,000), an increase of 1.5% compared to 2010. A considerable variability of the indicator at the regional level remains, by comparison with previous years; apart from the PA Bolzano and Valle d'Aosta which possess a self-regulatory models of home care, the range goes from a minimum rate of 480 patient that can be assisted in IHH (per 100,000) of Puglia to a maximum value of 2,613 (per 100,000) of Emilia-Romagna. The analysis by geographical area confirms the considerable heterogeneity: the northern regions, while recording a slight decline from the previous year (-3.2%), have higher values than the regions of Central and South and the islands (respectively, 1,263, 1,071 and 624 per 100,000).

In Italy, the number of beds in residential social care facilities designed to accommodate the elderly and people with disabilities are, in total, 288,715 amounted to 486.1 per 100,000 population. The largest part of the offer is intended to accommodate older (416.3 per 100,000), the smallest, however, is intended for users with disabilities with age <65 years (69.8 per 100,000). The spatial analysis shows striking differences between the divisions, with an offer that is concentrated mainly in the northern regions and undergoes substantial reductions in other areas of the country. The elderly guests in the residential facilities are, on the whole, 243,960 and about 80% have a certificate attesting the condition of " self-sufficiency" (1,533 per 100,000). Fewer adults and children with disabilities are guests, respectively 42,306 (114.3 per 100,000) and 1,449 (14.5 per 100,000). In line with the framework of supply, an increased use of institutionalization is found in the northern regions, especially for frail elderly people, for whom the rates of hospitalization highest levels are found in the PA Bolzano and Trento and Val d'Aosta (respectively, 4246.5, 4109.4 and 3319.8 per 100,000).

Between 2010 and 2012 the average rate of hospital discharges for asthma in children under 17 years of age was 0.8 per 1,000 in the same period potentially avoidable hospitalizations for gastroenteritis in children were 3.8 per 1,000, with values generally higher in the southern regions.

Pharmaceutics - The main results of the analysis show that, since 2001, the consumption in terms of Defined Daily Doses (DDD) per capita has increased by 46.1%, while in terms of gross expenditure of the partnership and the ticket, there was a decrease of 8.1%. Also the per capita expenditure for ticket and sharing is increasing, raising from € 11.3 in 2003 to € 23.7 in 2012.

The consumption analysis highlights a discrete regional variability that, with regard to the territorial pharmaceutical consumption, oscillates between the maximum value of 1,110 DDD/1.000 inhabitants die of Sicilia to 882 DDD/1.000 inhabitants die of Liguria (excluding the Region of Valle d'Aosta and the PA Bolzano and Trento that could represent reality not directly comparable with those of other regions). We observe a clear North-South gradient: some southern regions (Campania, Puglia, Calabria, Sicilia and Sardegna), Lazio and Umbria, stood well above the national value.

Taking into account the temporal dynamics for the period 2001-2012, the average increase in consumption is 46.1%, with Molise (+58.6%), Umbria and Puglia (+53.7%) that showed the highest values .

The comparison between the data of consumption and spending show two patterns: some regions (Lombardia, PA Bolzano, PA Trento, Veneto, Umbria, Lazio, Calabria and Sicilia) faced an increase in consumption and a reduction in spending; other regions (Liguria, Emilia-Romagna, Basilicata), in addition to a substantial reduction in expenditure (-9% to -11% over the previous year), have also reduced, more or less marked, consumption (by -1% to -4%).

With regard to type of drugs consumed, since 2001, there has been a significant increase in the consumption of first level Anatomical, Therapeutic and Chemical Hematologic (+120.8%) drugs, Gastrointestinal and Metabolic (+95.8%), while decline in those Dermatological (-67.4%). The consumption of antibiotics has increased steadily over the period 2001-2009, while, from the year 2010, the consumption trend is starting to show a turnaround. This downwards trend is observable in almost all regions, with the exception of Lombardia and Sardegna, where we are witnessing an increase in consumption, respectively, 1.1% and 1.0%.

The greatest reductions, compared to the year 2011, it is recorded in Liguria (-10.6%), Molise (-10.3%), Basilicata (-8.5%) and Sicilia (-8.1%).

Hospital care – To monitor the changes and compare the results and trends underway in the different regions in terms of the objectives set by national planning, we analyzed a series of indicators on the demand met by the hospital network, the production efficiency of the shelters and care, and clinical and organizational appropriateness.

The picture that emerges by analyzing the rate of hospitalization in the elderly population confirms the trend towards a reduction of hospitalization in both modes, that is, both Regular Admission (RA) and Day Hospital (DH). Specifically, the analysis in the time period 2007-2012, shows the overall rate for a reduction of 16.8%, for the mode of hospitalization in the RA a reduction of 11.1% and for the DH a reduction of 34, 6%. The rate on the treatment of RA ranges from 352.2 (per 1,000) of the PA Bolzano to 242.7 (per 1,000) of Piemonte, while the DH for the highest value relates to the Campania region (116.6 per 1,000) and the lowest to Lombardia (28.9 per 1,000), well below the national average (61.3 per 1,000).

Starting from this year the case-mix and the comparative performance index were introduced, providing guidance for an assessment of the complexity and efficiency of the emitters, especially if these indicators are read together. This analysis shows that regions with a Comparative Index of Performance (ICP < 1) and a more complex case studies (case mix index > 1) are the Valle d'Aosta, in the class of hospitals with fewer than 120 beds, Toscana and Emilia-Romagna in class between 120-400 beds, and Piemonte in the class with more than 400 beds.

The analysis of hospital mobility takes into account the inter-regional movement of patients to undergo treatments and surgical procedures that require hospitalization. In this regard, it was studied the Attraction Index and the Escape Index. The mobility of hospitalizations for acute under the RA has, overall, a decreasing trend in absolute values and in percentages slightly increasing, rising from 6.9% in 2002 to 7.4% in 2007 and 7.5% in 2012. Increasing values assume the percentages of discharge in mobility for acute patients under the DH (6.1% in 2002, 6.7% in 2007 and 7.8% in 2012). It also noted a reduction in the last 5 years of the absolute number of hospital discharges of patients residing abroad.

The percentage of admissions to DH for medical DRGs at risk of inappropriateness did not record meaningful and unique variations in the period 2010-2012 (and increased from 48.1% to 49.2% between 2010 and 2011, while between 2011 and 2012 was reduced to 47.3%). The analysis of the standardized rate of hospital discharges for medical DRGs at risk of inappropriateness instead shows a reduction in the last 3 years (from 34.4 per 1,000 population in 2010 to 30.2 1000 of 2012). Among the appropriateness organizational indicators, the discharge from surgical units with medical DRG were calculated, decreasing steadily for several years, more sensitive in the 2010-2012 period (from 33.3% to 30.8%). The data show a high regional variability and a clear geographical gradient with all regions of the South and the Islands that have high values, especially when compared with those of all the regions of the Centre, with the exception of Lazio. The region with the lowest proportion is the Piemonte (24.1%), while the highest value is recorded in Calabria (43.0%).

Hospitalization rates for diseases of high social impact refer to surgery for hip replacement, coronary bypass surgery and coronary angioplasty. In 2012, the standardized rate of hospital discharges in the elderly population for the three measures mentioned above, amounted to 596.8 per 100,000, respectively, 121.7 per 100,000, 579.2 per 100,000, with a high regional variability.

The last presented indicator is on clinical and organizational appropriateness, covering interventions for hip fracture performed within 48 hours in patients aged 65 years and over. In the period considered (2001-2012) the percentage of work performed within 2 days of admission has remained fairly constant from 2001 to 2008 (between 31.2% and 32.5%), while since 2009 has been a rapid increase, rising from 33.6% in 2009 to 44.7% in 2012, an increase

of more substantial analysis in the last year, and a marked regional variability ranging from 13.8 to 82% of Molise, 8% of the PA Bolzano.

Transplants – The indicators examined concern the activity of donation and procurement, transplantation and evaluation of outcomes.

In 2012, the total number of donors was 1,123 against 1,113 in the previous year, with total growth of 0.9%, and a median age of donors used that continues to grow, rising from 52 years in 2002 to 61 years in 2012. In the same year, compared to the number of registered death with neurological findings, objections were 29.2%, up by half a percentage point compared to 2011. The total number of patients on the waiting list, in 2012, amounted to 8,764, with a slight increase (0.4%) over the previous year. In 2012, the highest levels of donors used are recorded in the Marche region (35.0 per million of population-PMP), while smaller values are observed in Puglia (6.9 PMP).

The regional gap between the Centre- North and the South persists in the activity of transplantation and distribution centers by type of organ, generating a mobility of the patients to the northern regions, as evidenced by the percentage and the number of transplants performed on subjects from outside the region. Specifically, Emilia-Romagna is the region with the highest percentage of extra-regional transplants (48.7%).

For the evaluation of the outcomes, data on patient and graft survival at 1 and 5 years after transplantation were examined. It is important to note that the differences in survival values are due to the different types and complexity of the transplants. In detail, the values of the 1 year survival of the patient were higher than 80% for the transplantation of the heart and liver (respectively, 83.5% and 86.0%), while for the kidney there is a value equal to 97,2% and for the bone marrow a value of 57.7%.