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Italian Observatory on Healthcare Report 2015

Health status and quality of care in the Italian Regions

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Osservasalute Report 2015– Summary

Since 2003, the National Observatory on Health in the Italian Regions monitors the health status of the population and the impact of the organizational determinants on which the Regional Health Services are currently based. The Report Osservasalute is divided into two parts, dealing first with issues relating to health and the needs of the population and the second to the Regional Health Systems and the quality of services offered. It has the aim to collect objective and scientifically rigorous data, to make them available to the national and international scientific community and those who have decision-making responsibilities, so that they could take appropriate action, timely and rational, likely to improve health and to meet the needs of target populations.
The data analyzed in the report Osservasalute 2015, similarly to previous years, show that the health status of the Italian is good overall. The effects of the aging process continue to occur and this has an impact on the number of chronic patients and, in general, on the health care needs that request for assistance.
Although there is a slight decrease in the percentage of subjects with unhealthy lifestyles (smoking habits, alcohol consumption and physical inactivity), the need to encourage the offer and adherence to primary and secondary prevention activities (such as vaccination and screening) and social and health policies that specifically face the health needs of a population getting older and suffering from multiple diseases clearly appear.
Differences between geographic areas, between different regions and between men and women still persist in various areas investigated, and in some cases intensified. This heterogeneity is due to different programming decisions, organizational and management that have led, in some regions, problematic financial scenarios with consequences in the quality of services provided in the offer and equity of access to them. This type of situations are found mainly in the South, where some areas show most critical conditions. The so far set up scenario, of course, is compounded by the repercussions of the economic crisis that continues to invest our country and that has a decisive influence on lifestyles and on the citizens quality of life, especially for poor people.
Although the presented indicators highlight several negative aspects, it is essential that they should be read in a positive way, as a basis for future choices.
The cooperation between the institutions, health professionals and citizens, both in terms national and regional levels, it is crucial, in order to mitigate the differences in health status and care and to ensure adequate and equitable health care to all persons, regardless of place of residence and socio-economic status.

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.

The values of the analyzed indicators are quite stable in time. Demographic indicators confirm that in our country the process of population aging is advanced and its consequences are emphasizing over time. 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. Regional differences see some areas of the country most involved in the aging process: at one extreme Liguria, that holds the record for the "oldest" region of Italy; the other Campania, where the process of aging of the population is in a relatively less advanced stage, thanks to the high birth rate registered until a few years ago.

The analysis of the dynamics of the population, shows a substantial stability of the resident population. The natural balance is negative in almost all regions, while the migration rate is positive, but low. It is confirmed the North-South and Islands dichotomy in the attractive/repulsive ability of migration flows, both internally and with other countries.

The average number of children per woman, for all the residents, in 2013, is 1.39 (Italian 1.29, foreign 2.10 children per woman). There are considerable regional differences. The average number of children per woman is 1.65 in Bolzano AP (Autonomous Province) compared to 1.11 in Sardegna. The average age at birth remains high, at 31.5 years (32.1 years Italian and foreign 28.6 years). Quite one born every five has a foreign mother, with a peak of a born every three in Emilia-Romagna.

Interesting is the "Indicator on Centenarians": the data show that the over 100 years people amount is more than 3 out of 10,000 residents (1st January 2015). The female gender is most represented.

Survival and cause-specific mortality - The life expectancy at birth in 2014 was 80.3 years for men and 85.0 years for women. Overall, in the last years the difference in the average length of life of men and women continues to shrink (+4.7 years for women compared to +5.0 years in 2010), remaining, however, still higher in women.

At the regional level, there are still strong differences. For both genders the lowest values of life expectancy are observed in Campania (78.5 for men and 83.3 for women), the highest in Trento AP (81.3 and 86.1 respectively).

As for the causes of death, by the 2012 data, the most common are ischemic heart disease, responsible for 75,098 deaths (just over 12% of all deaths), followed by cerebrovascular diseases (61,255 deaths, 10.0% of the total) and other heart diseases (48,384 deaths, 8.0% of the total). The fourth most common cause is represented by malignant tumors of the trachea, bronchi and lungs, which causes 24,885 deaths in men (2nd cause of death) three times those seen in women (10° cause of death). The deaths due to hypertensive disease (20,367), as well as dementia and Alzheimer's disease (18,226), cause among women twice as many deaths observed among men.

The territorial situation shows, however, an obvious geographic diversity. In fact, cancer of the trachea, bronchi and lungs, dementia, Alzheimer's disease and influenza and pneumonia show a greater relative importance in the northern areas, while in the south the more significant in relative terms is deaths from diabetes and hypertensive disease.

Risk factors, lifestyles and prevention

Smoking - In 2014, the proportion of smokers among population aged 14 and over amounted to 19.5%. 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. The prevalence of people who stopped smoking is not linear: in 2014 it is 22.6%, lower if compared to 2013 (23.3%) and similar to 2012 (22.6%). In the North-East Center, in 2014, there is the highest prevalence of people who stopped smoking (22.5%), in the South and Island the lowest (17.1%). Still very high the difference between men and women, among smokers (24.5% men vs. 14.8% women) and ex-smokers (30.4% men vs. 15.3% women). In 2014 cigarette smoking is more prevalent, for both man and woman, among young people aged 20-24 and 25-34 years (28.8 and 33.5 of men and 20.5% and 19.3 of women, respectively).

Alcohol - The prevalence of non-drinkers and abstainers in the last 12 months amounted to 35.6% (in 2014), stable if compared to last year (34.9%). There is an increase in the percentage of non-users if compared to 2013, mainly in Toscana (+5.2 percentage points), and a decrease mainly in Piemonte (-3.0) and Friuli Venezia Giulia (-3.2).

The prevalence of consumers at risk in 2014, amounted to 22.7% for men and 8.2% for women, quite stable if compared to the 2013 value (23.4% and 8.8% respectively).

Among young people (11-17 years) the prevalence of consumers at risk, in 2014, amounted to 19.4% (males 21.5%; females 17.3%), with no statistically significant differences of gender at the regional level. The only region with a value significantly higher than the national one is Bolzano AP (31.4%).

In 2014, in the age group 18-64 years, the prevalence of consumers at risk is stable if compared to 2013 (18.3% versus 19.0% among men and 7.3% versus 8.0% among women).

The prevalence of binge drinkers in the population aged 18-64 years is 12.7% among men and 3.4% among women, with highest values in the Bolzano AP (32.6% for men and 13.7% for women) and lowest in Puglia (7.6% among men and 1.6% among women).

Fruits and vegetables consumption - 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 2014, the daily consumption of vegetables is most common in the northern and central regions, while in the South and Island a higher prevalence in the daily consumption of fruit is observed.

In all regions, the FV consumption is always below the benchmark of the 5 portions and it is between 2-4 portions. In 2005-2014 the consumption of 5 portions per day of FV shows decreasing values.

Overweight and obesity - In Italy, in 2014, more than a third of the adult population (36.2%) are overweight, while one in ten is obese (10.2%); a total of 46.4% 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 (Molise 14.6%, Abruzzo 13.1% and Puglia 11.9%) and overweight (Campania 41.5%, Calabria 39.6%, Puglia 39.4%) than in northern regions (obese: Trento AP 7.5%, Bolzano AP 8,1%; overweight: Trento AP 28.5%, Valle d'Aosta 31,5%). However, it should be noted that, since 2001, in the North-West there has been the highest increase of overweight people.

Data for specific age groups shows that the percentage of the overweight population increases with age: the overweight rose from 14.9% of the age group 18-24 years to 46.5% of age group 65-74 years; obesity from 2.4% to 15.7% for the same age groups. There are striking gender differences: overweight is more prevalent among males than among females (44.8% vs 28.2%), as well as obesity (10.8% vs 9.7%). The age group in which there are the greatest percentage is, for both genders, the one between 65-74 years.

Overweight and obesity in children - OKkio alla Salute - In 2014 the proportion of overweight children (8-9 years old, including overweight and obesity) is 30.7%, slightly decreasing in time. Overweight children aged 8-9 years are 20.9% and obese children are 9.8%, including severely obese children that alone is 2.2%. There are no significant differences by gender and age of children. There is a strong regional variability with lower percentages in northern and highest in the South and Island (13.4% overweight in the Bolzano AP vs 28.6% in Campania, 4,0% of obesity in Bolzano AP vs 19.2% in Campania).

An higher prevalence of overweight is shown among children living in families where the parental education level is lower, wherein at least one of the parents is overweight. There are no differences when considering the parents' citizenship. The prevalence of children of 8-9 years underweight is very low (1.4%).

Physical Activity - In 2014, in Italy, 31.6% of people aged 3 years and over claim to practice one or more sports in their free time, i.e. approximately 18 million and 500 thousand. Among them, 23.0% usually play sports and 8.6% do it occasionally. People performing physical activity is 28.2%, while inactive people are about 23 million and 500 thousand (39.9%). The long-term data show an increase in the percentage of people usually playing sport (from 19.1% in 2001 to 23.0% in 2014).

If compared to 2013, in 2014 there is a significant decrease in sedentary people rate (-1.3 percentage points). The northern regions have the highest proportion of people who play sports continuously, while the southern regions have the lowest percentage, except for Sardegna (30.8% play sport continuously or occasionally).

Increasing age lead to a decrease in sports interest (continuous or intermittent), and to an increase in the physical activity. The gender analysis shows large differences in all age groups, except for the very young (3-5 years), with levels of sport much higher among men (men: 27.1% practice sports regularly and 10.3% practice it from time to time; women: 19.2% and 7.0%, respectively). The proportion of sedentary is higher among women (44.1% vs 35.5%).

Vaccination coverage in children - The so-called compulsory vaccination achieve in 2013 the minimum established coverage fixed by the current National Vaccine Prevention Plan, in accordance with the recommendations of the World Health Organization, that is at least 95% within 2 years age. In 2013-2014 recorded coverage values are below the minimum established coverage, although they are still above the 94%. The same trend in a slight decrease is evident for some recommended vaccinations, such as Hib (-0.6%) and Pertussis (-1.1%). Major variations are recorded, however, for vaccine coverage of Measles, Mumps, Rubella (-4.0%) and meningococcal C conjugate (-2.5%). The anti-Varicella vaccinations and Pneumococcal conjugate show, instead, a coverage increase (+10.3% and +0.6%, respectively).

Concerning compulsory vaccination, regional values are lower than the minimum target coverage in Valle d'Aosta, Lombardia (except for anti-polio and anti-tetanus rates), Bolzano AP, Trento AP, Veneto (where the suspension of the mandatory vaccination was introduced from 1 January 2008), Friuli Venezia Giulia, Emilia-Romagna (except for anti-tetanus rates), Marche, Campania Puglia and Sicilia.

The coverage of vaccination for Measles-Mumps-Rubella has not yet reached the optimal value of the 95% indicated in the National Plan for the Elimination of Measles and Rubella congenital and in 2014 coverage rates show a greater reduction.

Influenza vaccination coverage - The flu vaccination coverage in the general population is 13.6%, in the season 2014-2015, with slight regional differences, but without a real geographical gradient. In children and young adults coverage rates, at national level, do not exceed 1.8% in the different age groups considered. For the age group 45-64 years a higher value is recorded (7.2%). In the elderly over 65, flu coverage do not reache values considered minimal or optimal (75% and 95%) by the National Vaccine Prevention Plan in any regions.

In the period 2003-2004/2014-2015, regarding the vaccination coverage of the 65s, there was a decrease at the national level (-22.7%).

Cancer screening - The "Progressi delle Aziende Sanitarie per la Salute in Italia" (PASSI) (i.e. Progress of Local Health Authorities for Health in Italy) collects information on the coverage of screening, in the programs organized by Local Health Authorities (LHA) or on personal initiative, predictors of screening practice and promotion activities.

According to PASSI data, for mammography exam as a preventive measure, at the national level, in the period 2011-2014, 51% of the target population of women joined the programs offered by the LHA, while 19% carried out the examination, in the times recommended on spontaneous initiative. We highlight regional differences related to the proportion of women who adhere to the programs organized (the largest share), which is the mirror image of the geography of mammography spontaneous screening, with lower values in the North (16%), followed by the Centre-South and Islands (21%). The proportion of women undergoing mammography screening organized programs is higher among 50-59 (24%), among the most educated (30%) and among those who report that they have no economic difficulties (22%).

In the period 2011-2014, 42% of the target population undergoing screening for cervical cancer (Pap test and/or Human Papilloma Virus test) adhere to the programs offered by the LHA, while 37% act by spontaneous initiative. Geographical differences appear between organized programs and spontaneous screening (49% vs 37% in the North and 46% vs 39% in the Center; 32% vs 34% in the South). From 2008 to 2014 the coverage for cervical cancer organized screening grows, while spontaneous screening rate remains stable or decreases significantly in the North (-9.4%). The proportion of women undergoing screening for cervical cancer on spontaneous initiative is higher among 35-49enni (42%) and among the most educated (45%) and is particularly sensitive

to economic conditions (41% between Women who report that they have no economic difficulty and 30% among those with many economic difficulties).

With regard to screening for colorectal cancer, the national coverage is far from the expected: only 41% of the target population report to have performed, as a preventive measure, one of the tests for the early detection of colorectal cancers. Strong geographical gradient North-South and Islands are shown, with coverage ratios of 64% in the North, 43% in Central and 19% in the South and Islands. Over time there has been a slow but significant growth all over the country: from 2010 to 2014, the proportion of people undergoing screening for colorectal cancer as a preventive measure, according to the Guidelines, has grown by an average of 7.9% (+11.7% in the North, +8.8% in the Centre and +7.5% in the South and Islands). Screening for colorectal cancer is more common among 60-69enni (45%), in men than women (42% vs 39%), in people without economic difficulties compared to those with many (51% vs 28%) and among Italians than foreigners (41% vs 35%).

Accidents - In 2014, in Italy, traffic accidents with people injured were 177,031 and caused 3,381 deaths (within 30 days) and 251,147 varying severity wounded people.

Compared to 2013, there is a decrease in the number of accidents with personal injury (-2.5%) and the number of deaths (-0.6%) and injuries (-2.7%). The number of deaths has decreased in 2014 by 52.4% compared to 2001. The standardized mortality rates are significantly higher for males compared to female gender (0.91 vs 0.22 per 10,000 in 2014).

Analyzing accidents and deaths at work in the period 2010-2014, there is a significant decrease of the incidence rate (more than 25%, 4,292.8 vs 3,277.0 per 100,000 workers). The northern regions have the highest values, while the South regions, except for Abruzzo and Puglia, have the lowest accident rates. As for mortality rates for accidents at work, the highest value is recorded in Basilicata (20.54 per 100,000), while the minimum rate in Valle d'Aosta (2.15 per 100,000).

As regards to domestic accidents, they have involved, in 2014, 688 thousand people (11.3 per 1,000). Women are the most affected (nearly 70% of all accidents), with a ratio of 15.4 injuries (per 1,000). Over 27 seniors over 74 years (per 1,000) and 9.4 children less than 6 years (per 1,000) have undergone at least one domestic accident. With regard to the regional differences, they are not really evident.

Environment - The production of municipal solid waste in 2014 has nearly reached 30 million tons, in between those recorded in 2001 and 2002; there is a slight increase compared to 2013, that represent a turnaround in production if compared to the 2010-2013 period, when the production was decreasing (-9%). With respect to geographic areas, the higher amount of production is in the Center (about 547 kg/inhabitant per year), followed by the North (496 kg/inhabitant per year) and the South and Islands (approximately 443 kg/inhabitant per year). With regard to the individual regions, Lombardia (15.7%) and Lazio (10.4%) together generate a quarter of the total national production of waste.

Analysis of the data shows that the municipal solid waste disposed in landfills, in 2014, amounted to 9 million and 332 thousand tons, registering a reduction of around 14% if compared to 2013; a decrease was also observed with respect to the number of landfills, progressively reduced over the years (from 303 in 2006 to 172 in 2014). Landfilling again is confirmed as the most widespread form of management.

Regarding the thermal destruction, the ability of national incineration has reached 17.4% of the total municipal solid waste, still below the European average (26.0%) and exceeded 5 million tons of waste treated. In particular, incineration in 2014, compared to the previous year, recorded a modest decrease in absolute amount of waste incinerated (about 240 thousand tons) and, as regards the relationship with the waste products, a decrease of 0.8% (from 18.2% in 2013 to 17.4% in 2014).

The separate collection has reached in 2014, at the national level, a percentage equal to 45.2% of the total production of municipal solid waste, an increase of nearly 3 percentage points compared to 2013 (about 900 thousand tons). The macro area that has contributed most to this increase is the North, which increases the amount of recycling in absolute value, between 2013-2014, of about 412 thousand tons, followed by the Centre (+280 thousand tons), and South and Island (+200 thousand tons).

In 2012 5,232,000 m^3 of drinking water were distributed, mainly in the regions of North-West and, to a lesser extent, in the other macro-areas. The region with the largest quantity of water distributed is Lombardia, with 1,053 million m^3 (corresponding to 20.13%), followed by Lazio (9.88%), Campania (8.58%) and Veneto (7.80%). With regard to the percentage of water distributed as part of the total water released in municipal water supply network (national average of 62.61%), there is a marked North-South and Islands gradient, with values ranging from 70.50% to 49.70%. A worrying value is the percentage of water distributed, compared to the amount released in water supply network, which in 2012 showed a substantial loss on the network itself, if compared to 1999 (62.61% vs 71.49%).

Concerning climate changes, Meteoclimate World Organization indexes show that Italy is slowly heating up, with percentage changes, in different regions, ranging from a minimum of 0% up to 227.3%, with positive and negative changing periods, justifying the extreme variability of the phenomenon and the events that follow (floods, tropical cyclones, landslides, variation of communicable and non-communicable diseases, heat waves, changes in the organoleptic characteristics of the food or of their production and conservation, waves of immigration of the people already exposed to high temperature etc.).

Cardiovascular and cerebrovascular diseases - Cardiovascular diseases still represent, in Italy, one of the most important public health problems, both in terms of the number of deaths and disability, and for the impact on the quality of life and economic and social costs.

In this class of diseases we find the ischemic heart diseases that cause a high rate of hospitalization, especially among men (in 2014 the rate of hospitalization for these conditions amounted to 892.4 per 100,000 men versus 315.2 per 100,000 women). Same gender differences are found for the acute myocardial infarction, amounting to 374.5 hospitalizations per 100,000 men vs. 150.9 hospitalizations per 100,000 women, and for other acute and subacute forms of ischemic heart disease, amounting to 521.8 hospitalizations per 100,000 men vs. 200.6 hospitalizations per 100,000 women.

An encouraging fact is that, between 2011 and 2014, there continues to be, as in previous years, a decrease in hospitalization rates for both ischemic heart disease as a whole and for the acute myocardial infarction. The rate of hospitalization for the cerebrovascular diseases as a whole is 35.5% higher in men than women: in particular, for the ischemic stroke subgroup this higher amount is 19.3% and for the hemorrhagic stroke it is 49.9%.

Metabolic diseases - Diabetes mellitus is one of the most common chronic diseases worldwide, representing one of the major health problems.

Concerning hospitalization under the Ordinary type of Hospitalization (RO) and Day Hospital (DH), in 2014, standardized rates are higher in the South and the Islands, as evidenced in previous years. The standardized rate of hospital discharges under the RO is highest in Molise (89.76 per 10,000), followed by Puglia (88.85 per 10,000) and Campania (83.01 per 10,000). Considering the DH, however, the highest values are observed in Molise (23.12 per 10,000) and Campania (17.57 per 10,000). The data 2005-2014, at national level, show a steady decline of average rate of discharge for all type of hospitalization (from 92.21 to 66.94 per 100,000).

For both types of admission it is confirmed that the standardized rates of hospital discharge were higher in men, with a national ratio of 1.55:1 in the RO system and 1.76:1 in the DH system.

Mortality data in 2012, stratified by region and gender, show that the highest rates are found, for both genders, in two southern regions: for men in Sicilia (5.50 per 10,000) followed by Campania (4,72 to 10,000), while for women in Campania (4.83 per 10,000) followed by Sicilia (4.65 per 10,000). For both years there is a geographical gradient of mortality North-South and Islands and more involvement of advanced age groups.

Concerning the hospitalization for lower limb amputation, as a complication of diabetes, in 2003-2013 the standardized discharge rate for amputation remained essentially stable, with a national average of 17.4 (per 100,000) in 2013. It is found, however, a reduction of major amputation (6.2 vs 4.7 per 100,000) and, by contrast, a growing trend of minor amputation (11.1 versus 11.9 per 100,000). The rate of discharge increases strongly with age in both genders, and as recorded in all age classes, amputations are more common among men than women. The regional variability is significant, without a gradient North-South and Islands.

The diabetic deficit is indicated in the main diagnosis, and more accountable for the deployment of resources, only in 32.4% of admissions. The hospitalization for short term complications, compared to 2013, includes the following diagnoses: ketoacidosis resulting from diabetes (49.1%), followed by hyperosmolarity (32.6%) and diabetes with other type of coma (18, 3%). The rate of hospitalization for acute complications is higher in men (25.6 per 100,000) than women (23.4 per 100,000) and increases strongly with age in both genders. There was a significant regional variability with standardized rates, ranging from 15.1 (per 100,000) in Marche to 39.4 (for 100,000) in Basilicata, where there was a decrease of about 24% compared to 2012. Compared to the previous year, the rates decreased in almost all regions, with the exception of Puglia and Sardegna, where there is an increase and Friuli Venezia Giulia and Marche where, instead, the values remain constant. Evaluating the 2001-2013 trend is it possible to observe a strong decrease in hospitalizations for acute complications, with a total reduction of 58.5%.

Oncological diseases - In Italy the health burden associated with cancer is rising, mainly due to aging of the population. The spread of cancer in our country, however, varied considerably in terms of geography: the risk of getting cancer is generally higher in the regions of central and northern Italy than southern ones. The distribution of risk factors and age structure are well diversified across regions. In assessing the health burden of this disease in our country we need to consider, therefore, the regional detail, for the benefit of a highly regionalized health organization both in prevention and health care pathways.

In 2014 it is estimated that, in Italy, 115.78 new cases of colorectal cancer per 100,000 people have been diagnosed, i.e. around 34,500 new cases. The incidence is still very heterogeneous with regional differences ranging from -20% to + 20% if compared to the national rate. The regions with the highest incidence rates are Friuli Venezia Giulia, Emilia-Romagna, Umbria, Lazio and Liguria, while Puglia and Sicilia are lower risk regions. It is estimated that, in 2014, about 221,000 people had in their lifetime a diagnosis of colorectal cancer. The estimated prevalence is 742.11 per 100,000 men. The highest prevalence regions are Liguria and Friuli Venezia Giulia, both characterized by an older population, while in Puglia and Campania, where the population is younger, the prevalence rates are the lowest.

In women, the incidence of colorectal cancer estimated in Italy, in 2014, was 80.29 per 100,000 persons/year, corresponding to more than 25,000 new cases. The risk of developing colorectal cancer varies from region: the percentage differences compared to the national rate range from -23% to + 15%.

The regions at greatest risk are Veneto, Toscana and Lazio, while those with the lowest incidence rates are Sardegna and Sicilia. In 2014, it is estimated that around 6 women out of 1,000 had a diagnosis of colorectal cancer in life, corresponding to over 187,000 women.

The health burden is greater in the Centre-North; regions with higher crude prevalence are Liguria, Toscana and Emilia-Romagna, while those with lower prevalence are Campania and Sicilia.

The incidence of breast cancer is growing in the South and Islands and decreasing in the Centre-North. Even the different spread of mammography screening throughout the country plays an important role. Screening reduced mortality and increased the medium to long-term survival rate to a greater extent than regions with delayed and incomplete screening coverage (South and Islands).

Breast cancer is the most common cancer in women and in 2014 more than 55,000 new diagnoses are estimated in Italy, i.e. 175,69 new cases per year per 100,000 women. The incidence is highly variable by region and the South and Islands have a more unfavorable risk profile. Lazio, along with Puglia, Calabria, Basilicata and Sardegna, are the regions with the highest incidence, while the northern regions have less risk.

In 2014, the total number of women who have had a diagnosis of breast cancer over a lifetime is estimated to be around 690,000, corresponding to 22 per 1,000 women. The highest crude prevalence is recorded in Friuli Venezia Giulia, Liguria and Lazio, the lowest in Abruzzo, Calabria and Campania.

Prostate cancer is the most common cancer in men, and in 2014 it is estimated that, in Italy, around 44,000 new diagnoses are made, or 147.36 new cases per year per 100,000 men. The incidence varies greatly at the regional level, the risk of getting prostate cancer is higher in Trentino-Alto Adige, Valle d'Aosta, Piemonte and Lazio and less in Sardegna, Puglia, Molise and Abruzzo.

In 2014, the total number of men who have had a diagnosis of prostate cancer over a lifetime is estimated to be over 354,000, or 12 per 1,000 men. The burden associated with this disease is greater in Piemonte, Trentino-Alto Adige and Valle d'Aosta, while lower in Puglia, Sardegna and Abruzzo.

Health and disability - The indices of physical and psychological health status with high value reflected, respectively, absence of functional limitations/general well-being and absence of psychological discomfort/positive psychology aptitude. Low values indicate a limitation in self-care /physical pain and psychological discomfort/emotional problems in personal and social field. People 14 years and older with functional limitations show mean scores of physical and psychological state indices of 31.6 and 40.9 points for men and 29.4 and 39.4 points for women, respectively. For people with no functional limitations of the same age, the average scores of the two indices are significantly higher (men: 52.7 and 50.5 points; women: 51.2 and 48.6 points). For people with and without functional limitations of both genders, with increasing age, a deterioration in the physical health status is observed, more marked than the psychological one (for women the average score of the index of physical state shows -18.8 points from the age group 14-24 years to 75 years and over; for men the decrease is equal to -9.2 points). For men the most important decrease of index of psychological status is recorded at the age group 45-64 years, while for women it is recorded in the age group 75 years and over. For people with functional limitations aged 14 years and over, the psychological status index has a higher regional gradient, registering a South and Island disadvantage.

About two-thirds of people with functional limitations aged 65 years and over have access to influenza vaccination, 64.9% of men and 60.7% women, while only about one in four people with functional limitations aged between 6-64 years is vaccinated (men: 24.0%; women: 24.5%). It is not shown a particular regional gradient. Looking at gender differences in access to vaccination, the male gender aged 65 years and over show a greater use.

Nationally, women with functional limitations aged 25-64 who have had more than one Pap test in their lifetime are 52.3%; the percentage of women of 50-69 years with functional limitations having more than a mammogram is equal to 58.5%. There is a North-South and Islands gradient for both the proposed indicators, but with some exceptions.

Nationally, men with functional limitations of 50-69 years who have performed at least one test for fecal occult blood or sigmoidoscopy or colonoscopy as a preventive measure have a prevalence higher than women of the same age and condition (37.3 % vs 29.3%).

Nationally, 44.0% of men with functional limitations aged 18 years and over are overweight and 15.5% are obese; among women the values are, respectively, 34.7% and 21.2%.

Compared with the general population, a higher proportion of obese men and, above all, a much higher share of overweight women (+7.2%) and obese (+11.9%) is showed.

Mental health and addictions - As for the number of people discharged at least once during the year with a primary or secondary diagnosis of "mental disorder", in 2013, highest values were found in some regions as the Bolzano AP, Sardegna, Liguria and Valle d'Aosta, for both men and women. The indicator in the years 2001-2013 shows a steady but slight decrease, for both genders, more pronounced in the older age group, with the exception of the childhood age. Finally, there are higher rates for people aged 65 and over in all the years considered.

About the use of antidepressant drugs, after the steady increase registered in the decade 2001-2011, the prescriptive volume seemed to have reached a stability in 2012 (38.5 Defined Daily Doses-DDD/1,000 inhabitants/day in 2011; 38.6 DDD/1,000 inhabitants/day in 2012), while, in 2013-2014, there is a new increase (39.1 DDD/1,000 ab day in 2013 and 39.3 in 2014). The increasing trend may be attributable to several factors among which, for example, the use of this pharmacological class for not strictly depressive psychiatric disorders control (e.g. anxiety disorders), 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 2014 was in Toscana, in Bolzano AP, Liguria, Emilia-Romagna and Umbria, while lower consumption was registered in Basilicata, Campania, Puglia and Sicilia. Lazio and Umbria registered the highest decrease of consumption in the last year.

About the mortality rate for suicide, in 2011-2012, the crude rate was equal to 7.99 (per 100,000) of residents aged 15 and over. In 78.4% of cases, suicide victim is a man. Is important to note that the distribution of rates by age shows an increase with age, especially marked for men over 65 years, reaching maximum values in the older age. For women 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 Liguria, one of the 3 regions, along with Calabria and Campania, showing lowest suicide rates; the other exception is Sardegna that shows 2 times higher rates if compared to Liguria). 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 2011-2012, there was an increase in mortality suicide in the age group 35-69 years.

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.

In 2013, more than 62% of births occurred in birth centres with a volume 1,000 deliveries and over per year. Among the northern regions, over 70% of the deliveries takes place in birth centres performing at least 1,000 deliveries/year. In the southern regions, in 2013, over 40% of deliveries took place in birth centres performing less than 1,000 deliveries/year. In particular, in Basilicata, this percentage reached 67%, with nearly 44% of the deliveries taking place in birth centres with less than 800 deliveries/year.

A Neonatal Intensive Care Unit is present in 128 of the 526 birth centers analyzed in 2013 and only 107 of them are in birth centres with at least 1,000 deliveries per year.

The proportion of Caesarean section (TC) is still high despite the continuous small reduction in last years, due to the decrease in primary TC. The total rate of TC is reduced from 37.76% to

36.05% between 2011-2014. There is a North-South and Islands gradient, with highest values of TC in Campania (62.20%), Molise (45.43%) and Sicilia (43.92%). The minimum value is recorded in Friuli Venezia Giulia with 23,92%. Despite age is not an absolute indication to perform a TC, the older age increases the likelihood of giving birth with TC.

Births by Medically Assisted Procreation are 12,187 in 2013, not really different from 2012. The proportion of multiple births (indicator safety techniques) show values equal to 19.8% in 2013 and 20.0% in 2012.

A positive aspect is the monitoring system: the proportion of pregnancies lost to follow-up is, in fact, decreasing and amounted to 10.3%. The number of cycles started with the application of FIVET and ICSI techniques is decreasing, from 932 to 914 cycles per million inhabitants, with differences between North and South and Islands.

With reference to the voluntary interruption of pregnancy (IVG), Italy shows lowest values among the Developed countries. In 2013 the amount of IVG is 100,342, lower than 2012 rate (103,191). In 2013 the abortion rate continues to decrease in all age groups (7.1 cases per 1,000 women aged 15-49). Regions showing a proportion considerably higher than the national value are Liguria, Piemonte (>10.0 per 1,000), Valle d'Aosta and Emilia-Romagna, while lower values are observed in Bolzano AP, Veneto, Sardegna (<=6.0 per 1,000) and Basilicata.

The younger age groups (20-24, 25-29 and 30-34 years) have the highest levels of the rate nationwide (over 11.0 cases per 1,000 women). It is confirmed the decrease of the IVG in foreign women: in fact, in 2012, the percentage is 34.1, while in 2013 is 33.5. In 2013 the use of general anesthesia remains very high (76.6%), although less than 2012 (80.1%). The use of local anesthesia to perform the IVG is the most recommended practice internationally. In Italy, however, in 2013 it was used only in 5.6% of cases on average, even lower than the previous year. Only three regions exceeds the 10.0% threshold: Marche (42.9%), Lazio (13.8%) and Toscana (10.5%). Nationally, 14.6% of IVG are performed after waiting> 21 days, with a significant regional variability. In 2013, the percentage of conscientious objector gynecologists stood at 70.0%, with no significant differences compared to 2012 (69.6%).

Immigrants and Health - At the date of January 1st, 2015, foreign residents in Italy are just over 5 million, 8.2% of the residing population.

Nationally, more than half of foreign residents (52.4%) comes from a country on the European continent. The citizens from Africa amounted to 20.5% (in particular, around two out of three African residents come from a country in North Africa), 19.3% of residents coming from Asia and only 7.7% from America. Romanians, Albanians and Moroccans are the three largest communities in terms of foreign residents in Italy.

In 2013, there were an estimated 543,000 hospitalizations of foreigners (they were almost 559,000 in 2009), equal to 5.7% of hospitalization overall in our country (about 5% in 2009). Citizens from countries in High Migratory Pressure (PFPM) constitute the large majority of these admissions (93.1%). Over two-thirds of the hospitalizations of citizens of PFPM are hospitalization according to Ordinary Regime (RO). In the five years 2009-2013 it remained substantially stable compared to an average annual reduction of total hospitalization of -3%. In PFPM traumas continue to represent the most common primary diagnosis in RO, followed by the digestive system and the respiratory system diseases (especially respiratory infections). Excluding the pregnancy complications, childbirth and the postnatal period, for PFPM women the highest rates in RO are registered for circulatory system diseases (particularly heart diseases), for digestive diseases and tumors. Analysis of hospitalizations confirms the tendency of immigrants to use less hospital services than Italians, that could be caused by the improved health status of the immigrant population (effect "migrant healthy"), which operates as a natural selector on the people at the time of departure from their home, and by the effect of bureaucratic linguistic and cultural barriers.

In the period between 2004-2013 10,591 cases of acute viral hepatitis have been notified to the Integrated Epidemiological System for Acute Viral Hepatitis (SEIEVA): 15.0% (1,589 cases)

related to non-Italian citizens. This percentage has gradually increased over the years, going from 10.9% in 2004 to 22.4% in 2012, while it decreased in 2013 (13.6%). Interesting information from SEIEVA data collected since 2009 are about the length of stay in Italy. Of the 332 cases, approximately 84% were present in our country for more than one year, meaning that the infection was contracted during their stay in Italy.
By examining the standardized mortality rates among foreigners, according to region of residence, even for 2012 a discriminating effect given by the region of residence is observed. The highest values are found, for 2012, in Puglia, Sicilia, Lazio, Basilicata, Bolzano AP, Friuli Venezia Giulia, Campania and Trento AP, with rates between 19.6 and 17.1 for 10,000 residents. The lowest values were recorded in Sardegna, Emilia-Romagna and Toscana (values between 13.0 and 14.1 per 10,000). It is noted that cancer, circulatory system diseases and external causes are the leading causes of death in foreigners.

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

Economic-financial framework - In 2014, public health expenditure per capita in Italy is € 1,817, fully in line with the previous year, marking an arrest of the downward trend since 2010. Among the 32 OECD countries, Italy is among the countries that spend less in terms of per capita expenditure, Canada spends twice as Italy, Germany 68% more, Finland 35%. Our country is positioned at the lower end of per capita values along with Eastern Europe countries. The highest per capita expenditure is in Molise (€ 2,226) and the lowest in Campania (€ 1,689).
The distribution of expenditure in the regions is not homogeneous without, however, a clear North-South and Islands gradient.
Between 2013 and 2014, 12 regions have reduced their per capita health expenditures, while 9 have increased its value: in particular there is an increase in Campania (+0.18%), Puglia (+1.07%) and Molise (+6.23%) and a reduction in Friuli Venezia Giulia (-3.93%), Valle d'Aosta (-3.06%) and Piemonte (-2.23%). In the period 2010-2014 there is a downward trend for per capita spending, with an average annual compound rate of -0.59% at national level, in particular a decrease ranging between -1.55% in Piemonte and -0.3% in Abruzzo and an increase ranging from 0.06% of Emilia-Romagna and 1.04% of Sardinia.
In 2014, the NHS deficit, calculated with the RGS method (i.e. excluding from revenues the "additional resources from the regional budget" and subtracting from the regional consolidated results any profits earned by individual companies), amounts to approximately 864 million euro, in clear decrease if compared to 2013 (1.744 billion euro). This confirms, once again, the systematic reduction trend that recorded for each year from 2005 onwards.
The general reduction in deficit, the improvement of the situation in most of the regions with a "Realignment Plan" (RP) and the presence of numerous regions in balance induce a cautiously optimism this year, as regards the economic and financial dimension. The data confirm, in fact, that the National Health Service has managed to capture the traditional dynamic expansion of spending and to align with limited financial resources of the state, despite the aging of the population, the costs induced by technological progress and the forms of social-economic deprivation produced by the crisis.
It should however be pointed out that the balance is still relatively fragile, as this result was largely achieved through initiatives (freezes and reductions in volumes and prices of inputs, containment of healthcare consumption) which are hardly likely to be maintained over the medium term or at least produce additional savings.
In this Osservasalute Report, for the first time, the issue of deficits not covered by public health authorities is shown, a very important aspect for the NHS functioning, because the accumulation of deficits causes the erosion of the company's net assets, then the contraction of the activity due to the decrease in available funds and the inability to adequately renew equipment.

The data on non-covered deficits show that in the past decade many public Health Companies have consistently operated at a loss and coverage of the accumulated losses were only partial. In late 2008, for example, there were 38.7 billion of losses accumulated by companies (32.6 in RP regions and 6.1 in the other regions), of which 24.7 billion covered by contributions allocated but not yet disbursed and 14.0 billion not yet covered even in terms of allocation. Hence the well-known difficulties encountered by companies in the payment of suppliers and in the renewal of assets. In the following years, and especially since 2012, the Regional Health System (SSR) continued to detect leaks, but always to a lesser extent. Meanwhile, the coverage obligations have become more stringent and monitored, and a massive transfer of cash from the state was added. At the end of 2014, all deficits were thus being covered, at least in terms of the assignment, for the whole of the NHS and for the majority of standing alone SSR.

Institutional and organizational structure - The chapter deals with the organization of the SSR with regard to two aspects: the administrative efficiency and human resources. With regard to efficiency, it is considered a particular aspect linked to the average payment period (Days of Sales Outstanding) of public health facilities. This indicator, used for the first time in Osservasalute Report, can be considered a proxy administrative efficiency of Healthcare Companies.

Nationally, the average payment times of public health facilities increased from 300 days in 2011 to 195 days of 2014, with a reduction of 35%. The reduction in average payment times occurred, particularly, from 2012, with a more marked decrease between 2013-2014, with a reduction in average payment times of 24.7% in these two years. However, although the situation has improved significantly over the four years under analysis, the average payment times of public health facilities is still far removed from the requirements of current regulations Legislative Decree. N. 192/2012.

The data show a wide gap between regions. In fact, if in all the regions a downward trend between 2011-2014 is detected, the year by year data show that not all regions have made the same effort to reduce the average payment times of public Health Companies. Specifically, the range varies from 71 days in 2014 in Valle d'Aosta, value substantially in line with the requirements of current legislation, to 794 days in Calabria, rate more than ten times higher than prescribed by law. In general, in the northern regions the average payment time is on average lower than the national average, while in the Centre-South and Island the timing of payment is still a long way from the benchmark.

With regard to the NHS staff resources, in 2013, the expenditure amounted to 35.169 billion euro with a 1.4% average annual decrease (-4.1% overall) in the period 2010-2013, compared to a annual healthcare expenditure average reduction of 1% (-2.9% overall); it is the aggregate of the NHS spending which suffered the biggest cuts between 2010-2013. The expenditure reduction is essentially the result of turnover stop implemented by the regions under the RP and cost containment measures personnel policies, carried out independently from the other regions. This evidence is further clarified by analyzing the turnover rate trend between 2010-2012 that has been steadily reduced over the period, reaching to score 68.9 percentage points in 2012, around 10 percentage points lower than the previous year (78.2% in 2011).

The incidence of spending on SSN staff on total health expenditure was reduced by 1.0 percentage point between 2010-2013, rising from 33.2% to 32.2%. The analysis of the expenditure for staff, compared to the population residing in the period 2010-2013, shows a decrease of 4.4% from a value of € 606.9 to € 580.1. The regional values show a marked difference in spending per capita crude values: the highest expense, amounted to € 1,161.1, is recorded in the Bolzano AP, followed by the € 888.5 of the Valle d'Aosta, while the regions with a lowest pro capita expenditure are Campania, Puglia and Lazio, which recorded values of less than 500 € per capita.

Local and community care - Nationally, in 2013, 732.780 patients were assisted at home. The number of patients treated in Integrated Home Care (IHC) is growing, reaching a value of

1,217 cases (per 100,000), with an increase of 14.17% compared to 2012. By comparison with previous years, a considerable regional variability of the indicator still remains: a minimum rate of 146 patients treated in IHC setting (per 100,000) of the Bolzano AP to a maximum value of 2,850 (per 100,000) of Emilia-Romagna, followed by Toscana and Friuli Venezia Giulia (2,834 and 2,182 per 100,000, respectively).

There is considerable variability in the number of elderly patients treated in an IHC setting relate to the same elderly resident: a minimum of 3.3 cases (per 1,000) were registered in Valle d'Aosta and a maximum of 111.4 (per 1,000) cases in Toscana.

As regards the number of ADI facilities addressed to "end of life" patients, the North regions show the highest rate (125.9 per 100,000) than in the South and Islands and Center (respectively, 111.2 and 93.2 per 100,000). Compared to 2012, these values were higher for the regions of North and South and Islands (respectively +41.7% and +7.7%), while there was a significant decrease in the central regions (-10.0%).

Residential care facilities beds are, in total, 271.254 that is 44.6 per 10,000 inhabitants. The largest part of the offer is intended to accommodate the elderly (171.7 per 10,000), while remaining portions are intended for users with disabilities (7.9 per 10,000). The offer is mainly concentrated in the North and undergoes substantial reductions in other areas of the country. The highest offer of such a care is registered in Piemonte (99.3 beds/10.000), the lowest in the South regions, particularly in Campania (10.7 per 10, 000).

Elderly guests in the residential facilities are, on the whole, 263,798. Adults and children with disabilities are fewer, respectively 44,951 (12.0 per 10,000 residing adult) and 1,417 (1.4 per 10,000).

In line with the framework of supply, an increased use of residential facilities is observed in the northern regions, especially for the elderly, for which the highest rates of hospitalization is found in Bolzano AP (457.3 per 10,000). In the South and Islands the rate of hospitalization is reduced considerably: minimum values are in Campania and Calabria (50.9 and 78.2 hospitalized elderly per 10,000 residing elderly, respectively), far below the national average (202.7 to 10,000). Similar results are given by indicators referred to disable adult in facilities: Liguria has got the highest rate (27.2 per 10,000).

Potentially avoidable hospitalization rate for long term complications of diabetes shows that lowest rate regions are in the Center, South and Islands (Marche, Sardegna, Toscana and Basilicata), while the highest rate are shown in North regions (Emilia-Romagna, Veneto and Lombardia) and in Puglia.

Potentially avoidable hospitalization rate for chronic obstructive pulmonary disease (COPD) show the most virtuous regions as Toscana, Sicilia, Piemonte and Valle d'Aosta (aggregate data), while the less virtuous are Calabria, Campania and Puglia.

The potentially avoidable hospitalization rate for heart failure without procedures is lower in Toscana, Sardegna and Trentino-Alto Adige and, while recording the highest values in Calabria, Abruzzo and Sicilia.

The rate of potentially avoidable hospitalization for asthma in children is higher in the South (mostly in Lazio and Campania), while Lombardia, Liguria, Molise, Puglia and Calabria have an hospitalization rates similar than the Italian value. Lowest rates, comparing to the national value, are registered in all the other regions,

The potentially avoidable hospitalizations for gastroenteritis in children is higher in the South, except for Molise and Basilicata, while the regions of the North and Centre, with the exception of Lombardia and Bolzano AP, show hospitalization rates significantly lower than the Italian rate. The regions with the highest rates are Puglia (5.05 per 1,000) and Abruzzo (4.38 per 1,000). The region with the lowest rate is Trento AP (0,65 per 1.000).

Pharmaceutical health care - The trend in the consumption of medicines reimbursed by the NHS is not homogeneous across regions: there has been a reduction in consumption in Veneto (-

1.4%), Liguria (-2.1%) and Sicilia (-2.5%), while there was an increase in Molise (5.7%), Calabria (4.0%) and Campania (3.9%).

The consumption is between the maximum value of 1,192 and 1,188 DDD/1,000 ab die, respectively, of Calabria and Lazio to that of 879 (DDD/1,000 die ab) in Liguria and 948 (DDD/1,000 ab die) of Veneto.

The consumption data during time (2001-2014) shows that the North-South and Islands gradient of consumption and expenditure is a long-term phenomenon and that, over the past decade, remained basically unmodified: all northern regions have had, during the period examined, consumption and spending values lower than the national average, while the regions of the South and Island (except for Basilicata, Molise and Abruzzo) had consumption and expenditure values higher than the national average; Lazio, unlike other regions of the Centre, continues to have consumption and expenditure values higher than the value of Italy; Umbria is the only region with consumption values higher than the national average and lower expenditure values.

In 2014, the NHS public pharmaceutical expenditure decreased by 3.9% if compared to 2013 and by 14.1% if compared to 2001. The region with highest expenditure are Campania, Puglia, Calabria and Sicilia, those with lowest value are Emilia-Romagna with € 139.20 per capita and Toscana with € 143.70 per capita. In the period 2010-2013 all regions experienced a decrease in gross expenditure per capita with a 14.1% reduction at national level (from € 209.9 to € 180.4). In particular, Liguria, Emilia-Romagna, Toscana and Sicilia had a mean reduction of per capita expenditure over 20%.

The total cost required to citizens amounted to 1 billion and 500 million euro (an increase of the per capita spending of about 2.5% compared to 2013 and by 49.7% compared to 2010).

The per capita expenditure amounted to € 24.7 with an impact on gross pharmaceutical spending of 13.7%, the highest value from 2005. Among the regions in which, in 2014, the ticket was imposed by the Region (excluding Valle d'Aosta, Trento AP, Friuli Venezia Giulia, Marche and Sardegna), the lower "out of pocket" citizens expenditure were observed in Emilia Romagna (15,8 € per capita, 11.4%), Piemonte (16.0 € per capita, 10.0%), Toscana (€ 16.1 per capita, 11.1%) and the highest were observed in Puglia (€ 33.1 per capita, 15.2%), Sicilia (€ 33.2 per capita, 16.0%) and Campania (€ 36.5 per capita, 16.3%).

Hospital care - The supply structure was evaluated by analyzing the regional allocation of hospital Beds (PL) by type of activity and inpatient or day case activity. Data relating to January 1, 2014, showed 3.63 PL (per 1,000 residents), of which 3.04 (for 1000) for acute care, 0.15 (for 1000) for long-term care and 0,43 (for 1000) for rehabilitation. The allocation of PL for acute care consists of 2.68 PL (for 1000) dedicated to hospitalization and 0.36 PL (for 1000) dedicated to day care. The allocation of the overall PL decreased if compared to the value of 3.73 per 1,000 in 2013, reaching a lower value than the target of 3.7 PL (for 1,000), caused by the decrease of the acute care component (from 3.15 in 2013 to 3.04 per 1,000 in 2014). The PL of the post-acute, rehabilitative and long-term care component are 0.58 per 1,000 (lower than the target 0.70 per 1,000). The data show a marked geographical gradient with a number of PL higher than the national and standard value in all regions of the north and center, with the exception of Toscana and Umbria, while recording a lower rate in the South (excepted for Molise).

As for the demand satisfied by the hospital system, in 2014 there is an overall hospitalization rate of 148.7 per 1,000, significantly lower than the standard (160 per 1000) indicated by the DM n. 70/2015. The percentage of hospitalizations in daytime regime is 24.6% (regulatory standard 25%). Between 2009 and 2014, there is a reduction in the hospitalization in daytime regime, with the rate rising from 53.0 per 1,000 to 36.6 per 1,000, and hospitalization in ordinary regime, with a rate that varies from 126,4 per 1,000 in 2009 to 112.1 per 1,000 in 2014.

Between 2013 and 2014, a slight reduction in admissions to long-term care (from 1.81 to 1.76 per 1,000 residents) and to rehabilitation (5.25 to 5.12 per 1,000 residents) is observed, against a marked reduction of acute RO (from 108.8 to 105.2 per 1,000 residents).

The higher specific discharge rate is detected in the age group over 75 years (280.2 per 1,000 residents). As for hospitalization in pediatric age (0-17 years) the specific rate of discharge in 2014 is equal to 61.9 per 1,000 for the RO and to 25.9 per 1,000 for daytime hospitalization. In children the highest specific rate is recorded in the 1st year of life (413.9 per 1,000).

There is an increase of the escape index concerning hospital mobility in children in "repayment plan" regions, excluding Piemonte and Lazio, Abruzzo, Molise, Campania, Puglia, Calabria and Sicilia.

The performance indicators include Mean Hospital Stay (DM), overall and by gender, the Mean Post-Surgery Hospital Stay (DMPO) and, only for the pediatric age, the case mix index and the Index comparative performance. The total DM, both raw that standardized for case mix, amounts to 6.8 days (2012-2014). The DMPO, standardized for case mix, has slightly decreased and has gone from 1.99 days in 2007 to 1.76 days in 2014. For this indicator there is a clear North-South and Islands gradient, with the southern regions showing higher values.

Analyzing the clinical and organizational appropriateness, the percentage of interventions for hip fracture performed within 2 days of admission has sharply increased, from 35.1% in 2010 to 54.9% in 2014, showing an increase of near 5.0 percentage points last year alone. Despite this good result, recorded values remain far from the objectives set by the International Guidelines and achieved in other countries, particularly in Northern Europe. It also confirms the strong regional variability with a range between 19.2% of Molise and values slightly above 80% of the Valle d'Aosta and the Bolzano AP.

In 2014, it is confirmed high regional variability even for hospitalization rates for the three procedures considered because of their high social impact (hip replacement, heart bypass surgery and coronary angioplasty). During the five years considered (2010-2014) there has been an increase in the rate of hospitalization for hip replacement and heart bypass surgery and a reduction in the rate of coronary angioplasty, although the comparison 2013-2014 show a decrease in the 3 indicators considered . All measured values show a clear North-South and Islands gradient, with higher rates in the North for hip prosthesis.

Transplants - The examined indicators concern the activities of donation and transplant procurement and evaluation of outcomes. After a decade of strong increases in organ donation, in recent years there the registered value is about 1,100 used donors, with a slight increase in 2014 (1,174), the same as number of transplant (2,900 per year). The median age of used donors continues to grow, increasing from 52 years in 2002 to 62 years of 2013 and similar values in 2014. In the same year, compared to the recorded investigations of death number (with neurological standard), objections have been 30.8%. In 2012, the highest levels of used donors are recorded in Toscana (37.1 per million of population-PMP), while smaller values are observed in Basilicata (5.2 PMP).

The regional gap between the Centre-North and the South and Islands persists even in the activity of transplantation and centers distribution by type of organ, generating a patient mobility to the northern regions, highlighted by the percentage and the number of transplants performed on subjects coming from other the region.

The percentage of transplants performed on extra-regional patients are, however, reduced in the central and northern regions, where only 1 (Veneto) out of 3 of 2013 continues to show a percentage > 40.0%. Overall the proportion of transplants performed outside region changed from 31.7% in 2009 to 26.7% in 2014.

The heart transplant survivals were slightly decreasing (0.3 percentage points) in 2013 than in previous years, while for liver and kidney transplant values are in line with recent years. Patient survival at 1 year after heart, liver and kidney transplantation amounted, respectively, to the values 82.7%, 85.9% and 97.2%.

Mortality amenable to health care services - As part of the performance evaluation of a National Health Service, special interest is focused on the analysis of mortality attributable to health services (amenable mortality), i.e. those premature deaths that should not occur in the presence of effective and timely treatment, and for which there are diagnostic and therapeutic interventions of proven effectiveness. This indicator allows to report the most at-risk situations, to study possible corrective actions and monitor their success, over time.

A descriptive study on secondary data from 32 OECD countries in the period 2000-2012 shows that Italy is the countries where mortality attributable to health services has decreased to a lesser extent between 2000-2001 and 2011-2012 (-27.4%), preceded by Mexico, United States, Japan, Chile, Canada, Slovakia, Greece and France. This mild decline can be explained by considering that Italy, in 2000-2001, had lowest values if compared to other countries and, therefore, had a potential small improvement.

The state of prevention in Italy - The significant improvement, in recent decades, of health condition in the most economically advanced countries can be attributed to a greater attention to lifestyle, including the activity of prevention. Between 2000-2009, the public health expenditure has grown, in the member countries of the Organization for Cooperation and Economic Development (OECD), on average by 3.8% in real terms. Because of the crisis, public health spending has grown at a significantly lower annual rate in all OECD countries, particularly concerning spending on prevention.

In Italy, spending on prevention (including, among others, the prevention activities addressed to the person, such as vaccinations and screening, the protection of the community and individuals against the risks in the living and working environments, veterinary health and food protection) is equal to 4.2% of health care expenditure, while the level set in the Pact for Health 2010-2012 amounts to 5%.

The analysis of indicators allows a vision of primary prevention in terms of vaccination activities: the vaccine coverage of the child population, in 2013-2014, suffers a slight decreases for mandatory vaccinations (Tetanus -1.0%; Polio, Diphtheria and Hepatitis B -1.1%), for Pertussis (-1.1%) and Haemophilus influenzae type b (-0.6%), while more marked decreases are observed for Measles, Mumps, Rubella (for each recording a value of -4.0%) and meningococcal c conjugate (-2.5%), while increasing coverage for varicella and pneumococcal conjugate is registered (10.3% and 0.6%, respectively); for influenza vaccination in subjects aged 65 years and over, in the period 2003-2004/2014-2015, there was a net reduction of approximately 20%.

Shifting the focus on organized and spontaneous screening, and therefore on secondary prevention, the effective extension of the offer for the three screening (uterine cervical, breast, colorectal cancer) undergoes an increase between 2005-2006 and 2010-2012 (from 51.8% to 69.5%, from 54.3% to 73.3%, from 20.7% to 53.1%, respectively). In 2013, data on screening offer settle at 71% and 74% for uterine cervical cancer and breast cancer screening, respectively, and 62% for colorectal cancer. With considerable regional differences, the values of participation of the target population in screening is 56.1% for breast cancer, 40.7% for uterine cervical cancer in 2012, 47.1% for the colorectal cancer in terms of test for fecal occult blood and 27% (range 7-37%) in terms of sigmoidoscopy. From 2008 to 2014, while growing around the country the coverage of organized screening for cervical cancer, the rate of spontaneous screening remains stable or decreases significantly in the North (-9.4%); the spontaneous screening for breast cancer remains basically stable showing an increase in the South; the coverage of screening for colorectal cancer reaches the highest values among the residents in the North (64%), but is significantly lower among the residents of the Centre (43%) and South and Islands (19%).

As part of the feedback on the delivery of essential levels of assistance (LEA), it is observed that regions defaulting on the LEA guarantee are, in addition to Lazio, those of the South and they are those regions that present deficiencies in their functions on prevention. Data from the National Agency for Regional Health Services on 2011 health expenditure (2) allow to note that the

percentage of overall spending devoted to prevention is equal between compliant and non-compliant regions in monitoring the LEA (about 4.3%).