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HEALTH FOR ALL - ITALIA: AN INFORMATION SYSTEM ON HEALTH

Submitted by ISTAT (Italian National Institute of Statistics)*

I. INTRODUCTION

1. In Italy, like in many other countries from the European Union, the process of society modernization, induced by political and social factors, is arising new challenges to the creation of statistical information on the health sector. One of the cornerstones of such change is the reform of the Health Systems, which follows the pressing need of containing costs and of maximising populations' health.

2. In order to respond to these challenges, policy makers are demanding more and better information on indicators for monitoring population health status and for evaluating the performance and effectiveness of various health policies.

3. The management of information resources is thus of crucial importance. In Italy, public, central and regional institutions currently produce administrative and sampling data.
This proliferation of various kind of information of different quality makes the instrument less efficient. Moreover, because of the local government's growing need for statistical information, disaggregated data must be made available on a territorial level.
The lack of coordination between the various information channels leads to a loss of data and to a situation of confusion among the data users; likewise, because of the lack of communication

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between producers and users, a large number of data is kept in the producers' databases, thus becoming inaccessible and even unknown to most users.

4. In this sector, the statistician's task is to improve data accessibility and interpretability. These two requisites have become fundamental to guarantee statistics quality and a coordinated strategy of information integration as basis for establishing an organic and unitary frame of health realities in Italy.

5. This objective is being met through the establishment of a territorial informative system called *Health for All – Italia*. It is inspired by a product that WHO developed with the goal of monitoring the Health for All strategy in Europe.

Health for All – Italia offers the most comprehensive database of comparable and high quality indicators on the health and health care system in Italy. Moreover, it provides an analysis instrument that incorporates the time and territorial dimension, and it also enables to use specific information for comparison and benchmarking activities.

6. Therefore, this paper presents the main characteristics of the System that is assuming a strategic role when observing health phenomena in Italy. This can be seen by the interest of this sector's operators (professional provider, managers, government) as well as by the numerous utilization examples of the System relative to important activities of knowledge interests for the health sector.

II. HEALTH FOR ALL-ITALIA: THE STORY AND THE MAIN CHARACTERISTICS OF THE SYSTEM

7. Two types of reasons led to projecting the *Health for All - Italia* system in the mid '90s. On the one hand, numerous official data sources were made available as regards both the health dimension and the health system. While, on the other hand, greater awareness was given to the multi-dimensionality of the health concept, which results from the combination of several factors of various natures.

8. With regard to the representation of the various health sizes, the system was projected in such a way as to include data on the health services' situation, on the population health needs, on the life style and on the demographic, social, economic and environmental context.

9. Similar experiences had already been done on an international level in 1980 by means of the *Health for All by 2000* strategy of the World Health Organization (WHO). Another important international experience is that of the Organization for Economic Co-operation and Development (OECD) through its system called *Health data* .

10. Regarding *Health for All - Italia*, the system of indicators was created in order to satisfy a wide range of informative needs and of users (policy-makers, researchers, epidemiologists, students, etc.).

The system is flexible, cross-sectional, comparable and dynamic, all these characteristics guaranteeing the information's integration.

11. By the term *integration*, we mean that the system was built in such a way that it can be broadened to more thematic areas, coherent within themselves and between them, by using standards for the definitions, classifications and desegregations.

12. The harmonization process of the indicators makes the system particularly *flexible*, as it is possible to carry out in-depth studies per individual areas or sub-areas or to take into consideration indicators that belong to different areas, according to the objectives pursued. The *cross-sectional* characteristic of the system is a direct consequence of it as it makes it possible to choose a dimension (such as an age class, a territorial unit, a calendar year, a phenomenon, etc.) and to outline a reference frame for that dimension, sounding the various informative contents of the system. The inclusion of both administrative and survey sources has made it possible to gather a mass of data whose importance is due to the subjects treated and to the richness of its contents.

13. In some cases, it was necessary to reconcile the theoretic approach with the effective availability of information, safeguarding nevertheless the significance of the indicators. This process of feedback has led to the definition of numerous indicators for every thematic area and to the implementation of a territorial informative system.

14. *Health for All – Italia*'s main characteristic consists in the availability of its information disaggregated on a territorial level and in time series. These two elements give to the system high potentialities in terms of *comparability* and *dynamism* of the indicators. For those indicators, whose comparison can be influenced by the different age structure of the population, standardized indicators have been calculated by using always the same reference population in order to enable comparison over time and space.

15. The system's dynamism is also guaranteed by the periodical updates relative to various aspects: *a)* the list of indicators; *b)* the time series of indicators; *c)* the metadata; and *d)* the software when necessary, in order to meet the informative needs of the many users.

16. Currently, the software used for managing *Health for All - Italia* indicators has been changed, by means of adequate adaptations, from the one currently being used by WHO Europe[1]. As it can very easily be accessed and consulted, all types of users are enabled to use it. Moreover, it can also be used as a tool, through which one may analyse and report information that presents various levels of difficulties.

III. THE STRUCTURE OF THE HEALTH FOR ALL-ITALIA DATABASE

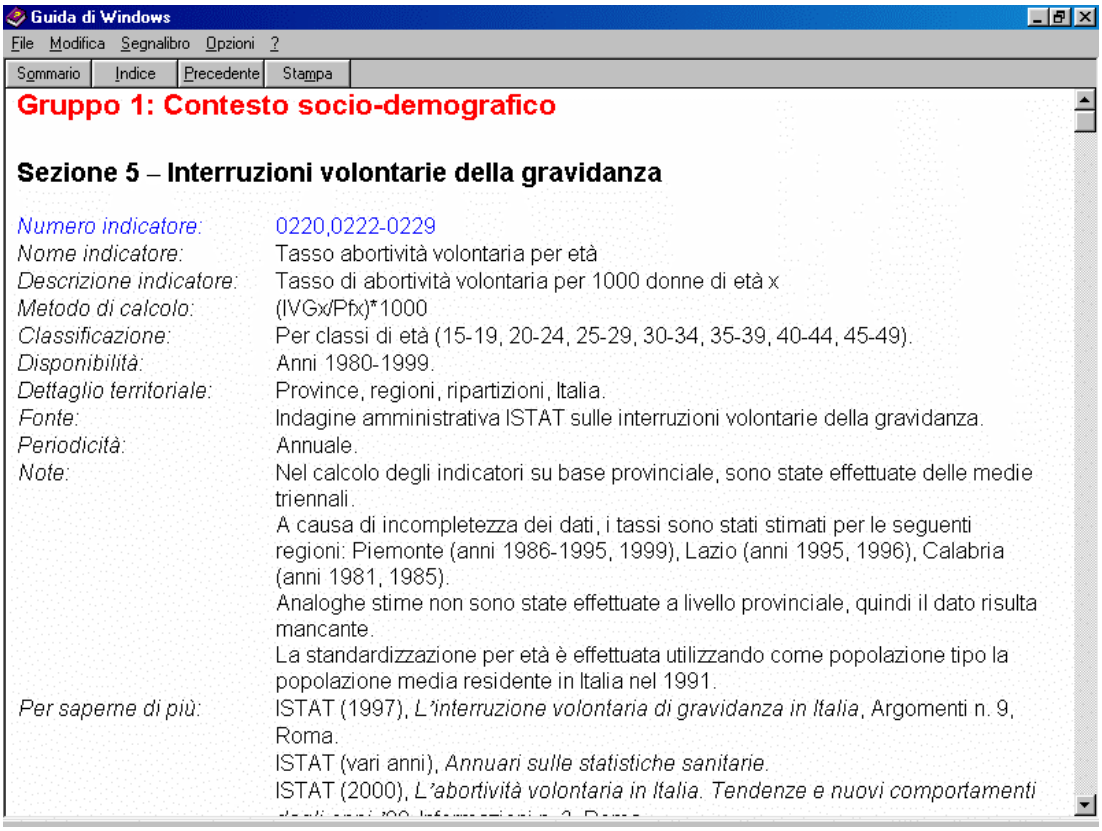
17. The database holds currently about 4,000 indicators but can be extended until containing a maximum of 10,000 indicators. These indicators are divided in 10 mono-thematic groups (see Appendix for the group's contents): socio-demographic context; causes of death; life styles; prevention; chronic and infectious diseases; disability; health conditions and life expectancy; health facilities; hospital activities by diagnosis; health resources. The time reference covers a period that goes from 1980 (except for the cases when statistical information was started afterwards) until the last available year; the latter may vary according to the indicator.

18. Two aspects of the *Health for All – Italia* are especially important to the final user: the availability of metadata and the territorial details.

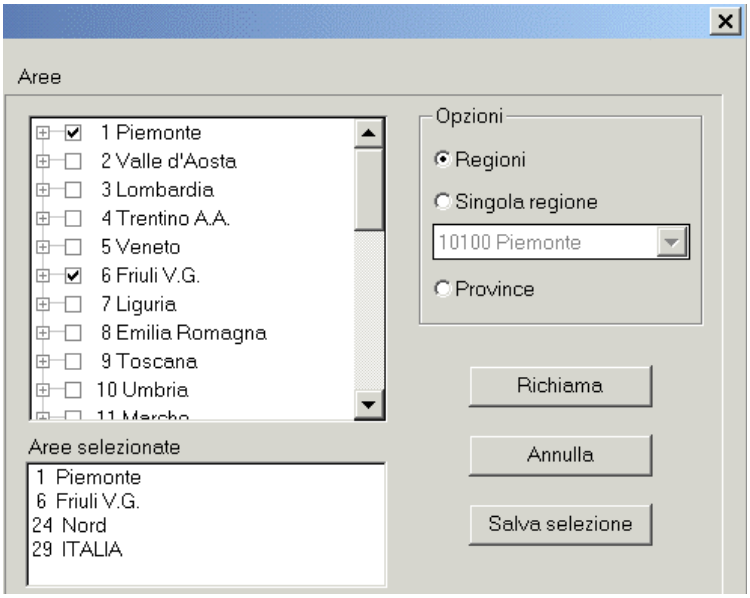
The main menu of the *Help/Contents* item presents some metadata relative to the description and to the quality of the single indicators. In this way, the user can understand the calculation method of the indicators, the classification variables, the years and the territorial level

[1] The database is available on Internet at the following address: www.istat.it under the *Banche Dati – Database Health for All* item.

for which the information is available, the sources and their periodicity, the notes necessary for a correct comprehension of the data, publications or Internet websites useful for examining the argument (*figure 1*).



19. As regards the territorial size, three different representations are available (*figure 2*):



- *Regions*. In case the territorial unit chosen is a region, a list of all the regions will be displayed, presenting also the geographical areas as well as Italy's total. The regions to be represented in graphics and tables can be chosen among these. All the maps displayed are detailed on a regional level.
- *Single region*. In case the territorial unit chosen is a specific region, a list of that region's provinces and the region itself is displayed. The provinces to be represented in graphics and tables can be chosen from among these. All the maps displayed refer to the single region chosen and are detailed on a provincial level.
- *Provinces*. If the territorial unit chosen is a province, a list of regions with a tree structure is displayed, presenting the provinces as second level areas. Those to be represented as graphics and tables can be chosen among them. Unlike the previous option, a comparison can be carried out among provinces from different regions. All the maps displayed are detailed on a provincial level.

20. With reference to the possibility of analysis and report through the software, one may view the indicators' time series, carry out simple forecasts and compare several indicators over different years and that for all available territorial units. It can be done using tables, graphics (histograms, linear graphics, frequency graphics, regression lines with the correlations' coefficient calculation, etc.) and maps.

IV. IMPACT OF THE HEALTH FOR ALL-ITALIA SYSTEM NATIONALLY

21. Currently, the various experiences as to the use of such system bears witness to the validity of this system on a national level.
A first experience involved a project relative to the preparation of a "Prototype for a draft of regional health reports useful to health plans" financed by the Ministry of Health and carried out by some Italian regions coordinated by the Piedmont Region. The objective of that project was to identify some standards for stimulating territorial health reports. For this purpose, *Health for All – Italia* was identified as the statistical informative system of reference.

22. A similar experience, still in progress, refers to a programme of assistance to the Epidemiological Observatories of southern regions (Campania, Apulia, Basilicata, Calabria, Sicily, Sardinia) financed by the Ministry of Health in the framework of the European Structural Funds that support Regions that are part of Objective 1 of the 2000-2006 plan. The project is articulated in different phases, one of which provides for the valorisation of the informative sources available for the purpose of analysing health needs. The use of *Health for All - Italia* was recognized as one of the project's priorities.

22. Another important example of the system's use regards the national Observatory on the regions' health, set in the network of European public health's Observatories. The aim of the Observatory is that of providing, to both politician and technical decision-makers, scientific and objective tools for administrations that have institutional responsibilities in the health sector. In 2003, the Observatory prepared a first report on the state of health and on the quality of assistance in Italian regions, largely based on information available in *Health for All – Italia* .

23. Besides these specific experiences, numerous events were organized in the years 2002-2004 (seminars, workshops, teachings, etc.) during which the system was presented to different possible users (regional offices of ISTAT, statistical offices and health departments of the Regions, health operators on the territory, university students, etc.), stirring much interest and making up an important *feedback* for improving the system itself.
On an international level, this system will be prepared in English following WHO's suggestion, in order to spread it beyond the national borders.

V. CONCLUSIONS

24. Today the management of informative resources is of fundamental importance to many public and private decision-makers, from policy makers to social and economic operators, and to private citizens. The type of information necessary and the way in which it is being used, is clearly linked to the user's role and to his functions, which can range from the planning to the allocation of economic resources, from the evaluation to the monitoring of government actions and health policies to scientific research and knowledge.

25. The *Health for All - Italia* system of indicators was designed in order to create a work tool that can be used by many different users and able to satisfy all the above-outlined informative needs.
In order to ensure in the future the validity of this type of system, it is necessary to guarantee its dynamism: the revision of the indicators' list, the data and metadata updating as well as the improvement of the software, all make up the basic elements for ensuring the continuous correspondence of the product to the users' informative needs, which evolve and change over time.

APPENDIX
Health for All – Italia: mono-thematic groups of indicators

GROUP 1 - Demographic and socio -economic factors
Section 1 – Resident population
Section 2 – Foreigners
Section 2.1 – Foreigners with permit to stay
Section 2.2 – Foreign residents
Section 3 – Households
Section 4 – Fertility
Section 5 – Voluntary abortion
Section 6 – Miscarriages
Section 7 – Mortality
Section 7.1 – Mortality
Section 7.2 – Infant mortality
Section 7.3 – Neonatal mortality
Section 8 – Education
Section 9 – Labour force and employment
Section 10 – Poverty
Section 11 – Environment

GROUP 2 – Causes of death
Section 1 – Infectious diseases
Section 2 – AIDS
Section 3 – Neoplasms
Section 4 – Endocrine, nutritional and metabolic diseases
Section 5 – Diseases of blood and immunological disorders
Section 6 – Mental disorders
Section 7 – Diseases of nervous system and sense organs
Section 8 – Diseases of circulatory system
Section 9 – Diseases of respiratory system
Section 10 – Diseases of digestive system
Section 11 – Diseases of genitourinary system
Section 12 – Complications of pregnancy, childbirth and puerperium
Section 13 – Diseases of skin and subcutaneous tissue
Section 14 – Diseases of musculoskeletal system and connective tissue
Section 15 – Symptoms, signs, abnormal findings, ill-defined conditions
Section 16 – External causes

GROUP 3 – Lifestyles
Section 1 – BMI
Section 2 – Smoking habits
Section 3 – Drinking habits
Section 4 – Nutrition

GROUP 4 – Disease prevention
Section 1 – Diagnostic tests
Section 2 – Female disease prevention
Section 3 – Vaccination

GROUP 5 – Chronic and infectious diseases
Section 1 – Reported chronic diseases
Section 2 – Infectious diseases

GROUP 6 – Disability

GROUP 7 – Health status and life expectancy
Section 1 – Reported health status
Section 2 – Life expectancy

GROUP 8 – Health facilities
Section 1 – Health services (primary care)
Section 2 – Health services (second level)
Section 3 – Social and health assistance
Section 4 – Hospital services
Section 5 – Reported consumption of pharmaceuticals

GROUP 9 – Hospital discharges by diagnosis
Section 1 – Infectious diseases
Section 2 – HIV infections
Section 3 – Neoplasms
Section 4 – Endocrine, nutritional and metabolic diseases
Section 5 – Diseases of blood and immunological disorders
Section 6 – Mental disorders
Section 7 – Diseases of nervous system and the sense organs
Section 8 – Diseases of circulatory system
Section 9 – Diseases of respiratory system
Section 10 – Diseases of digestive system
Section 11 – Diseases of genitourinary system
Section 12 – Complications of pregnancy, childbirth and puerperium
Section 13 – Diseases of skin and subcutaneous tissue
Section 14 – Diseases of musculoskeletal system and connective tissue
Section 15 – Congenital malformations and chromosomal abnormalities
Section 16 – Symptoms, signs, abnormal findings and ill-defined conditions
Section 17 – Accidents and poisoning
Section 18 – Certain conditions originating in the perinatal period
Section 19 – Chemotherapy
Section 20 – Radiotherapy

GROUP 10 – Health care resources
Section1 – Public health expenditure
Section2 – Human resources
Section3 – Medical technology

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