Health for All - Italia, an informative health system

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Abstract

Background: On ISTAT website the informative system *Health for All – Italia* is available. It collects indicators on health coming from various sources to make up a basis for constructing an organic and joint framework on the country's health reality. The system includes more than 4000 indicators about: demographic and socio-economic context; causes of death; life styles; disease prevention; chronic and infectious diseases; disability; health status and life expectancy; health facilities; hospital discharges by diagnosis; health care resources. The database-related software was developed by the World Health Organization to make it easier for any user to access the information available either as tables, graphs and territorial maps.
Methods: The system has been built considering data coming from different sources and using, if possible, the same definitions, classifications and desegregations. Time series goes from 1980 to the last year available (which can differ among the different sources). Indicators are calculated by provinces (if possible), regions, big areas and Italy. In order to compare indicators over time and space, standardised rates are calculated, using the same population reference.
For each indicator metadata are available to give users additional notes necessary to correctly read and use the data, and publications or internet websites to examine more in-depth the argument.
Results: Different kind of users find *Health for All – Italia* very useful for their aims: students, researchers, doctors, socio-sanitary operators, policy makers. Some examples of official reports from public institutions are briefly described in the paper.
Conclusions: The increasing number of users of *Health for All – Italia* make necessary the online version and an English version for international comparisons.

Key words: informative system, health, indicator, database

Introduction

In Italy, in the 90s increasing attention was given to health and health policies, which for the first time were distinguished from one and other. The territory became the fundamental point in fulfilling the health objectives; hence, it is evermore indispensable to have statistical information on health to help evaluate the policies undertaken. In addition, data valorisation leads to an increase in their quality and rising informative demand.

However, the fragmentation of the information is one of the negative aspects: the many different sources, instead of enriching the informative patrimony, making it increasingly difficult for the user to search for the relevant, available and accurate data. An informative system must integrate the sources and create a single data base for the user, thereby improving both data accessibility and interpretability [1].

Consequently, the World Health Organization (WHO) created the system *Health for All* "… a central database of independent, comparable and up-to-date basic health statistics. It has been a key source of information on health in the European Region since WHO/Europe launched it in the mid-1980s. It contains time series from 1970" [2].

It has also made available an "empty packet" to create a real structured database, where one can enter indicators, metadata and territorial maps. Just like Italy, other countries have also developed a national database by means of this instrument (Azerbaijan, Byelorussia, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Lithuania, Norway, and Ukraine).

System features

The health status of the population depends on the socio-demographic characteristics, the social and environmental context, the life styles and risk
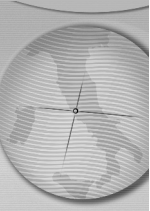
factors to which its population has been exposed, the diffusion of illnesses, as well as the good functioning of the health system. To know and be aware of the many aspects of health and the availability of many official sources on health and the health system, helped develop the system *Health for All – Italia*.

There were two experiences prior to the *Health for All – Italia* system. The first experience relates to the *HFA by 2000*. The WHO identified through it a set of indicators for the various countries in order to facilitate the sharing of common objectives, including the reduction of child mortality and the diffusion of some infectious diseases[3]. The second experience was part of the OECD, which gathers a series of indicators every year in a system known as *Health data* [4].

The *Health for All – Italia* system is based on a very important aspect: it integrates the sources of information that feed it. In particular, it is structured in different logical thematic coherent areas, an aspect made possible by using definitions, classifications and desegregations common to each of the areas. This common standard is a direct consequence of the existing national and international normative sources (indications from OECD, WHO and EUROSTAT were applied when constructing the indicators).

The integration of the information guarantees the flexibility, comparability, and dynamicity of the system. The system is flexible because it enables the study of a single area or the ability to compare different areas, which is possible since homogeneous (standard) classifications, were used when possible. The latter aspect underlines the system's transversality: it allows analysing the different informative contexts for a specific territorial dimension selected.

To compare the system data, it is very important to have, in addition to standard definitions, insight into the techniques, methods and characteristics of the surveys from which the data has come. These data were summarised in metadata associated to each indicator (see par. 3).

Because the system allows for the national comparison of indicators over time, standardised indicators had to be calculated, as the comparisons can be influenced by the different age structures of the population. Consequently, the same reference population was always used to allow time and space comparability. In addition, it makes it possible to analyse the territorial characteristics of the phenomenon and describe its evolution trends.

Data contained in the *Health for All – Italia* system are periodically updated in terms of historical series and territorial detail to guarantee the system's dynamicity. These updates include the entry of new indicators or new theme areas, or updating the data interrogation software and indicator construction methods [5].

Structure and system contents

The WHO software-managed database contains about 4000 indicators, although it can be extended to a maximum of 10,000, divided in 10 mono-theme groups: demographic and socio-economic context; causes of death; life styles; disease prevention; chronic and infectious diseases; disability; health status and life expectancy; health facilities; hospital discharges by diagnosis and health care resources.

The item *Help/Contenuti* of the main menu contains general data on the software, its functioning, the complete list of indicators, metadata on the characteristics of the indicators and updates.

The list of indicators has a tree structure, where first the groups are displayed, then the first level indicators and finally the second-level indicators (Figure 1). This makes it easier to search for an indicator among the many that are available.

Each indicator is identified by a 4-digit code that makes it easier to locate it in the list and in the indicators selection screen. The first digit, between

Figure 1. Selection of the indicators
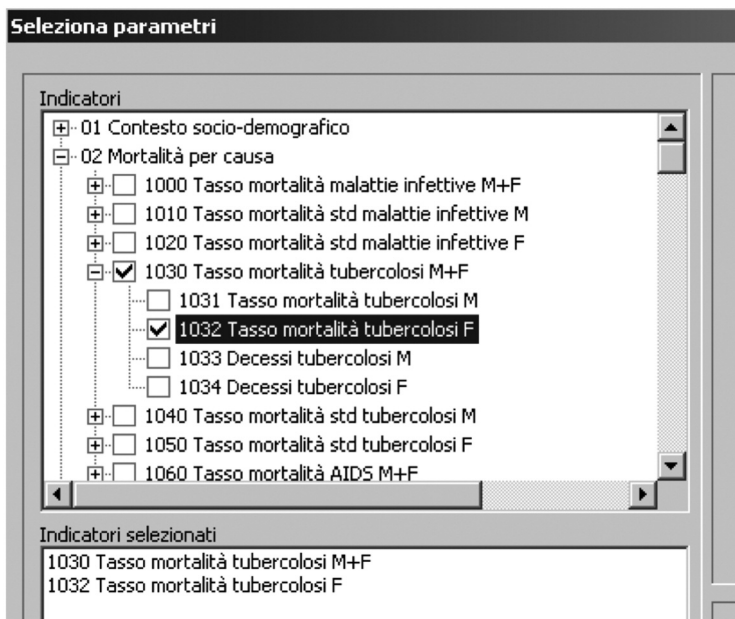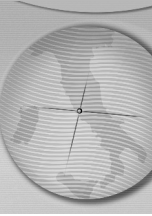
0 and 9, indicates the group to which it belongs while the second and third digits, between 00 and 99, indicate its position inside its group. Finally, the last digit indicates its level: 0 for first level and values between 1 and 9 for second level (taken as specification of the first level indicator).

After selecting one or more indicators (maximum 30), the next step to do is to choose the area for which it is possible to represent the indicators. Three possible territorial desegregations (Figure 2) are available:

• *Regions*: the territorial unit is the region, together with the areas and the Italian total. Regions to be represented in graphs and tables must be selected.

• *Single region:* the territorial unit is a specific region; hence all provinces of that region and the region itself are displayed. Provinces to be represented in graphs and tables must be selected here.

• *Provinces*: the territorial unit is the province. A tree structure displays the regions at a first level and the provinces at a second level. Such option allows comparing provinces from different regions.

The system enables indicators, calculated for

Figure 2. Selection of the geographical area

each territorial unit, to be represented as well as for each year of the time series; hence, the last step is to select the years to be represented. The system indicators start from 1980 and go up up to the last year available. Time-based availability of the indicators varies from one theme group to another according to the survey from which the data come.

Hence, it is recommended to first verify the list of indicators or metadata displayed at point 4 of the menu *Help/Contenuti*. For each indicator, they provide data on its full name, calculation method, classification variables, years for which the information is available, territorial detail, sources and time periods, as well as any additional notes necessary to correctly read and use the data, and publications or internet websites to examine more in-depth the argument (Figure 3).

Some cases of use

As previously described, the informative system *Health for All - Italia* was designed by the WHO as work instrument for the many different users, to meet all informative needs.

Besides students, researchers and socio-sanitary operators, let us now review how it has been used for public health policies.

National health observatory in the Italian regions

This is a joint activity between the Institute of Hygiene of the Catholic University Sacro Cuore, the Institutes of Hygiene of other Italian universities and many national, regional and corporate public institutions (Ministry of Health, Istat, Istituto Superiore di Sanità, National Research Council, National Cancer Institute, Italian Institute of Social Medicine, Italian Medicines Agency, Hospitals and Sanitary agencies, Regional Epidemiological Observatory, Regional and Provincial Public Health Agencies, Regional and Provincial Council offices to Health).

Its purpose is to monitor the impact of the organizational and managerial determinants on which the Regional Health Systems are based, according to scientific criteria. It is also to transfer the research results to the national and international scientific community.

The Observatory mainly produces the Rapporto Osservasalute - Stato di salute e qualità dell'assistenza nelle Regioni Italiane (Report – Health and quality status of the assistance in Italy); most of the indicators contained in the report come from the informative source Health for All – Italia [6].

Women's health status in Italy

Published by the Ministry of Health in the Commission "Women's health" in March 2008, it represents the first Report of this Commission and must be seen as an intermediary document of the final Report expected. The included preparatory documents, on which the Commission's work will be based, provide a complete picture of the health status of Italian

Figure 3. Examples of metadata

female population. They also identify the gender gaps (such as in the informative sources) to identify/propose efficient strategies to "make up the system" and reduce the gender disparities with regards to health.

Most of the data mentioned in the report come from the informative source *Health for All – Italia* [7].

Cancers in Italy

Cancers in Italy, the cancer epidemiological website, provides data, numbers and information on this illness in Italy. It identifies the delays in the health surveillance in order to favour prevention actions, early diagnoses and pathology control. It was developed by the project "Cancers in Italy", and coordinated by the National Cancer Institute together with the Istituto Superiore di Sanità. Supported by the Alleanza contro il Cancro (Alliance against Cancer), it sees the participation of research institutes and cancer networks.

Some indicators are common to the *Health for All – Italia* system [8].

Region Piemonte – Health Relation on health status

This Health Relation document analyses and evaluates the health results on which the regional socio-health programme should be based. Through this programme, the local government guides the Region's policies, both health and non-health, to obtain better results in health, life quality and development, compatible with resources and context constraints and with the population's preferences. Hence, this programme must result from a complex process that analyses the needs, sets the priorities, defines the objectives and elaborates policies and interventions, having also a data-based process shared with the institutional professionals and social subjects.

Some indicators were taken from the *Health for All – Italia* system [9].

Autonomous region Valle d'Aosta – Mortality atlas in Valle d'Aosta

Possible exposure to risk factors can be evaluated when the intensity and the geographical distribution of the most common
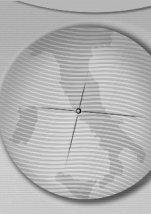
causes of death in the regional population at small area level are known and measured. It also allows selecting conscious and transparent preventive or health interventions to reach the common objective, that is, the health of all citizens. This study is thus very interesting. It indeed focuses on the social and economic inequalities that could discriminate in access to services among the population. It is also interesting for its attitude in evaluating its own health status and undertaking the necessary actions to maintain it: hence, it produces a differential use of the health good and its final result.

Some indicators were taken from the *Health for All – Italia* system [10].

New developments

The wide diffusion and use of the *Health for All – Italia* system has led to new needs arising on which Istat is currently working: an English version and an on-line version.

The English version has become necessary because of the need for often required international comparisons that go beyond the national comparison of data present in the database *Health for All – WHO/Europe* [11].

Moreover, the continuous updates of the historical series and the implementation of new indicators have created a system that currently exceeds 60Mb, which will obviously increase. Users who need to interrogate the system must download the whole package on their computer (data, metadata and software). Hence, to make it easier for the users, an on-line version was created to allow downloading only the output requested. This version will be complementary and will not substitute the current one.

References

1) ISTAT. Health for All - Italia: an information system on health. Paper presented to the Joint UNECE/WHO/Eurostat meeting, Geneva, May 24-26, 2004.

2) WHO Regional Office for Europe. Targets for Health for All. European Health for All Series, n.1, 1985.

3) WHO. Third evaluation of the implementation of the strategies for Health for All by the year 2000: goals, 1997.

4) OECD. Health Data 2007: Statistics and Indicators for 30 Countries. CD-ROM, 2007.

5) Burgio A, Crialesi R, Loghi M. Health for All - Italia: un sistema di indicatori sulla sanità e la salute (Italy: a system for health indicators). In: Igiene e sanità pubblica. vol. LIX, n.1-2:79-97, 2003.

6) Institute of Hygiene of the Catholic University Sacro Cuore. Report - Health and quality status of the assistance in Italy. Available from: www.osservasalute.it. [Accessed on september 2008].

7) Ministry of Health. Women's health status in Italy. Available from : http://www.ministerosalute.it/imgs/C_17_pubblicazioni_764_allegato.pdf. [Accessed on september 2008].

8) Istituto superiore di sanità. Cancers in Italy. Available from: http://www.tumori.net/it/banchedati.php. [Accessed on september 2008].

9) Region Piemonte. Health Relation on health status. Available from: http://www.regione.piemonte.it/sanita/ep/salute2006/index.htm. [Accessed on september 2008].

10) Autonomous region Valle d'Aosta. Mortality atlas in Valle d'Aosta. Available from: http://www.regione.vda.it/xml/FileXML/sanita/oreps/pubblicazioni/pdf/atlantem_i-2.pdf. [Accessed on september 2008].

11) World Health Organization/Regional Office for Europe. European Health for All Database. Available from: http://www.euro.who.int/hfadb. [Accessed on september 2008].