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# HEALTH INDICATORS and EUROSTAT.

Submitted by Eurostat's Partnership on Health Statistics*

## INTRODUCTION

The concept and implementation of health indicators is derived some decades ago from the development of indicators in the domain of demographic and social statistics, following initiatives in the domain of economic statistics. One of the pioneering agencies on demographic and social indicators is the OECD, which developed indicators on health already in the seventies of the previous century, supported by some of its member countries. Since then most countries and almost all international agencies have developed health indicators for reporting, evaluation and for policy programmes.

Most of these lists of health indicators have underlying concepts, standard classifications and recommended measurement instruments for collection of data at national level and reporting to the international agency. However many of these lists are rather long and not all are user-friendly. While in most cases consensus was reached on the indicators as such and their definitions, e.g. on the Health for All indicators of WHO, there was only partial agreement on the methodology for the collection of data and analysis to establish those indicators especially at international level. This has given continuing discussions and disputes on the usefulness of the indicators for comparability between countries and trend analysis.

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The lack of consensus and poor comparability affects the adequate use of the results for policy purposes and is eroding the credibility of public health researchers and statisticians. Therefore it is time to find innovative ways for practical and satisfactory solutions for meaningful, concise and user-friendly lists, based on comparable data of high quality.

## ON LONG AND SHORT LISTS OF INDICATORS

The most common drives for constructing a list of health indicators are health policy planning and monitoring of public health programmes. Finding meaningful links between the aims and objectives of such programmes and indicators is a difficult and timeconsuming process. In many cases the lack or unclear description of objectives and not always clearly defined demands leads to vague and mainly too long lists of indicators in a drive to foresee all potential uses and demands for public health indicators.

And because there is already a large number of existing lists, it is not easy to make a selection of potential indicators (l'embarras du choix) and reach a consensus between all interested parties involved which may have difference or deviating agendas.

Obviously programmes differ and make it imperative to seek for new indicators. However one cannot deny that in many cases parts of the long lists are the result of a drive for scientific perfection and fear for incompleteness. But it is not always adequate to have the same lists for generalist users and for specialist users. At the end nobody may be satisfied with the resulting list.

## ON GENERAL AND SPECIFIC INDICATORS (BOUNDARIES AND SIMILARITIES)

Several EU programmes require indicators covering several domains, e.g. labour and education, activities, health, participation. In particular the key Social Indicators and the indicators on Sustainable development and on social inclusion should be mentioned here. Such lists of indicators are designed for use at high level, are rather short and cover many domains, e.g. population, health, education. And are needed for reporting annually to the Council and the European Parliament. In such lists the number of indicators is limited. For instance in the list of indicators for sustainable development some indicators are foreseen for health. The list of indicators for social inclusion (Laeken Council) has only ten primarily indicators, of which one on health, and eight secondary indicators. The list of key social indicators has twenty two indicators of which three on health. Within the conte xt of structural indicators it is proposed to have the DFLE (disability free life expectancy) included and it should be available on an annual basis. This indicator will be derived from the annual survey data on Statistics on Income and Living Conditions (SILC).

For other EU programmes, e.g. the Programme on Public Health, more specific and more detailed indicators are needed for regular reporting. The list for the Programme on Public Health is called the European Community Health Indicators (ECHI) and includes core indicators and other indicators. The first are more meant for general policy use and the lather for specialist use. The list covers several sub domains on health status as well as on health care, population and health determinants.

A particular feature is that sometimes the general or global indicators in general lists of social indicators do not show the same figure as the indicators in the detailed list. The concept may be slightly different, the source or the calculation method may be different. These differences in key data are a source of lively debates between the indicator specialists. But above all it is confusing for the users, to say the least. In other cases for the same events different sources are used resulting in different indicators, e.g. deaths from road traffic accidents based on the COD and on police reports of road traffic accidents.

## COMPARISONS ACCORDING TO TIME AND PLACE

The main purpose of indicators is to follow developments over time; trend analysis. Another key issue is comparisons between countries or within the same country between regions. A combination of analysis according to time and place is most useful for monitoring international developments and programmes.

These comparisons require that concepts, definitions and classifications used for making the indicators remain unchanged for a certain time. A minimum period of stable standards should be advised and agreed, e.g. for five years.

A particular aspect in international comparisons are the translations of instruments, e.g. of questions and question modules used in population surveys. However cultural differences may even be more important in the application of the 'standard' or reference questions, especially in combination with language. In the health statistics of Eurostat these aspects get special attention and an innovative technique is being applied for developing standard modules on measurement of the status of health for each of the at about twenty one European official languages.

## ON REGULAR AND ADHOC INDICATORS

Indicators can be available at annual basis or at longer intervals. The demand of timely data makes it sometimes difficult to make a distinction. For many purposes not all required breakdowns should be available every year but only at agreed larger intervals. Also the efforts and costs for the collection and analysis of data play a role. For instance in the case of regular annual data collection, e.g. on COD, such a discussion does not make much sense because the data collection is continuous and analysis is done on an annual basis. But in the case of HIS, some countries may have a continuous or annual survey system and others not, e.g. every five years.

For other indicators information on an ad hoc basis may be sufficient to respond to particular policy objectives, e.g. on accessibility of airplanes for persons with a mobility problem.

## ON QUANTITATIVE AND NON-QUANTITATIVE INDICATORS

In lists of indicators it is not uncommon to include non-quantitative indicators, e.g. on the existence and application of specific laws and regulations. Such indicators are of course not derived from statistical sources.

Another issue is indicators based on specific research and/or registries set up for these specific purposes. They can be considered as complementary to the statistical indicators, but also

here the greatest care should be taken not to publish deviating figures for the same concept, item or variable. If this cannot be avoided such indicators should only be included in the lists for specialists.

And also indicators designed for early warning systems should better not be included in general and special indicator lists. Indicators for early warning systems should be a separate set. The reason is that such indicators are derived from especially designed reporting systems under special units or agencies with responsibility for rapid reactions.

**ON PROGRAMME AND NON-PROGRAMME INDICATORS**

The advantage of indicators required for monitoring progress of programmes is that they are user driven and target oriented. On the other hand, they do not cover subjects, which are not covered by the policy of the programme. As a consequence new developments and changes of disease patterns not falling within the aims and objectives of the programme may go unnoticed by the user.

But a statistical authority, whether national or international, has an aim to monitor trends and changes in status of health and related domains. Important changes and new developments should be reported. This means that a statistical authority should make lists of indicators including also non-programme driven indicators. However this is very difficult because not all subjects can be reported in lists of indicators. For instance it is hardly conceivable that Creutzfeld-Jacobs Disease (CJD) would have been noticed first in a list of indicators. The basic data on causes of death at the most detailed level have given the first evidence for the increase of this disease.

**SOME LESSONS LEARNED FROM THE ABOVE OBSERVATIONS AND EXPERIENCES**

- health programmes require lists of specific indicators, e.g. programme lists and do not necessarily cover the whole spectrum of health status;

- statistical authorities should disseminate non programme related lists of health indicators, not directly linked to the aims and objectives of programmes;

- statistical authorities should contribute to the programme lists, which ideally should be part of the non programme lists;

- it is efficient to make a synthesis from existing lists rather than start all over again with a new list;

- indicators on the status of health should have proven value and usability;

- indicators on status of health for use at a general or global (high aggregate) level should be short and self explanatory;

- lists of indicators on status of health for use by specialists can be longer and more specific than the ones for use at global level;

- not all indicators need to be available every year; some detailed breakdowns are needed only at regular intervals;

- some indicators are only needed ad hoc;

- indicators for early warning systems and rapid reaction should be included in separate lists;

- lists of indicators are not always limited to quantitative indicators;

- results of research and special investigations are complementary to the statistical indicators;

- standards, e.g. concepts, definitions and classifications used for calculating health indicators should remain unchanged for some time, e.g. for at least five years;

- for the application of reference questions or question modules, a traditional translation is not sufficient and therefore a special methodology should be developed to overcome these obstacles;

- indicators in general or global lists of indicators covering several domains of social statistics should not be different from the same ones in special lists;

- for the same events the same sources should be used, or adjustment methods should be applied in order to calculate the same figures for the same indicators.

## AN APPROACH FOR DEVELOPING HEALTH INDICATORS IN EUROSTAT

First of all, health statistics in Eurostat have been established on a *research based approach.* Basic principles of epidemiology have been the guidelines for establishing statistics for measuring the status of health of the population, its development over time, the determining factors on the status of health and the health care services available for improving health and combating disease. This has lead to a systematic framework, which was approved by the statistical authorities of Member States (MS) in the framework of the European Statistical System (ESS).

The result was an *operational consistent system of health statistics* subdivided in some broad domains: statistics on causes of death (COD), status of health (or self perceived health and disability) based on population surveys (HIS), status of health based on diagnosis related information (or morbidity and HES), statistics on health care services, including personnel, financial aspects and the use of health care services (CARE).

Another feature is that it should be a *durable system* for providing basic data and statistics allowing comparisons in time and by place.

The statistics are focussing on generally required *basic data*, which are indispensable at national and international level for monitoring general status of health and its determining factors by means of key statistical data. For instance, for the COD a list of 65 main causes was agreed

for regular reporting at international, national and regional level (NUTS 2). A more detailed list of basic data or indicators may be statistical justified (significant) for inter-country comparisons but not for comparisons at NUTS 2 level. The development of the system takes place in the framework of a partnership of health statisticians of the Member States of the EU. It leads to the implementation of a collection of agreed sets of data on public health on health statistics. . So the system does not start from indicators but rather starts from indispensable basic data needed to calculate indispensable indicators at high aggregate level, either for programme driven or for statistical indicators.

Eurostat does not only produce basic data for calculating *programme driven health indicators* at the request of the users, e.g. for EU programmes on public health, but Eurostat produces also *statistical health indicators*. These statistical indicators of Eurostat are the result of consensus of the partners for health statistics, based on experience of the usefulness of such indicators at national and supra or international level. Examples of such statistical indicators are life expectancies; DFLE and the percentage of GNP spend on health care.

This does not exclude the possibility for calculating more detailed indicators. On the contrary the basic data give the opportunity for calculating more detailed indicators, mainly for programme purposes.

The basic data collected by Eurostat provides the data for calculating and disseminating global statistical indicators. An overview of basic data is given in the Eurostat publication "Health statistics, key data on health 2002". These systems of *basic data and basic global statistical indicators* are considered at being *the backbone* for other systems of more detailed health indicators. This means that these basic data and global health indicators should deserve within the ESS the highest priority for developing methodology in order to obtain more comparable data.

Another example of such a set of basic data and indicators is the European Health Interview System. The subjects, which can be collected by means of health interview surveys, are numerous and cannot be covered by one single survey mainly because the interview time would be too long. However, having several surveys leads to differences in concepts, definitions and instruments even for the basic issues, e.g. on perceived health and daily activities. A first consensus was reached on twelve and later on eighteen HIS items. Later a consensus was reached on core modules, which are required at regular intervals and in all MS. This is called the European Core Health Survey (ECHIS) which is part of the ESS. Next to that there exists a range of other subjects for HIS which can be conducted in special surveys, which are called European Special Health Surveys (ESHIS). Example is surveys amongst children or surveys on nutrition. These ESHIS should include some basic modules used in the ECHIS in order to guarantee comparability. These two sets of survey systems could lead ultimately to *sets of complementary indicators*, whether or not included in one or several lists of health indicators. Such an approach should lead to *core statistical indicators and complementary special indicators.*

In calculating health indicators sometimes a distinction is made in calculations or harmonisation ex-post and ex-ante. In the case of HIS it has been experienced that harmonisation ex-post based on poorly harmonised instruments leads to less satisfactory indicators from the point of view of comparability. Therefore there is a gradual shift towards harmonisation ex-ante, meaning that instruments are more and more harmonised for the collection of basic data. A

special approach has been developed for the HIS, which is elaborated and presented in another paper.

The indicators of Eurostat developed on the basis of the basic *statistical indicators approach are not necessarily programme driven*, but programmes are a great incentive for the development of statistical indicators. This is the case for indicators on disability, which is user driven from the many EU programmes where subjects of exclusion, participations, etc have a prominent place. A statistical programme was accepted following two tracks: one track for a global indicator (which is implemented already) and a track for specific function/disability oriented indicators, primarily user oriented.

On the other hand many times, if not most times, the general statistical indicators are part of programme indicators. For instance the ECHI list includes most of the causes of death of the 65 list of Eurostat but also other more specific causes. And the same applies for indicators calculated from data from HIS.

Eurostat is not responsible for the choice of programme driven health indicators although the experience of statisticians can contribute to the choice of adequate and useful programme driven indicators. However Eurostat and its partners in the MS can take the responsibility for the development of agreed statistical indicators, which are part of lists of programme driven indicators. This is the case for instance for the ECHI list of indicators for supporting the public health programme of the EU. Thirty one out of the seventy core indicators in the ECHI list of the Public Health programme of the EU are equal to the statistical indicators on health of Eurostat.

It should also be mentioned that in the list of health indicators, both non-programme driven statistical indicators and programme driven indicators, many indicators are based on data from other social domains, e.g. population. This is particularly true for the statistical indicators of Eurostat. In the case of population data, or data on labour force and education, Eurostat can rely on concepts, definitions, classifications and instrument available from sources established for the statistics of other domains. In such case use can be made from the same data and many times also from the same indicators, which again is an advantage for comparability and efficiency in data collections and analysis. On the other hand health data and statistical indicators on health are more and more included in lists of other social indicators for supporting different social programmes of the EU. The *health indicators are interrelated with other social and socio-economic domains.*

## CONCLUSIONS ON EUROSTAT APPROACH ON HEALTH INDICATORS

Health statistics of Eurostat are based on a systematic epidemiological approach in order to develop a durable set of basic data. And they are developed in the framework of a partnership on health statistics in which all Member States take part.

The basic data allow for the calculation of programme and global statistical health indicators, which can be included in sets of health indicators as backbones. The emphasis is on a durable set of basic data for calculating indicators for regular comparisons over time (trend analysis) and between MS and for some indicators also between regions.

*First of all, Eurostat* is not the primary producer of programme driven indicators but Eurtostat is the provider of basic data to allow calculating the programme driven indicators.

*Next*, Eurostat produces programme driven health indicators based on the basic data it collects, in good collaboration with other Commission services and whenever budgetary means are available.

*Lastly*, Eurostat disseminates statistical health indicators, not programme driven, for describing the general status of health according to different aspects and most important determinants, e.g. life expectancies, DFLE or the percentage of GNP spend on health care, based on consensus in the framework of the partnership on public health statistics. The emphasis is on the general usefulness of these statistical indicators, mainly for comparisons between MS and regions and for trend analysis. Needs and demands from programmes are a great incentive for a pragmatic approach towards the development of new indicators and adaptations in the collection of the required basic data.

Next to these statistical indicators, programme driven indicators include other indicators or special indicators based on many other sources from research, special investigations and surveys, specific registrations and administrations, alert and early warning systems. These data and indicators are complementary and are indispensable for monitoring programmes.

Because Eurostat is focussing on basic data and core health indicators it has a special role and responsibility together with its national partners for establishing and maintaining standards for statistical data collection and analysis.

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