The growing emphasis on national health indicators

An early mention of the use of indicators in health planning was made in a WHO technical report in 1957 (WHO 1957). Later, a WHO Expert Committee on Health Statistics (WHO 1971) emphasized the use of various indices for planning and evaluation of health services.

Health administrations in most countries of the world use a variety of indicators in their attempts to describe health problems, health care performance and the degree of achievement of their targets. Many such works are available as formal publications and others exist as grey literature, difficult to trace. In Britain, for example, a catalogue of indicators corresponding to the national health targets has been published (Department of Health 1992). Another publication describes a package of performance indicators developed by a joint working group consisting of representatives from the Department of Health and the National Health Service. The package contain indicators of input, process and outcome of care, mostly of hospital services (Forster et al. 1986). Sets of health indicators, describing national health goals, targets and strategies have been defined, for example, in Australia (Commonwealth Department of Human Services and Health 1994). In Pakistan, use was made of basic demographic and health indicators, process, outcome, impact and cost indicators for planning, managing and evaluating the primary health care system (Husein et al. 1993).

At the international level there has been ever increasing tendency by international organizations dealing with health to develop and promote health and health related indicators. Notable examples are global indicators used for monitoring and evaluation of the Health for All Strategy (WHO 1981), World Summit for Children indicators (WHO & UNICEF 1994), or indicators for sustainable development (Bartelmus 1994).

Three points should be emphasized at the outset of this paper. The first two concern the basic purpose of selecting and defining national health indicators. First, it is our firm conviction that any health information should be directed towards better functioning of health services, first of all at the most peripheral service level, in health facilities and in communities. The second point is that in the process of selecting and defining national health indicators it may become apparent that there is need to change service procedures in order to make them more effective and efficient. This is an opportunity which might be usefully taken by the national administration involved. The third point refers to the style of the workshop itself, its highly participative, innovative and creative character where formal lecuring is virtually inexistant and participants feel themselves and in fact are the creators and owners of the end result of the workshop and feel responsible for the implementation of follow-up actions.

Health information system problems relevant to the use of indicators

Over the years, while improvements have been made in the generation of health information, many long standing problems with national health information systems and data use continue to exist. Such problems include:

- there are excessive requirements for data recording and reporting by
service staff much of which are not used for the tasks they perform at their level, and which lead to extensive amounts of data accumulating at higher levels of the system, particularly at the central level, little of which are analyzed and used;
- in general, data routinely reported by health service staff are considered of dubious validity and completeness, and therefore are frequently not relied upon;
- often data on the health of those without access to services, or who use private sector services are missing from government health information systems;
- there is increasing use of general and special purpose surveys to capture data which should be in the reporting system. This work further lessens reliance on routine data. Many of these efforts are promoted and supported by international agencies for their own purposes, not always confirming national relevance;
- in most countries, the system for surveillance of and reaction to important health and environmental conditions are not functioning well;
- in many countries registration of births and deaths and their cause is inadequate;
- despite considerable investment in computers and data processing, relatively little appropriate, efficient use is being made of informatics for the better management of data.

In addition, many past efforts to strengthen national health information systems (some of which have been supported by WHO) have produced little improvement. It has proved very difficult to deliver effective collaboration for strengthening country health information.

In summary, it could be said that information in the health field is basically affected by two categories of problems: (1) the insufficient use of available data for planning, implementation, service management, monitoring and evaluation; and (2) the inadequate quality, completeness and timeliness of data produced through the routine health recording and reporting mechanisms.

**Principles for guiding the selection and use of health indicators**

The heavy international promotion of health indicators has succeeded in raising national awareness of the importance and means for monitoring important health conditions. The profusion of internationally recommended indicators may complicate the national selection of indicators and may lead to unnecessary and costly monitoring efforts. The following principles are offered to help guide national selection of health indicators:

- Health data needed for indicators must be use- and action-oriented, rather than "data- or information led". No data should be requested from a service level to be reported to higher levels which does not have an actionable use at the recording level.
- Efforts should be made to make better use of existing data at all levels of the health system through practical analysis and improved presentation of data, and by using the data to analyze and solve important health and service problems.
- Any changes or developments to data recording and reporting should be made only to improve the provision of health care and implementation of public health action.
- Priority attention should be given to improving data generation and use at the local (community, facility and district) levels to support the enhancement of service performance at that level.
- Countries should chose essential health indicators which can be measured with the data generated routinely through service processes. Selection of indicators requiring special surveys should be avoided as much as possible. Composite health indicators are usually not relevant for monitoring health or health services, and should be avoided.
- Understandability: the indicator should deal with a single clear idea which everyone will see as an important measure. Composite indexes should be avoided.
- Validity, consistency, reliability, sensitivity: The indicator should have been proven capable of being recorded across the service with the necessary degree of validity, consistency and reliability, and be
sensitive to short term changes in the variable of interest.

- Representativeness: Indicators should be selected that can be a measure of health status or service performance beyond the immediate event or task being reported.
- National and programme relevance: Health indicator selection is given special emphasis within efforts to develop national health and service monitoring and evaluation, including indicators of the changing health situation, equity in health, quality of care and service efficiency.

Efforts should also be made to assess and strengthen the important routine processes for generating the data for these indicators such as disease surveillance, service recording and reporting, and administrative data. Health indicator selection and definition is one very important initiating activity as countries embark upon the development of national health and service monitoring and evaluation and overall enhancement of the health information system.

Some international guidance on health indicators

WHO Health for All indicators. Indicators are defined by WHO as variables that help to measure changes in the health situation directly or indirectly and to assess the extent to which the objectives and targets of a programme are being attained (WHO 1984). An initial set of twelve global indicators was established in early 1980s (WHO 1981) and subsequently modified in the light of experience of three monitoring and evaluation exercises. These indicators are recommended as tools to be used by countries for monitoring and evaluating national HFA strategies. They may also be useful for presenting regional and global summaries and making international comparisons.

Indicators developed by WHO technical programmes. There is a considerable quantity of indicators defined and promoted by WHO programmes. Many of these indicators are proven sound and useful in country situations. Others are still under development (e.g.: WHO 1992; WHO 1994). The Strengthening Country Health Information Unit at WHO, Geneva, is producing an "Indicator Catalogue" which assembles health indicators most strongly recommended by WHO programmes. This catalogue will be issued in 1996 (WHO 1996).

Other international organizations such as Aga Khan Foundation, UNICEF (WHO & UNICEF 1994), the German Agency for Technical Cooperation (GTZ), and others (Aga Khan Foundation 1993; GTZ 1989) dealing with health have developed other lists of indicators and methods of their calculation.

Recent indicator selection efforts

The SCI unit of HST is supporting national and subnational efforts to select and define essential health indicators. In one African country a selection of health indicators for national monitoring purposes was the first activity undertaken in a process for enhancing the health information system. This was considered necessary by the Ministry of Health in order to keep track of the more important health problems in the country, the critical health services and the essential health resources. Similar activities have been undertaken in other African countries and a number of post-Soviet Newly Independent States.

Workshops for selecting essential health indicators

Usually, the SCI-supported process of selecting essential health indicators is carried at several levels (Regional, Central Programme Manager, Central Decision Makers) each requiring a 4-5 day workshop.

The objectives of such Workshops usually include:

- To identify the priority health problems, the target populations and high risk groups
- To confirm the critical health services and essential resources for preventing and controlling each priority health problem
- To identify indicators of health (problems, determinants and risk...
factors), of critical health care, its quality of care, and of essential health resources
- For each indicator, to identify primary data sources and to assess current availability and validity
- To identify the types of data generation and management problems needing attention within the health information system.

The process

The process varies somewhat from country to country depending on the objectives and desired products, but it is always highly participative in order to generate consensus around the selected indicators. An example agenda of an indicator selection workshop is included as Annex A. Usually there is little formal lecturing. Most of the sessions are conducted in groups after a short plenary introduction. During each session, each group is required to generate a product which is then presented and discussed at a plenary session.

The products

Following are the products typically generated during such indicator selection processes:

- A list of priority health problems generated in plenary using a nominal group technique. A sample table of priority health problems is included as Annex B.
- A table of essential indicators in three categories: indicators of priority health problem, indicators of service delivery and indicators of critical health resources. Annexes C-1 and C-2 are examples.
- A list of data sources for each indicator.
- A list of current data difficulties and needs for improvement.

Follow up to indicator selection

Countries interested in making practical improvements to their health information systems will normally undertake a series of activities which will enable the information system to adequately monitor indicators. These may include:

- Endorsing the indicators at the highest level
- Specifying how the indicator data is to be obtained and used at each service level
- Design reports presenting monitoring results including an annual health report
- Develop computerized data bases for maintaining, analyzing and reporting the indicators
- Improving and standardizing diagnostic and recording procedures in clinics
- Establishing standard case definitions
- Assessing and strengthening disease surveillance and control procedures

Additional benefits

Although such indicator selection processes focus on measurement and monitoring, there are usually several additional products or benefits of value, including:

- a reconfirmation or updating of the priority health problems of the country;
- a confirmation of the more essential health services, which may be the subject of specific programmes or targets;
- an identification of the service types and levels which must provide the data for essential monitoring, and a tentative assessment of the adequacy of the data recorded and reported at those levels;
- a basis (proposed activities) for progressively strengthening the overall health information system, including data recording and reporting, analysis, presentation and use.
Next steps

The SCI unit is attempting to support HIS developmental work with new methods and materials, including:

- Creation of a global inventory (all inclusive) and a catalog (selected with 2 page annotation) of health indicators.
- Guidelines for rapid assessment of health information system.
- Development of health indicators and monitoring methods on equity and quality of care.
- Guidelines on Annual Health Reports.
- Training materials and methods for enhancing computer use in health.

References


GTZ. Indicators for district health systems, Informal report of a workshop held by GTZ, Eschborn, 29-30 May 1989.


WHO. Measurement of levels of health. TRS 137, Geneva 1957.


WHO & UNICEF. World Summit for Children - health indicators and the

**Document reference**

**Selecting and defining national health indicators**
Drs Stephen A. Sapirie and Stanislaw Orzeszyna

Strengthening Country Health Information Unit
Division of Epidemiological Surveillance and
Health Situation and Trend Assessment World Health Organization
Geneva, September 1995