



Health Metrics Network

Informal Consultation on Synthesis, Analysis and Use of Country Evidence (SAUCE): Using Health Information for Country-Level Health Policy and Planning

21 July 2005, Tours, France

Background

The Health Metrics Network aims to improve the availability and quality of health information and information systems in developing countries. However, data by themselves do not always tell a straightforward story; meaning is acquired when they are analyzed and interpreted. Data should be synthesized, analyzed and interpreted within the overall context of the health systems functioning and of health intervention delivery. A critical aspect of analysis is the synthesis of data from multiple sources, examination of inconsistencies and contradictions, and summary into a consistent assessment of the health situation and trends. This includes the mortality, morbidity, disability, health status, patterns of risk behaviour, health service coverage, health system information, including health finances.

Unbiased, consistent and comparable information about health (mortality, diseases and injuries, disability etc), their causes in terms of proximal risk factors and more distal socioeconomic determinants, their consequences and their trends is more than ever necessary to inform policy-making. In a context where country-level policy making and priority setting is subject to increasingly vocal and well informed local demand for more health services and interventions than available resources can finance, and where specific vertical programs and international donor agencies place priorities on specific problems, decision-makers at all levels are increasingly required to evaluate the impact of health policies, to justify the adoption of new ones and to ensure that information is available for inter-programme comparisons.

Even with substantial improvements in health information systems in developing countries, there will remain important gaps in information, and biases and inconsistencies in available sources of information. These issues require that all relevant and available information is brought together, assessed, and where necessary adjusted to produce the best possible (unbiased, valid, and reliable) comprehensive picture of the country situation. There are additional issues in evaluating time trends, for example to evaluate the broad

success of a major program, in ensuring that the data sources and methods used for the beginning and end time points are consistent and that the inferences to be drawn on trends are valid.

Beyond the analysis stage is use of the data for decision-making. Capacity for data analysis is often lacking at peripheral levels where the data are generated and the results need to be used for planning and management. Bringing together a comprehensive analysis of the health situation and trends with data on health inputs, such as health expenditure and health system characteristics is particularly important. Such analytical work requires planning and investment and institutionalizing this work as a joint activity of multiple constituencies in the country. This is what provides the link between data generation and data use.

Why is SAUCE needed?

- Data are collected but not used at all
- Analysis is poorly done
- Data quality is not evaluated
- No reconciliation of data from different sources

- Statistical methods and models are too complicated to use
- Non-transparent or inaccurate methods are used
- Analysis not focused on ultimate user of the results
- Results are not translated into policy making

The needs for better evidence exist at a number of levels:

- International and national strategic decision-making: major decisions on resource allocation are made by synthesizing the epidemiological information and consider health economic dimensions.
- Monitoring of critical outcomes: major investment mechanisms e.g. GAVI, GFATM, require independent monitoring of key health outcomes, as it is the only way to produce sound evaluations. -- such evaluation is the key to accountability. In addition, the Millennium Development Goals are becoming the common core framework for all development dialogue.
- Building the evidence base on determinants and interventions for health: there is a strong link with health research, but also a careful synthesis and analysis of existing evidence may provide such evidence.
- Informing programme managers to improve implementation: both at local and national levels evidence is needed to assess whether targets are met, and what factors attribute to success or failure.

The Health Metrics Network can play a valuable role in sharing and transferring experience and methods to address these issues so that countries do not need to unnecessarily re-invent existing wheels, can learn from the experience of others, and can approach the synthesis task in a standard way thus facilitating sharing and comparison of resulting knowledge, relating both to methods and to health situation, with other countries.

The workshop

A one-day brainstorming workshop was organized with international and country experts to share experiences in promoting effective use of health information for decision-making and exploring methods, data management tools and data synthesis from different available sources (participants see Annex 1).

The discussions focused on a series of brief presentations that brought up different themes. These can be grouped into two major areas:

- Analytical tools to use health information for resource allocation:
 - Demographic Surveillance Studies (DSS) for resource allocation at the district level: the TEHIP experience in Tanzania
 - National Burden of Disease studies using the WHO GBD framework and methods, and its application in countries, such as South Africa
 - Economic tools to allocate resources to health priorities such as various UNICEF's MBB tool and WHO's CHOICE.
 - Software such as GOALS and AIM, produced by the Futures Group.
- Methods and tools to enhance data utilization:
 - TALI tool developed by the HIS project (HISP),
 - Data decision making calendar developed by MEASURE Evaluation,
 - Range of methods and tools developed by Thailand in the context of the health sector reform and
 - Ghana's experience in enhancing use of information at district levels.

Selected summaries and discussion issues can be found in Annex 2. The consultation was a first opportunity to explore data synthesis, analysis and use tools, i.e. existing tools and what is needed:

- Are tools and products already available?
- If so, are they analyzable to a national level?
- Is more methodological work needed on this subject?
- What additional epidemiological information is needed?

Results: establishing priorities for HMN action

In responding to these questions the discussions led to the identification of the following key issues and possible priorities for action for the HMN.

Harmonization of tools and methods

A core group should be established to work on an inventory of tools for data synthesis and analysis. This requires a global mapping exercise of tools now available, tools being developed, and followed by an effort to get donors to harmonize their work.

Context and resources in countries

In-country or regional capacity building in data analysis, synthesis and use is critical. There is also need to ensure data independence; data synthesis and analysis must be separate from political or personal interest. HMN should consider strengthening country capacity through regional centers of excellence.

Methods and tools

Mapping of currently available tools, and guide the development of better methods and tools for data synthesis and analysis is an essential starting point. Based on the mapping exercise results, new or improved tools should be developed by a HMN working group that includes country teams together with regional institutions and international expertise. Interactive development while working with five or so countries is crucial. Such tools should be simple and easy to understand. Tool development is also required to enhance data use and dissemination. This tool would be a tool that translates data to policy issues for decision making.

Several areas for tool development can be distinguished and could become standard elements of country level analysis. Five substantive areas include:

- *Health situation and trends analysis*: includes a minimum set of information (such as mortality levels by age and sex, causes of death, health service coverage etc.).
- *National burden of disease study*: integrating all available information, applying modelling to fill data gaps and provide summary measures
- *National and subnational health intervention profile*: comparisons of burden of mortality by cause or disease and resource allocation distributions, including avoidable burden, along the lines of TEHIP ,
- *Health projections*: focusing on major diseases and causes of death, taking into account economic projections, and demographic, epidemiological, nutrition and risk factor transitions.
- *Equity*: subnational analysis of the level and distribution of health and resources.

In addition, there are specific tools required to make the analyses possible and to ensure that data are eventually used. These include:

- *Data repository or warehouse*: software application that covers data storage, management, analysis, presentation etc. The Data Dissemination Toolkit developed by the International Household Survey Network is an example of an application that focuses on enhancing access and use of census and survey microdata.
- *Data use*: specific tools to translate data for decision makers.
- *E-Doc database*: simple tool that helps countries to scan and electronically file and retrieve national documents, reports, slide shows etc.

Country implementation:

HMN should simultaneously start working with selected countries - such as the Pathfinder countries - to assess the demand for specific types of synthesis and analysis, the appropriateness and use of existing tools and methods, and develop ways to improve current tools. Not all dimensions of SAUCE need to be implemented in a single country, although the aim should be to come up with recommendations for a standard minimum package of analyses that are required to guide national planning and resource allocation. Ideally, the country work is directly linked to a national planning cycle.

These recommendations for priorities for HMN will be taken into consideration and brought to the attention of the HMN Technical Advisory Group (TAG) as the HMN prepares its technical work plan.

Annex 1 List of participants

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Annex 2 Specific issues raised by presentations and discussions

The Tanzania Essential Health Interventions Project (TEHIP): An arguably universal problem with health information systems is the overburden of data collection of which little is used. The collected data are usually of poor quality and provide inadequate information for managing health systems. In most instances health information profiles, if existent, are not linked to budget allocation.

The TEHIP Project developed a set of data management tools that simplify comprehensive health information for guiding resource allocation at the district level. The tool called "District Health Profiles" uses information from the Demographic Surveillance System (DSS) to analyze vital statistics and cause of death to provide years of life lost (YLL) at district level. District health managers use the tool to produce graphs, charts and an auto

generated district health profile. Another tool, the District Health Account uses the DSS health profile to disaggregate the budget allocations or expenditure by diseases. The district health managers use these two tools to prepare an annual "chart book" which they use to compare spending with YLL by disease and adjust spending to reflect disease priorities.

An evaluation of the TEHIP project showed that application of these tools help enhance the capacity of district health managers in planning, setting priorities and resource allocation. This resulted in the allocation of resources in health interventions proportionate to the burden of disease, especially for children under five years of age, and increased the quality and utilization of essential health services. In addition, health outcome analysis of TEHIP showed substantial decline in mortality in infants and children under five.

Some issues

Further methodological work is needed, e.g. on model epidemiological patterns, preventable burden, potential linking with other tools

How can it be generalized to the national level?

What kind of data are adequate: Demographic Surveillance Systems, sample vital registration, partially coverage vital registration systems etc.

National Burden of Disease (NBD)

The Burden of Disease analysis is a method that uses all available and related information on mortality i.e., cause of death, individual health status, condition-specific epidemiology and then provides an overview of the levels and causes of population health in terms of cause of death patterns and also summary measures such as disability adjusted life years (DALYs). The computation of summary measures that include mortality and non-fatal health outcomes become more important in countries further along in the health transition.

WHO has produced a manual on calculating the NBD and a set of spreadsheet tools to enable "country analysis teams" to modify data inputs and assumptions and generate revised and improved analyses of national burden of disease (deaths, DALYs, incidence, prevalence) and leading causes of selected risk factors. WHO also organized training workshops on NBD at global and regional levels. Experience shows that it is difficult to get developing countries away from health facility based data to count the Burden of Disease. Current NBD methods are analytically difficult to calculate, estimates are used to create estimates, and there is a lack of analytical capacity available in countries to conduct the analysis.

South Africa has produced a NBD report. This was done in two stages, first the burden of disease and second, identifying the risk factors for the burden of disease. It has taken approximately 12 years to achieve this and while there is 90% adult cause of death registration, there is uncertainty on the completeness of recording of child deaths.

Some issues

How can key components of NBD studies be done best - such as quality assessment, reconciliation of figures, making decisions about weighting, ways to address data gaps? Can the tool be simplified?

Should it be re-packaged to make it more attractive and user friendly?

What needs to be done to enhance its use for resource allocation?

Costing tools

The basic premise is that resource allocation needs to be guided by epidemiological analyses of existing evidence. There are several tools in the field of costing and health economics including district health intervention profiles, Marginal Budgeting for Bottlenecks (MBB) (UNICEF), CHOICE (WHO), National Health Accounts, effective coverage assessment, costing manuals, child survival cost effectiveness, GOALS etc. There is a need to bring these together. HMN could help by facilitating the assessment of what is available and explain the specific methods and contributions of the current tools and consider what is actually needed for decision making. This should also include an evaluation of in-country applications focusing on simplicity of use, robustness at different levels of data availability, and relevance to policy making.

Some issues

Do we need a single model or tool or multiple tools?

Is the tool for marginal or holistic analyses, such as decisions about terminating a programme?

How can tools that make extensive use of modelling be an impetus for better data collection rather than a discouragement?

How can the decision maker perspective be accommodated?

Assessing Information Use in Countries

One participant presented experiences in assessing information use in countries. To conduct the assessment an instrument was used building on the TALI tool used in South Africa. The TALI identifies three levels of information "use":

- Level 1. The HIS is working: timely and accurate data, good coverage, essential data sets
- Level 2: Information is analyzed; use of indicators
- Level 3: Indicators (i.e. information) used to inform action plans

The questionnaire contained the following categories: context and resources, processes, results, and cross-cutting categories. Findings of the assessment correlate roughly with the UNDP Human Development Index. Tested in 9 countries, the tool identified South Africa and Thailand outstanding in their use of information. Thailand has de facto standards for data collection and transmission because it is linked to the universal coverage scheme; payment is based on data and there is web-based feedback of the data sets. South Africa has had a long term project and process of developing national data sets and indicators, data standards, district based HIS, and capacity development. To enhance information use the speaker recommended that first it is necessary to get up to Level 1, a functioning HIS. Next, focus on indicators/targets as the driver for synthesizing and analysing data. (South Africa). Finally, Level 3, link resource allocation to data and establish institutional mechanisms for information use (Thailand). Additionally link up with universities to

establish capacity building through Master's programs and continuing education and training.

Thailand Experience in Data Use:

In Thailand, health system reform is the prime driver for improvement in the health information system. Universal health care coverage reinforces the need for timely and standard health information as it links data with resource allocation. The development of the HIS started from a data needs assessment, followed by a review of available information to determine if the information provided served the data needs and was of good quality. The results of these studies formed the basis for prioritization of investment in the HIS by the Health Systems Reform Office. To encourage data use, the HIS tailors health information according to the data use objectives and sends through appropriate communication channels to target audiences.

The Measure Evaluation Project Experience:

The Measure Evaluation Project has worked with country partners to develop a "Data Decision Calendar" template that tracks on an annual basis, when and what types of decisions will be made. The Calendar then guides the generation, synthesis and analysis of data for timely dissemination to support the decision making process. The calendar development process brings in country stakeholder involvement to determine data needs, create opportunities for data use for informed decision making and follow-up of results.

Ghana Experience in use of District Health Information:

Ghana presented what is needed from a country perspective. The Ghanaian health system is divided into three hierarchical levels with a management team at each level. There is fragmentation of the HIS between programs at each level (horizontal fragmentation) and between each level (vertical fragmentation). To enhance data use, it is desirable that health information from all programs (MCH/FP, EPI, Nutrition, etc.) be reported to the management team at each level together with timely reporting and feedback between the different hierarchical levels of the health system. At the national level there should be an information repository hosted by the Government Statistical Services.