Monitoring and evaluation of health systems strengthening[1]

An operational framework

WHO, Geneva. November 2009

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Summary

This paper presents a framework for monitoring and evaluation of health system strengthening (HSS) and discusses how it can be operationalized at the country level and how global partners can work together to support the implementation.

Principles

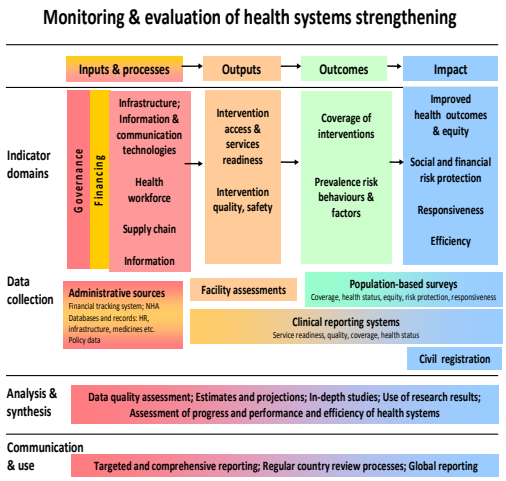
The framework builds upon principles derived from the Paris declaration on aid harmonization and effectiveness and the IHP+. The core is the strengthening of one country platform for monitoring and evaluation (M&E) of HSS. The framework is intended to be relevant for countries and for global health partnerships, donors, and agencies. It will result in better alignment of country and global monitoring systems and can be used both for monitoring HSS joint programming as well as for tracking specific programmes.

The results chain

The framework shows how health inputs are reflected in outputs, outcomes and impact (Figure 1). System inputs, processes and outputs reflect health systems capacity, whereas outcomes and impact reflect health systems performance.

The framework addresses indicator selection, related data sources, analysis and synthesis practices (including quality assessment), and communication and use. Based on existing work, indicators and data sources can be identified for each step in the results chain. HSS efforts should lead to measurable changes in health system inputs such as human and financial resources and measures of output such as levels and distribution of health service access and "readiness". In turn, this should lead to results such as coverage of key interventions and improved health levels and equity.

Figure 1



Strategies for operationalizing the framework should meet three criteria:

- be primarily country-focused but also offer the basis for global monitoring;
- address monitoring and evaluation needs for multiple users and purposes, including monitoring programme inputs, processes and results; tracking health systems performance; and evaluation;
- facilitate the identification of indicators and data sources, provide tools and guidance for data analysis, and show how the data can be communicated and used for decision-making.

Country M&E system

The primary aim is to have a strong M&E system in place for the national health sector strategic plan that comprises all major disease programmes and health systems. The national M&E plan should address all components of the framework and lay the foundation for regular reviews during the implementation of the national plan. Existing country health-sector review processes are key events to assess progress and performance.

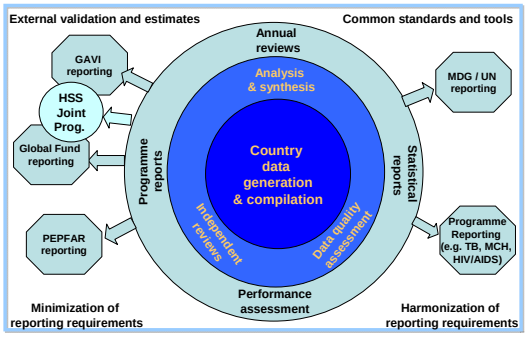
The work on country M&E should generate the information needed for global monitoring while minimizing the reporting burden for countries.

Country operationalizaton

A national country health systems surveillance (CHeSS) platform is needed to bring together the monitoring and evaluation work in disease-specific programmes, such as TB, HIV/AIDS and immunization, with cross-cutting efforts such as tracking human resources, logistics and procurement, and health service delivery (Figure 2). It also includes a contextual component that describes health systems in a systematic manner. The main goal of CHeSS is to improve the availability, quality and use of the data needed to inform country health sector reviews and planning processes, and to monitor health progress and system performance. It is the platform for subnational, national and global reporting, aligning partners at country and global levels around a common approach to country support and reporting requirements.

Figure 2

Country Health Systems Surveillance (CHeSS) platform



tools for data quality assessment, addressing data gaps, data analysis and for translating of data into policy relevant formats; multi-country capacity building workshop and institutional capacity building.

The multi-purpose and multi-directional orientation of the HSS M&E framework and its operational country platform supports the synthesis of data from multiple sources to inform annual health sector reviews, country planning processes, country management of health strategy and the tracking of progress made under global initiatives, such as HSS joint programming. It should also be used to better integrate M&E of specific programmes, such as immunization and HIV/AIDS into a national health information system.

Roles of global partners

Building on the IHP+ and H8-related work a global community of practice will aim to support the operationalization of the M&E framework through the CHeSS platform in countries through a community of practice using web-enabled tools for information sharing and dissemination. This will improve access to available data on key health indicators and on systems performance and will enable linking of statistical and broader contextual information. Partners will promote

Background

Recent substantial increases in international funding for health have been accompanied by increased demand for statistics to accurately track health progress and performance, evaluate impact, and ensure accountability at country and global levels. The use of results-based financing mechanisms by major global donors has created further demand for timely and reliable data for decision-making. There is increasing in-country demand for data in the context of annual health sector reviews; this demand is also strong in countries that have established IHP+ compacts. However, on the supply side, there are major gaps in data availability and quality. Many developing countries face challenges in producing data of sufficient quality to permit the regular tracking of progress in scaling-up health interventions and strengthening health systems. Data gaps span the range of input, process, output, outcome and impact indicators.

An increasing number of stakeholders, including global health partnerships, bilateral donors, UN agencies, and academic institutions are involved in health-related monitoring and evaluation (M&E). Activities include the financing of strengthening monitoring and evaluation systems, and the development of frameworks, standards, tools and methods for data generation, collection, compilation, analysis and dissemination. Data are used to enable monitoring of progress towards targets, results-based funding, and evaluation of large-scale programmes. While these efforts have generally been linked to disease-specific initiatives, there is growing interest in tracking the overall performance of country health systems, acknowledged to be pivotal to the achievement of the disease-specific goals. For example, the Global Fund, GAVI, the World Bank and WHO are developing strategies for joint approaches to health systems strengthening (HSS). Monitoring and evaluation of HSS will need to be implemented in ways that take into account and minimize the apparent dichotomy between systemic and categorical or disease-focused approaches.

This paper aims to provide a comprehensive general framework for M&E of health system strengthening and reform. It first describes related efforts which have laid the foundation for this paper, notably the H8 health information discussions and the International health Partnership (IHP+) common evaluation framework. The M&E framework builds upon those efforts, putting country health sector strategic plans and the related M&E processes such as annual health sector reviews at the centre. The paper provides examples through brief use cases that describe how the M&E framework can be applied for different purposes, including specific global programme needs as well as HSS joint programming, and evaluation. The final section proposes concrete activities for international partners to support the operationalization of the framework in countries.

General principles

The potential advantages of harmonized approaches to HSS monitoring and evaluation include reduced transaction costs, increased efficiency, and diminished pressures on countries. However, there are a number of practical issues that need to be addressed if greater harmonization is to become a practical reality. For example, there are multiple analytical and strategic frameworks for health systems, leading to considerable potential for duplication, overlap and confusion.[2] These include the WHO framework for health systems performance assessment[3] (2000); the World Bank

[2] For a recent overview see Shakarishvili G. Building on Health Systems Frameworks for Developing a Common Approach to Health Systems Strengthening. Prepared for the World Bank, Global Fund to Fight AIDS, Tuberculosis and Malaria, and GAVI Alliance, Technical Workshop on Health Systems Strengthening, Washington, DC, June 25-27, 2009

[3] World Health Organization. Health systems performance assessment. World health report 2000.

control knobs framework[4] (2004); and the WHO building blocks framework[5] (2006). Such frameworks have varying starting points, resulting in emphases on different outcomes to be tracked. The WHO framework emphasizes equity, solidarity, and social inclusion; access to effective, safe and responsive services; community health promotion and protection; and responsible health system stewardship on the part of health authorities. The World Bank framework focuses on aspects of the health system that are under the control of the authorities, including financing health sector activities; payment methods for transferring money to health care providers; organizational issues such as the mix of providers in the health care market; regulation of health system actors; and influencing the behaviours of individuals in relation to health and health care. What all these frameworks have in common is consensus that monitoring and evaluation must address performance in terms of both health system measures – availability, access, quality, efficiency − and population health measures − health status, responsiveness, user satisfaction, financial risk protection.

Work has continued to develop conceptual frameworks for health systems strengthening and to come up with a taxonomy that would permit clarification of the indicators, data sources and collection methods, and analytics underpinning monitoring and evaluation[6]. However, the choice of the strategic framework does not necessarily substantively affect the monitoring and evaluation strategy. There are many commonalities in the various strategic frameworks for health systems that permit a coherent approach to the choice of indicators and measurement strategies. In this paper HSS may include both cross-cutting interventions not aimed at specific diseases and the health systems aspects of disease-specific interventions.

The H8 discussions on health information have led to the development of four global health information goals which aim to strengthen country data sources and analytical capacity for better decision making. The global health information goals include a common data architecture; harmonized and strengthened monitoring and evaluation; enhanced data sharing; and increased level and efficiency of health information investments.[7] The H8 also endorsed the principles of a strategic framework for results and accountability, developed through the IHP+ M&E working group.[8] The IHP+ framework builds upon principles derived from the Paris declaration on aid harmonization and effectiveness: alignment with country processes; balance between country ownership and independence; harmonized approaches using international standards; capacity building and system strengthening: collective action; and adequate investment. It outlines monitoring activities required along the length of the results chain − from inputs and processes through outputs and outcomes to impact (Annex A). The latter is broadly defined as including not only reduced mortality, but also reduced morbidity, improved equity, protection from financial risks and responsiveness to users.

However, the IHP+ framework requires adaptation in order to make it operational for targeted monitoring and evaluation of HSS efforts.[9] This adaptation has to meet three essential criteria. First,

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[4] Roberts MJ, Hsiao W, Berman P, Reich MR. Getting health reform right: a guide to improving performance and equity. 2008: Oxford University Press.

[5] World Health Organization. Everybody's business. 2006: Geneva.

[6] Hsiao W, Siadat B. In search of a common framework for health systems strengthening. Atun R. Overview of multiple approaches to health systems frameworks. Papers presented at a World Bank, GAVI, Global Fund meeting on health systems strengthening. Washington DC: 25-27 June 2009.

[7] H8 Health information working group. Monitoring Performance and Evaluating Progress towards the Health MDGs: Ten Strategic Goals at Global and Country Level. December 2008: Geneva.
http://www.internationalhealthpartnership.net/en/working_groups/monitoring_and_evaluation

[8] Monitoring and evaluation working group of the International Health Partnership (IHP+). Monitoring performance and evaluating progress in the scale-up for better health. a proposed common framework. April 2008. Geneva.
http://www.internationalhealthpartnership.net/en/working_groups/monitoring_and_evaluation

[9] An example of a results framework based on the IHP+ M&E framework was produced for the evaluation design of the Catalytic Initiative to Save One Million Lives. Institute for International Programs. Evaluating the scale-up for maternal and child survival. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland. 2008.

application of a framework for M&E of HSS should be, first and foremost, country-focused and supportive of country needs for evidence-based and reliable health-sector reviews and planning processes. In addition, but secondarily, it should offer the basis for global monitoring.

Second, a framework for M&E of HSS should address monitoring and evaluation needs for different users and multiple purposes, including:

- monitoring of programme inputs, processes and results, required for management of health system investments;
- health systems performance assessment, as the key for country decision making processes; and
- evaluating the results of the health reform investments and identify which approaches work best.

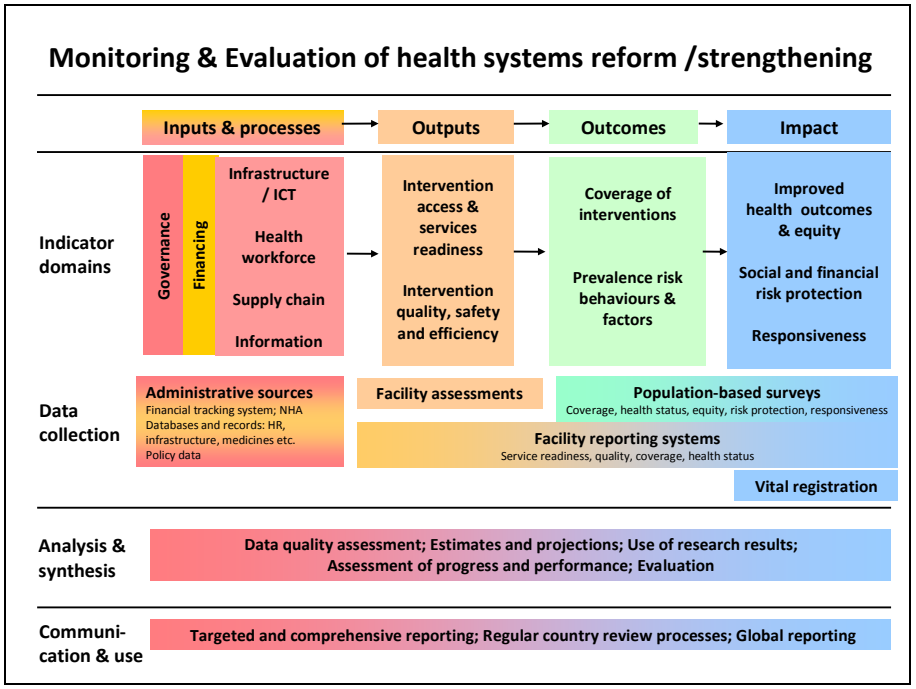
It is essential to strike a balance between the short-term demand for data to inform results-based funding initiatives that will tend to be focused on the process and output elements of the results chain, with the longer term need for data on outcomes and impact – such as access to and quality of care, utilization of services, financial protection, and patient satisfaction. A longer term perspective is also critical for dealing with the issue of attribution, showing how the intermediate results contribute to improved health impacts – reduced mortality and morbidity.

Third, the framework should facilitate not only the identification of core indicators along each link in the results chain, but should also connect indicators to data sources and data collection methods, provide tools and guidance for the analysis of data from multiple sources, and demonstrate how the data can be communicated and used to inform decision-making at different levels.

A framework for M&E of health systems strengthening

The results framework for HSS monitoring and evaluation is shown below (Figure 1). It comprises four major indicator domains: 1) system inputs and processes, 2) outputs, 3) outcomes, and 4) impact. System inputs, processes and outputs reflect health systems *capacity.* Outputs, outcomes and impact are the results of investments and reflect health systems *performance.* For each block of indicators, preferred and alternative data sources are recommended, spanning a time horizon from the immediate to the longer term. The framework also outlines what is needed across the results chain in terms of tools for data quality assurance, synthesis and analysis, with a focus on building country level capacities. Finally, the framework addresses the importance of dissemination, communication and use of the monitoring and evaluation results to inform policy-making at all levels.

Figure 1



The added value of this framework is that it brings together indicators and data sources across the results chain in its entirety. Monitoring of health system performance needs to show how inputs to the system (resources, infrastructure etc.) are reflected in outputs (such as availability of services and interventions) and eventual outcomes and impact including use of services and better health status. This results chain framework can be used to demonstrate performance of both disease-specific and health systems interventions.

Use of core indicators

The main issues are balanced selection of indicators covering all areas of the framework, identification of indicators that can be measured and are amenable to setting of targets, and appropriate metadata for the indicators, preferably in line with international standards.

The first goal is that countries identify a comprehensive list of core indicators that capture all areas of the M&E framework. Such indicators should be drawn upon existing indicator lists and focus on key priorities and cover the full range of health issues. Indicator definitions should be aligned with global standards and include all necessary metadata descriptors.[10] The choice of the indicator and its attributes, such as frequency of measurement and level of disaggregation, should also take into account national and subnational measurement capacities.

Selection of the indicators within each domain should be informed by considerations of scientific soundness, relevance, usefulness for decision-making, responsiveness to change, and data availability. The ability to set meaningful targets is critical.

In many countries lists of well-tested indicators are currently available but skewed towards particular elements of the results chain. In some settings, indicators focus primarily on inputs, processes and outputs. Elsewhere, the skew is towards indicators for outcomes and impact. The challenge is to ensure an appropriate balance across the full range. Another issue is data availability and quality especially for impact indicators. In many instances, baseline data are not available, rendering monitoring efforts particularly problematic.

By way of example, selected indicators and associated data sources for each domain are described in Annex B. These are intended to be illustrative and to offer an initial basis for discussion among stakeholders. The indicators have been selected on the basis of the following criteria:

- they address all aspects of health systems performance and cover each domain along the results chain;
- they draw upon existing indicator lists, including the MDGs, Countdown, programme indicators (HIV, TB, malaria, MCH), OECD and EUROSTAT indicators of health sector performance and quality of care;
- they are scientifically robust, useful, accessible, understandable and SMART (Specific, Measurable, Achievable, Relevant and Time-bound).

Data sources

The next stage is to review data sources used to generate the data. For each indicator, the preferred data source should be identified along with best alternatives. Sources of health data can be divided into two broad groups: those that generate data relative to populations as a whole, and those that generate data as an outcome of health-related administrative and operational activities.[11] Other sources of information such as health research, clinical trials and longitudinal community studies may also feed into the health information system. The goal is that all countries have in place the range of data sources needed to generate critical data sets. In practice, there are far fewer core data sources than there are potential indicators. The challenge is to ensure that there is an appropriate mix of data sources to ensure that data sets and core indicators can be generated to high standards of quality and efficiency.

In some countries certain important sources (such as civil registration for vital statistics data (births, deaths) may be incomplete, non-functional or too costly. In such cases, alternative sources are used or data from multiple sources are combined. The optimal choice of data source will depend on a

[10] Eventually, each country should maintain an indicator and metadata registry, linked to the country observatory of health statistics, within which core and supplemented indicators would be identified and defined, along with data sources and analytic methods and the statistical values for the indicators.

[11] Health Metrics Network. Framework and standards for country health information systems. World Health Organization. 2007.

range of factors, including epidemiology, specific characteristics of the measurement instrument, cost and capacity considerations, and programme needs. In many cases, a combination of sources can contribute to better-quality information while maintaining efficiency. In other cases, it will be more efficient to avoid duplication.

A set of common principles applies to the way any data source is used to generate data sets and indicators. The review should examine the extent to which core procedures to ensure data quality have been implemented. This includes the use of standard definitions, appropriate data collection methods, and metadata descriptions.

Innovation facilitated by information technologies has an important role to play, in terms of the efficient generation of data (for example, from patient and facility records or field-based data collection), data sharing and exchange through interoperable databases, which may be located at facility, district, regional and national levels.

Data analysis and synthesis

A first step involves systematic data quality assessment and if necessary adjustment. Such analyses need to be transparent and in line with international standards. Identifying and accounting for biases because of incomplete reporting, inaccuracies, non-representativess etc. are essential, and will greatly enhance the credibility of the results for users. Establishing a data and information repository as a shared resource at national, subnational and district levels is an important step in improving information practices and enabling the necessary high-quality data analyses.

M&E of HSS involves data synthesis, comparisons and analysis, and summarizing into a consistent assessment of the health situation and trends, using the core indicators and targets. This can be complemented by more complex analyses that provide estimates, for example, of the burden of disease, patterns of risk behaviour, health service coverage, trends in indicators, and health system performance. There is also a need to make much use of health systems research as well as qualitative data gathered through systematic processes of analyzing health systems characteristics and changes.

Subnational analyses are conducted by some countries. The degree of statistical sophistication involved in such analyses varies from country to country and there is a need to develop standardized tools that would permit broader engagement with such analytical processes. The involvement of country academic, public health and research institutions can help foster a broader understanding of the potential of such analysis to improve the quality of the health-related statistics. The utility of subnational analyses not only lies at the national level but also extends to provincial and district health decision makers.

Efficiency can be assessed through the analysis of inputs with results in terms of outputs, outcomes and impact. This can be done through relatively simple bivariate analyses, but could also involve more complex and aggregate indexes. Finally, assessing country performance through comparison with peers (benchmarking) is a powerful tool to influence decision makers.

Information technologies can facilitate data synthesis and analysis. Tools are needed to support data quality assessment, correction for bias, imputation of missing values, and forecasting. Research and development will be needed to develop and fine-tune such tools and render them accessible to potential analysts and users in resource-constrained settings and at different levels, and especially where capacities are limited.

Evaluation of scaling up requires a solid monitoring system with data on baseline trends for key indicators, provided by the country M&E platform of HSS as described in Figure 2. Such data need to be complemented by in-depth studies, both quantitative (preferably longitudinal) and qualitative, and analyses that bring together all data and aim to draw conclusions about attribution of changes to specific interventions and carefully assess the role of contextual changes. Furthermore, if effectiveness of the interventions can be established, this is where cost-effectiveness analysis is essential to draw the ultimate conclusions.

To inform country health policy making the quantitative work needs to be brought together with the qualitative information. At present, most countries do not have systematic way in which data and statistics and qualitative information are brought together. A web-based mediawiki-mechanism that aims to systematically gather, analyse and communicate qualitative information on health systems in countries needs to be brought together with quantitative data.[12] Such a country-driven platform should become a solid basis for health intelligence that can inform planning cycles, regular reviews and monitoring and evaluation.

Data dissemination, communication and use

The final step is the translation of the data into information relevant for decision-making. This requires packaging, communication and dissemination of statistics in a format and language accessible to the higher-level policy- and decision-makers. Information is used at various levels of the health system for health service management, health system management, planning, advocacy and policy development. A broad range of users are involved in these various uses, each from different technical disciplines and vocations with associated vocabularies and methods of communication. Dissemination should be planned for the unique characteristics of each, and the most effective packaging and channels of communication for carrying "the story" should be chosen. The timing of information dissemination should be planned carefully to fit in with the planning cycles and needs of users. Communications experts can assist with the packaging of information for different audiences. Information technology provides new ways of effectively communicating data to specific audiences.

The dynamic links between demand, supply and quality of information should be addressed by encouraging an information culture where information is demanded and the use of information promoted. In practical terms, this depends on the establishment of institutional mechanisms and incentives for information use. Experience shows that the most effective mechanisms involve linking data/information to actual resource allocation (budgets) and developing indicator-driven planning. The key is to build it around country use processes of data and strengthen the availability, quality and use of data within those processes rather than propose new ones.

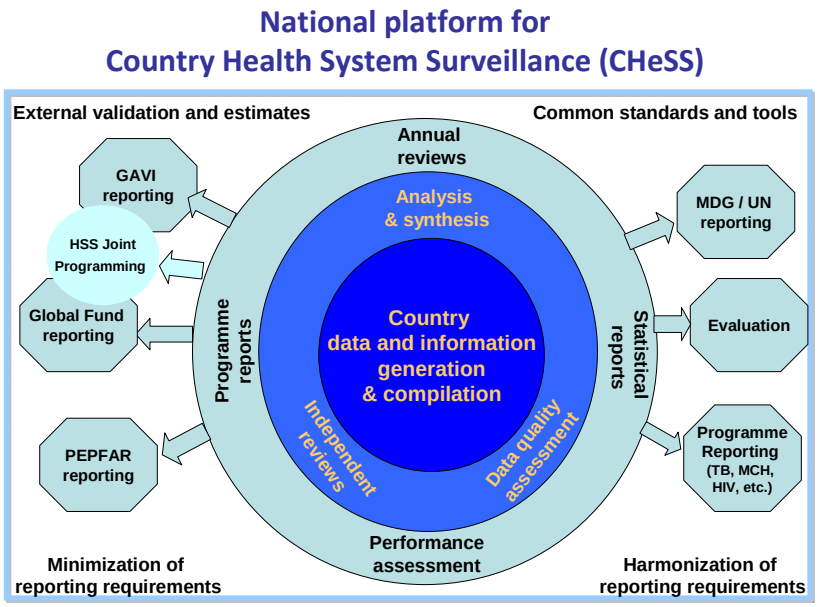
12 http://km.euro.who.int/infoway/index.php/WHO/Europe_Health_systems_infoway.

Operationalization of the framework

Country M&E systems

Every country needs to have a strong monitoring and evaluation system in place as the foundation for national health sector strategic planning, covering all major disease programmes and health systems activities. The national M&E plan should address all components of the M&E framework and lay the foundation for regular reviews during the implementation of the national health plan and for related poverty-reduction and development plans. It should form the basis for M&E work related to processes such as SWAp[13] and IHP+[14], and for activities supported by GAVI, the Global Fund and other donors. It should be closely linked to national strategies for the development of statistics. Programme-specific M&E plans, if required, should be fully aligned with the overall plan. Existing country health-sector review processes are the key entry point to assess progress and performance: addressing the need for better data is not an end in itself but is an intrinsic part of country health sector programme review and planning cycles, and is central to ensuring effective management and public accountability.

Figure 2



A platform for country health systems surveillance and intelligence (CHeSS) is needed to improve the availability, quality and use of data and related information needed to inform country health sector reviews and planning processes and to monitor health progress and system performance. The CHeSS platform brings together the monitoring and evaluation work in disease-specific programmes, such as TB, HIV/AIDS and immunization, with cross-cutting efforts such as tracking human resources, logistics and procurement, and health service delivery (Figure 2). It provides the platform for subnational, national and global reporting, aligning partners at country and global levels around a common approach to country support and reporting requirements. It should be coordinated with

[13] http://www.who.int/trade/glossary/story081/en/
[14] http://www.internationalhealthpartnership.net/

national strategies for the development of statistics. The joint assessments of national health strategies (JANS) are an opportunity to assess the current status in countries and develop joint plans to strengthen the development of the platform.

Global community of practice (CHeSS)

Good practices in the implementation of the CHeSS platform in countries include:

Planning and data use processes

- Annual health sector reviews are the leading mechanism for planning and assessment of progress. They involve all key stakeholders and are strongly based on data and statistics. In addition, qualitative information on the health system, health programmes and societal context is used. Many countries have established an annual process of compiling all relevant data to assess progress against a defined set of health indicators with targets. Some of those indicators and targets are part of the multi-year national health sector strategic plan, others have been established at a previous review meeting.
- The M&E plan of the national health sector strategic plan has been developed with participation of key stakeholders and covers a core set of indicators, targets, measurement strategies and requirement investments, data quality assessment, analysis and synthesis, institutional and partner responsibilities, and review mechanisms, as well as costing, and covers the full period of the national health-sector plan;
- There is seamless integration of data collection strategies, capacity building and budgets between HMN-supported health information system assessment and plans (which focus on building the health information systems) and national M&E plans (which focus on tracking specific indicators).

Indicators and targets

- There is a balanced selection of indicators, covering all key areas of the framework
- There is consensus around agreed standards for indicator and data definitions, measurement, metadata and analyses, building upon existing work such as the health systems building blocks toolkit;[15]

Data sources

- Data collection draws upon the full range of data sources, including: *vital events monitoring* including cause-of-death, through civil registration, census, demographic surveillance sites, or hospital statistics; a country-led national plan for population-based *health surveys* with a focus on service coverage, equity and population health outcomes, and using global standards; timely, complete and high quality *facility data* using information technology as appropriate and comprising an up-to-date national health-facility database covering public and private health facilities with data on infrastructure, equipment and commodities, service delivery, and health workforce; and a system of tracking *financial resource flows* and expenditures to subnational levels.

[15] WHO and the World Bank. *Measuring Health Systems Strengthening and Trends: A toolkit for countries* (forthcoming):http://www.who.int/healthinfo/statistics/toolkit_hss/en/index.html. A Health Systems Strengthening M&E toolkit has been developed by WHO and the World Bank in close collaboration with partners and several countries. Based on the health systems "building blocks" framework, it identifies core and supplementary indicators in the areas of financing, human resources, medical products and health service delivery. It also describes a set of core instruments for data collection, including routine health information management systems and facility assessments. Further work is needed to develop indicators and data collection methods for the governance and health information system components.

- Systematic attention is paid to the preferred and complementary data sources and measurement issues for the indicators and addressing data gaps with a focus on data to inform annual reviews
- There is adequate investment in data generation and analysis to monitor trends and additional timely investment to evaluate performance;

Analysis and synthesis

- Maximum use is made of all available information through analysis and synthesis of existing data sets and analyses brought together in a country documents and data repository to which all stakeholders have access. The repository includes primary data sets, reports of data collection efforts, existing reviews and published and grey literature.
- There is a system for regular and objective data quality assessment for key indicators, preferably led by in-country independent institutions
- Regular studies are carried out of data availability and quality and analytical work is undertaken to bring together data from all sources, including qualitative data, in a systematic manner
- Work is undertaken to generate and analyse subnational level data, providing relevant information for decision makers at district, regional and national levels as well as key socio-economic disaggregations.
- Mechanisms exist to bring together qualitative information with quantitative data for contextual enrichment and better understanding of the data analyses.
- Continuous evaluation and operations research are built into the M&E plan and part and parcel of the country monitoring processes.

Communication

- There is effective communication of results using multiple media, including dashboards, targets and benchmarking
- Systematic efforts are made to reach all audiences from national media and decision makers to local health managers

Institutional capacity

- There is clear definition of roles and responsibilities of country institutions to support the M&E of national plan and annual health sector reviews, supported by international partners, as a necessary and integral part of any approach.

Roles and responsibilities of global partners

Over the past few years, there have been many efforts at international level that are relevant to M&E of HSS. These include the development of standards and tools, initiatives to work with countries including investment in data generation, technical assistance to support the implementation of standards and tools, and capacity building. Building on the IHP+ and H8 related work, global partners can support the operationalization of the M&E framework through a community of practice for CHeSS. This approach places country needs and actions at the centre and offers a way for donor and development partners to coordinate their support in line with the Paris principles.

Global reporting requirements should primarily be based on the country processes of data generation, compilation, analysis and synthesis and communication and use for decision making. This also requires harmonization and minimization of global reporting requirements between "vertical" disease programmes and "horizontal" health systems actions. The goals would be to minimize transaction costs for countries and global partners, reduce fragmentation and duplication, strengthen national health information systems, while meeting global standards. It enables joint action among donors, global health partnerships and UN agencies, and provides a common data

architecture with associated standards and tools. Basic mapping of demand and use of information, supply of data and statistics and institutional capacity can help identify priorities areas for working with countries (see Annex E for a more detailed outline).

Coordination

The CheSS community of practice will comprise a web-based information-sharing and communication component, and a coordination or steering group, facilitated by WHO. The web-based platform will provide the key documents, standards, country activities, etc. and provide a platform for communication and discussion. It will also be an entry point for the country pages described in the CHeSS strategic document. The coordination group currently consists of representatives of the Global Fund, GAVI, the World Bank and WHO but aims to include the main global partners in health information and health systems, such as the H8 agencies, bilateral donors, foundations and partnerships.

Indicator and reporting harmonization

Improved coordination among partners will enable better alignment between country and global reporting. Through a global web-based indicator and metadata registry, indicators will be better standardized, and reporting made easier and more effective, in part through the implementation of electronic information systems.

Support to strengthening data sources

Data gaps are likely to be multiple and varied across countries. Global partners will coordinate their efforts to enable countries to fill data gaps on all components of health systems functioning along the causal chain from inputs, processes and outputs, to outcomes and impact, using the full range of data sources. Innovation through the introduction of new technologies will be critical to achieve greater efficiencies and address long-standing data gaps, such as causes of death and clinical information.

Support to enhanced data analysis and synthesis

Global partners will support the development of easily accessible standards and tools to permit the most effective and efficient generation and use of data. These will include tools and methods for data quality assessment and assurance; tools to address major data gaps; and tools and approaches for data synthesis and analysis. Annex C provides a description of these three types of tools. Global partners will support and facilitate multi-country workshops and country technical assistance will be organized for country institutions to enhance country capacity to use the tools.

Support to improved data access and communication

A country-focused, web-based wiki-type platform will improve access to all available data on key health indicators and on systems performance and provide easy access to country health data and statistics documents, country health statistics, estimation tools and results, communication tools and results, and international standards, as well as country-driven qualitative assessments of the health systems and its components. The web platform will initially be maintained by WHO with remote entry facilities for programmes, country offices, countries and international partners. The web platform is not intended to replace existing or planned country websites which often cover multiple purposes. Ministries of Health and National Statistical Offices maintained websites however should be able to draw freely and easily from the health observatory country pages.

Support to institutional capacity-building

Support to country capacity will be through direct technical assistance to the key institutions in countries responsible for or contributing to annual health sector reviews and related analyses, and through multi-country workshops that focus on the key analytical methods and techniques.

Illustrative applications of the framework

Generic use cases are presented to illustrate and test the M&E framework's relevance to different situations, including country and global demand for data. The example of the country annual sector reviews has already been described above. The broad M&E framework should serve health-systems performance monitoring as well as providing sufficient disease-focused specificity to meet the needs of GAVI and the Global Fund. This section briefly describes selected use cases, which are presented in greater detail in Annex D: evaluation, HSS joint programming, immunization, HIV/AIDS, results-based funding and health informatics.

Evaluation

Large-scale evaluation studies of complex interventions often use a stepwise approach to link trends in health outcomes, coverage and risk behaviours, access and quality of services, and funding, as randomizations are not possible. Time series and dose response analyses are used to explain changes over time and attribute to specific investments, often complemented by modelling. The stepwise approach can easily be mapped onto the M&E framework as shown in Figure 3, Annex C.

M&E of HSS joint programming

The IHP+ common evaluation framework and the associated CHeSS platform can be used to monitor and evaluate HSS joint programming. At the country level, the monitoring of HSS joint programming will be driven by countries' own priorities and processes, but supported by standardised tools and aligned and harmonised technical and financial support from partners.

Immunization tracking

Every national M&E plan will already include indicators of immunization coverage and child mortality among the core set of priority indicators measured and reported against on a regular basis. Efforts to improve M&E of immunization programmes - particularly in the context of results-based financing - need high quality data and systematic review processes that should be integrated into national M&E systems, linked to national plans. This should form the basis for effective use of immunization data in national review processes and for global reporting.

HIV/AIDS tracking

HIV/AIDS has received the greatest increase in international funding during the past five years. Some of those investments have gone into strategic information, including surveys, surveillance, facility based information systems and programme monitoring & evaluation, although its impact on strengthening of the country systems has been limited. Future investments should improve the availability of quality data and strengthen AIDS M&E in a way that it increasingly benefits the health information system. The M&E framework and CHeSS approach provide a platform for better integration of HIV monitoring and evaluation systems into a country health information system, while still ensuring complete and accurate reporting for key HIV interventions.

Performance-based funding and tracking results

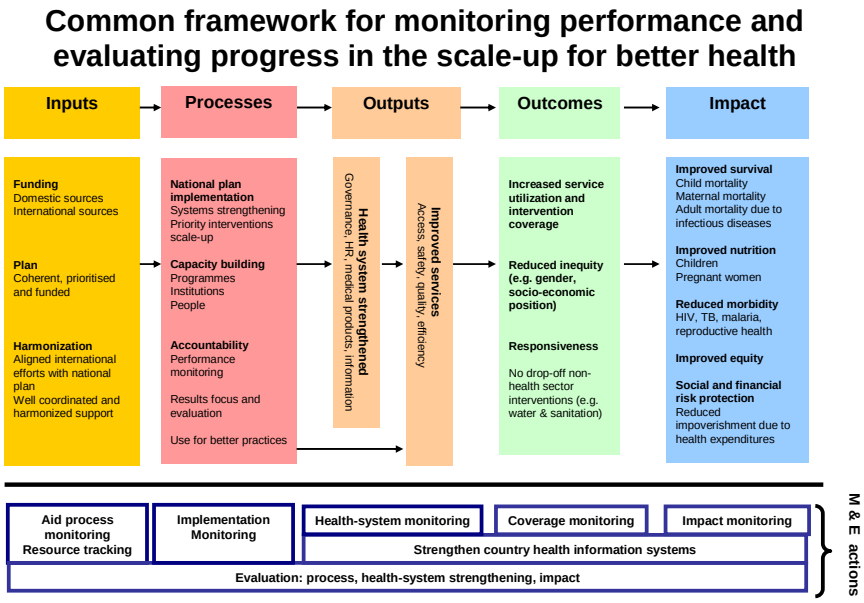
This is increasingly used within countries and at the international level and puts a high premium on timely, high quality data. Solid data quality assessment systems will need to be put in place, which

should benefit national health information systems. It will also be important that investments in improving data availability and quality for performance-based funding are made in a way that the general system of country health systems surveillance improves, including better data for annual health sector reviews and other key decision making processes. Routine monitoring of performance-based funding initiatives should track over time the level of discrepancy between administrative data and independent data sources, such as household surveys.

Informatics

Health information technologies can be considered as an input or building block of health systems. This may include electronic health records and registers, aggregation of data at health facility, district and national levels, transfer of information up and down between the different levels of the health system, reporting of outbreak diseases through mobile technologies, etc. The great potential of these interventions is acknowledged. In order to make an impact the new technologies need to focus on improvements in data quality and availability that affect health decision making. The M&E framework and CHeSS approach indicate that this implies that the success of informatics interventions should be assessed by measuring what results are achieved in terms of better health outputs, outcomes and impact, and at what cost.

Annex A


Common framework for monitoring performance and evaluating progress in the scale-up for better health
Inputs
Processes
Outputs
Outcomes
Impact
Funding
Domestic sources
International sources
Plan
Coherent, prioritised and funded
Harmonization
Aligned international efforts with national plan
Well coordinated and harmonized support
National plan implementation
Systems strengthening
Priority interventions scale-up
Capacity building
Programmes
Institutions
People
Accountability
Performance monitoring
Results focus and evaluation
Use for better practices
Health system strengthened
Governance, HR, medical products, information
Improved services
Access, safety, quality, efficiency
Increased service utilization and intervention coverage
Reduced inequity (e.g. gender, socio-economic position)
Responsiveness
No drop-off non-health sector interventions (e.g. water & sanitation)
Improved survival
Child mortality
Maternal mortality
Adult mortality due to infectious diseases
Improved nutrition
Children
Pregnant women
Reduced morbidity
HIV, TB, malaria, reproductive health
Improved equity
Social and financial risk protection
Reduced impoverishment due to health expenditures
Aid process monitoring
Resource tracking
Implementation Monitoring
Health-system monitoring
Coverage monitoring
Impact monitoring
Strengthen country health information systems
Evaluation: process, health-system strengthening, impact
M & E actions

Annex B
Health systems monitoring indicator and data sources
Illustrative examples

Indicator	Additional dimension	Preferred source	Alternative
Inputs and processes			
Health financing			
1 Total health expenditure as % of GDP		NHA, PER	
2 Total health expenditure per capita		NHA, PER	
3 % General government expenditure on health		NHA, PER	
Health workforce			
4 Doctors per 10,000 population		Multiple	
5 Nurse/midwives per 10,000 population		Multiple	
6 Graduates of health training institutions per 10,000 population		Administrative records	
Infrastructure & IT			
7 Hospital beds per 10,000 population		Administrative records	
8 Doctors using electronic health records		Facility assessment	Clinic data
Procurement & supplies			
9 Tracer medicines availability		Facility assessment	
10 Median drug price ratio for tracer drugs		Facility assessment	
Outputs			
Service readiness and access			
1 Index of service readiness (combines availability of infrastructure, human resources, medicines & equipment, training)	Subnational; by specific intervention (IMCI, MCH, ART etc)	Facility assessment	
2 Service accessibility (distance to facility)	Subnational	Survey	Facility assessment
3 General practitioner utilization rate	Outpatient department utilization rate	Clinic data	Survey
Service quality and safety			
4 TB treatment success rate (DOTS)		Clinical data	
5 30 day hospital case fatality rate AMI and stroke		Hospital records	
6 Waiting time to elective surgeries: cataract	PTCA, hip replacement	Hospital records	
7 Surgical wound infections (% of all surgical operations)		Hospital records	
8 Cancer treatment delay (time between first GP visit and first treatment, for breast and colon cancer)		Hospital records	

	Indicator	Additional dimension	Preferred source	Alternative
Outcomes				
Coverage of interventions				
1	Antenatal care coverage (4+)	Antenatal care coverage (1+)	Survey	Clinic data
2	Skilled birth attendance		Survey	Clinic data
3	DPT 3 Immunization coverage	HiB, Hep3, measles, OPV	Survey	Clinic data
4	ART coverage		Clinic data	
5	Contraceptive prevalence rate		Survey	Clinic data
6	TB smear+ case detection rate		Survey	Notifications. + model
7	ARI in under-fives taken to health facility	Received antibiotics	Survey	
8	Diarrhoea in under-fives receiving ORT	With continued feeding	Survey	
9	ITN coverage among children	Pregnant women	Survey	
10	Cervical cancer screening (20-64 years) coverage	Breast cancer screening (50-69 years) coverage	Survey	Clinic data
Risk factors and behaviours				
1	Tobacco use (adults)	Youth (13-15), pregnant women	Survey	
2	Access to safe water	Urban rural	Survey	
3	Access to improved sanitation	Urban rural	Survey	
4	Low birth weight newborns		Clinic data	Survey
5	Breastfeeding exclusive for 6 months	Initiation first hour	Survey	
6	Obesity in adults (over 15 years)	Overweight	Survey	
7	Children under 5 anthropometry - stunting	Underweight, wasting, overweight	Survey	
8	Condom use at last higher risk sex, 15-49	15-24 years	Survey	
9	Particulate Matter (PM10) exposure		Environmental data	
Impact				
1	Life expectancy at birth	Life expectancy at age 65	Death registration	
2	Child mortality (under-5)	Neonatal, infant, perinatal	Death registration	Survey
3	Maternal mortality ratio		Death registration	Survey
4	Mortality by major cause of death	25 major causes of death, ICD based	Death registration	
5	TB prevalence in population	TB incidence	Survey	TB clinic data
6	HIV prevalence among adults 15-49	15-24 year olds	Survey	ANC survey.
7	Notifiable diseases (IHR)		Disease surveillance	
8	Depression prevalence (last 12 months)			
Financial risk protection				
1	Out of pocket as % of total health expenditure	Catastrophic expenses	NHA, PER	
2	Insurance coverage (% covered by public or private health insurance)		Survey	

Annex C

Tool development

Tools for data quality assessment and assurance

Data quality issues are likely to be multiple and varied across countries and affect all data sources. A common feature observed everywhere is that routine reports from health facilities and districts are often subject to bias, incompleteness, tardiness, and poor quality. The need to systematically address such problems is particularly acute in light of the importance of regular data to inform annual health sector review processes and of the increasing use of performance-based disbursement mechanisms used by countries, funds and donors. In both cases, routine reporting from health facilities is the main source of data, yet it is clear that there are multiple problems in clinic and programme-based reporting systems. Financial incentives carry the risk of aggravating the problems and creating incentives for gaming and for data manipulation.

The assessment of data quality has different components. First, a general picture of data quality can be obtained by analyzing data from multiple sources. This may include comparison of results, on for instance intervention coverage, from population based household surveys with facility reports. To assess the completeness and accuracy of recording of events, observational and follow-up studies are required. The most visible reporting problem is non-reporting of facilities, districts or provinces. Errors in aggregating data are much harder to detect. Comparisons of individual data at the facility level (registers, tally sheets) with aggregate reports from the facilities and at the district level may provide insights into such errors.

The assessment of data quality should form the basis for adjustments of the statistics. Missing facilities and districts should be taken into account using standardized methods for adjustment. Limited reporting by the private sector should be taken into account, and can benefit from population-based surveys. In addition, electronic reporting systems have great potential to improve such systems, not only in terms of timeliness but also in terms of quality.

A range of disease programmes and studies have developed data quality assessment and adjustment methods and tools. For instance, GAVI uses a data quality audit to assess reporting problems.[16] The Global Fund has developed a set of tools to assess data quality. Disease programmes, such as TB and HIV, are using a range of analytical methods and tools to adjust for recording and reporting problems. Also several countries have developed ways to adjust for data quality problems. Data quality assessment needs to look at different levels of the system of data collection and aggregation, from facility to district, provincial and national level.

Tools to address major data gaps

Data gaps are likely to be multiple and varied across countries. It is essential to fill data gaps on all components of health systems functioning along the causal chain from inputs, processes and outputs, to outcomes and impact. A comprehensive plan[17] to improve the information available on health progress and systems performance should include relevant data sources with particular emphasis on:

16 GAVI is following up on its data task team recommendations to improve data used for funding decisions in a way that contributes to country health information systems strengthening. The extensive experience with the DQA tool needs to be harnessed and work is under way on indicators and reporting requirements for monitoring health systems strengthening.

[17] The Health Metrics Network is focused on development of country health information system plans and support to countries for applications to GAVI and the Global Fund. Other areas of activity include strengthening civil registration and informatics (country operationalization, standards, enterprise architecture).

- strengthening *vital events monitoring* with causes of death, through existing civil registration systems, demographic surveillance sites, or hospital statistics;
- harmonizing *health surveys* through a country-led national plan for population-based health surveys with a focus on service coverage, equity and population health outcomes, and using global standards;
- improving the timeliness, completeness and quality of *facility generated data* with the help of information technology and supported by an up-to-date national health-facility database that covers all public and private health facilities with data on infrastructure, equipment and commodities, service delivery, and health workforce[18];
- a system of tracking *financial resource flows* and expenditures to subnational levels.

In follow-up to the five-year evaluation, the Global Fund is developing a model evaluation platform that includes tools for monitoring disease programmes and health systems strengthening, based on the WHO toolkit. It also includes data quality assessment tools and a M&E system strengthening tool. The Fund is increasing resource allocation for health information systems, including operational research, and strengthening performance incentives for use of data.

Data synthesis and analysis tools

WHO, UNICEF and other international organizations produce *comparable estimates* for key health indicators based on available data and methods to correct for data deficiencies and predict in time and space. The results are available in global databases and for some health indicators, such as HIV prevalence and child mortality, it is possible to obtain further insights from web sites and use tools to make or reproduce the global estimate. In general, however, access to methods, tools and results is piecemeal, countries' use is limited and there is a need to facilitate country access. This needs to be combined with capacity building. Similarly, access to global investments to effectively present and communicate results is limited. Improved access to and use of profiles, dashboards, interactive graphics and mapping tools, such as those used in the Global Health Observatory, can benefit country health analyses.

Data communication tools

Once data have been gathered and summarized to high standards, further analysis – of what is both reported and missing – is needed before the information can be disseminated and communicated to non-technical audiences and used as the basis for policymaking. Data should be presented in formats that emphasize relations to past trends, current policy, and fiscal considerations. In practice, many country reports contain a wealth of raw data served in formats unpalatable or incomprehensible to policymakers. Presentation of complex information in formats that are easy to read and interpret – the dashboard – is a well-tested route to enhancing use of data for decision-making.

- The US government / OGAC remains a lead investor in health data collection and informatics and is taking forward work on health systems monitoring through Health Systems 20/20. The USAID-supported MEASURE Evaluation is active in data communication tools and data quality assessment.
- The Countdown for maternal, neonatal and child survival 2015 produces country profiles and in-depth analyses of progress that include a strong health systems component with both quantitative indicators and policy information.

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[18] A Health Systems Strengthening M&E toolkit has been developed by WHO and the World Bank in close collaboration with partners and several countries. Based on the health systems "building blocks" framework, it identifies core and supplementary indicators in the areas of financing, human resources, medical products and health service delivery. It also describes a set of core instruments for data collection, including routine health information management systems and facility assessments. Further work is needed to develop indicators and data collection methods for the governance and health information system components.

Annex D
Use cases of the M&E framework for HSS

Use case 1: Evaluation

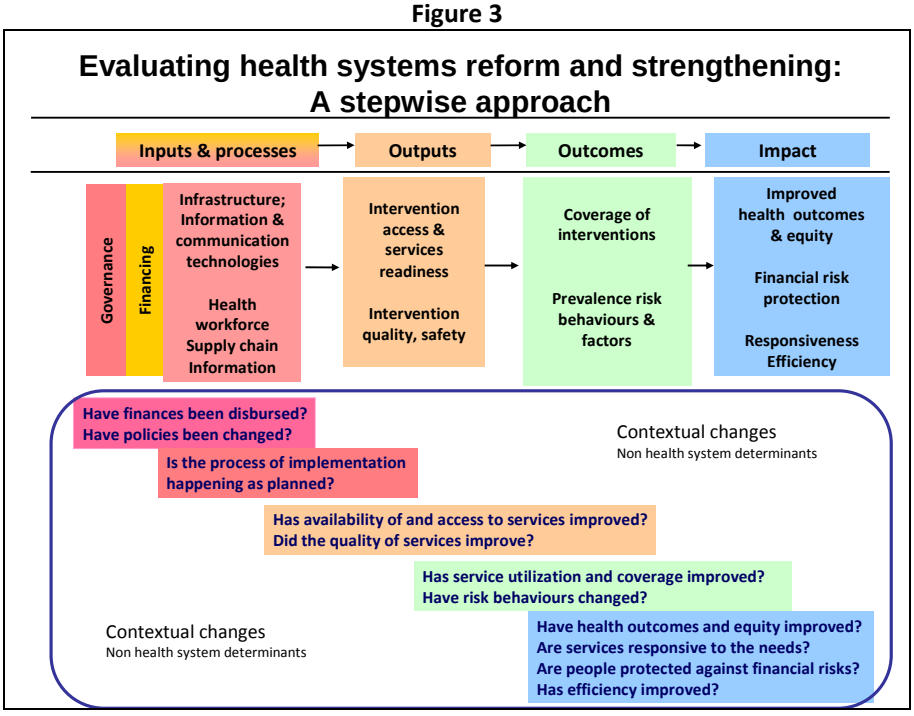
Scaling up interventions and health systems strengthening typically aim for nation-wide coverage of a diverse set of priority interventions. It is therefore unlikely that a quasi-experimental design with intervention and comparison populations can be used to evaluate the results of HSS and attribute those to specific aspects of the changes. Under such circumstances, large-scale evaluation study designs may opt to use a stepwise approach to link trends in health outcomes, coverage and risk behaviours, access and quality of services, and funding, as randomizations are not possible. Time series and dose response analyses are used to explain changes over time and attribute to specific investments, often complemented by modelling.

The stepwise approach can easily be mapped onto the M&E framework (Figure 3). The underlying logic is to start with tracking the health systems strengthening related resources. The availability of increased resources, money, people, commodities etc., contributes to the scaling up of services and should result in enhanced access to and quality of service and increased exposure to interventions (coverage of interventions and reductions in risk behaviours). If the resources disbursed are sufficient, the impact of increased interventions coverage will depend on the efficacy of the interventions, on factors related to translating efficacy into effectiveness (i.e., coverage and quality), and on contextual factors (e.g., epidemiology, economic changes, political stability). Therefore, ultimate disease trends need to be interpreted against the trends in these factors. The last step is to relate morbidity and mortality levels to the first four steps to assess impact. Health impact is defined as the measured or estimated overall program effect on morbidity and/or mortality, brought about by all initiatives and programs combined, irrespective of their financing source(s).

The stepwise framework has been used to evaluate large scale interventions in several evaluations, such as multi-country evaluations of scaling up child health interventions (IMCI, Catalytic Initiative) and the country studies of the Global Fund 5 year evaluation, and is currently also proposed to monitor and evaluate short and long term changes related to the health reforms in China.

Evaluation of scaling up requires a solid monitoring system with data on baseline trends for key indicators, provided by the country M&E platform of HSS as described in Figure 2. Such data need to be complemented by in-depth studies, both quantitative (preferably longitudinal) and qualitative, and analyses that bring together all data and aim to draw conclusions about attribution of changes to specific interventions. Furthermore, if effectiveness of the interventions can be established, this is where cost-effectiveness analysis is essential to draw the ultimate conclusions.

Figure 3



Use case 2: HSS joint programming

The IHP+ common evaluation framework and the associated CHeSS platform can be used to monitor and evaluate HSS joint programming. At the country level, the monitoring of HSS joint programming will be driven by countries' own priorities and processes, but supported by standardised tools and aligned and harmonised technical and financial support from partners. At the global level, the web-based CHeSS platform will bring together the key documents, standards, country activities and results. This will serve as an entry point for country health systems surveillance pages where results within and across countries can be monitored through publicly accessible websites. The same platform can be used for integration with qualitative information about health systems, which needs to be done at the country level.

Data used to track progress in implementation of HSS joint programming will be synthesised on the CHeSS platform from three primary sources:

1. Country financial reporting: amount received and spent on HSS programming.
2. Country performance reporting: based on country's national M&E plan for the health sector.
3. Additional performance indicators: synthesised from supplemental, existing sources.

Country financial reporting

Countries receiving financial support through HSS joint programming will report annually on the amount of funds received for HSS programming from different sources and the breakdown of how those funds are used. The reporting burden should not be onerous, but it must be sufficient to track the amount of resources being invested in HSS programming in a country by different partners and the amount spent by category. Donors investing in HSS joint programming will use harmonised categories for classifying expenditures, so that countries only have to report one set of expenditure figures to donors rather than reporting separately for different donors. Balance will have to be sought between alignment with country processes and the need for expenditure categories to be

consistent and comparable across countries. This financial reporting is intended to replace existing financial reporting mechanisms that donors have used for HSS support provided to countries.

Country performance reporting

The starting point for monitoring of country performance will be the existing country M&E plan that is part of the national health plan. For effective stewardship of the health sector, each country requires its own monitoring, based on its health sector strategy and plan. Support will be provided to countries that do not have a single overall M&E plan for the health sector to assist in the development of such a plan. Work is underway to develop a list of 50 core indicators with standard definitions and recommended data sources that all countries will be encouraged to include in their national M&E plans. Partners providing support to countries through HSS joint programming will conduct performance monitoring by tracking progress against the indicators constituting the country health sector M&E plan and summarised, analysed and interpreted through the health sector annual review. Global partners should aim to minimize additional reporting requirements on countries and build as much as possible on existing M&E practices, while strengthening them where appropriate.

Additional performance indicators

If all country M&E plans contained all performance indicators that partners supporting HSS needed to track on a regular basis, there would be no need for additional performance measures beyond those already included in country M&E plans. In practice, many partners supporting HSS will need to track additional performance indicators on a regular basis to assess progress in specific areas and report to governing bodies. Countries, donors, other partners and the general public can track country and global performance in implementing HSS joint programming through the CHeSS platform without requiring onerous reporting from countries.

An important characteristic of the CHeSS platform is its multi-purpose and multi-directional orientation. CHeSS represents not a platform for countries to report to global partners, but a platform to synthesise results from multiple sources to inform annual health sector reviews, country planning processes, country management of health strategy and the tracking of progress made under global initiatives, such as HSS joint programming.

Use case 3: Immunization

Every national M&E plan will already include indicators of immunisation coverage, infant mortality and under-five mortality among the core set of priority indicators measured and reported against on a regular basis. However, many other immunisation-related indicators of importance to countries and global partners will not be included in the core set of priority indicators included in country M&E plans, especially process and output indicators. The following is a list of illustrative areas where countries and global partners can track progress, but which are not included in all country M&E plans. Note that these are not indicators, but areas in which specific, appropriate indicators will be used to measure country and global progress over time.

1. Impact: Incidence of vaccine preventable diseases
2. Coverage
    - Regional equity in DTP3 coverage (percentage of districts with at least 80% coverage)
    - Population equity in DTP3 coverage (poor vs. non-poor, female vs. male, other groups as appropriate)
3. Output:
    - Injection safety practices
    - Efficiency in use of vaccine supplies

4. Process: Quality of immunisation-related administrative data (summary measures from Data Quality Audit, discrepancy between coverage estimates from administrative sources and household surveys)
5. Input: performance in introducing new vaccines (time taken to scale up new vaccines to coverage levels achieved with existing vaccines, effect of introducing new vaccines on coverage of existing vaccines)

Countries, donors, other partners and the general public can track country and global performance in these areas through the CHeSS platform without requiring onerous reporting from countries. Data used to construct indicators to measure the above are likely to derive from multiple sources that are already available: for example, the WHO/UNICEF Joint Reporting Form, WHO/UNICEF Estimates of National Immunisation Coverage, household surveys and surveillance systems. In using supplemental data sources, country reporting does not increase and parallel systems do not have to be established, since the data used would be extracted from existing sources. There are, of course, constraints in data availability that will hinder the tracking of supplemental indicators in some countries—for example, not all countries have extensive data on incidence of vaccine preventable diseases.

Use case 4: HIV/AIDS

The selection of indicators for monitoring and evaluation of HIV/AIDS programmes is generally based on a similar results chain framework, covering a wide range of prevention and treatment and care interventions, several of which are multi-sectoral in nature. The investments in HIV/AIDS data collection have generally included household surveys with AIDS modules or special HIV indicator surveys, target population surveys, efforts to strengthen clinical reporting for ARV therapy, PMTCT and HIV testing and counselling, and tracking of HIV resources. In addition, investments have been used to improve HIV/AIDS databases and introduce electronic health records and reporting systems.

HIV monitoring and evaluation efforts are often separated from a country health surveillance platform. Some of this is due to the multi-sectoral nature of HIV/AIDS programmes, especially prevention which has led to establishment of HIV coordination mechanisms outside of the health sector. But, more frequently, HIV M&E programmes are run as separate entities with generous external funding. For instance, AIDS reviews are conducted in isolation and there is limited interaction or alignment with annual health sector reviews. Separate databases of (large numbers of) indicators are introduced for HIV. Investments in clinic based reporting for ARV therapy and PMTCT are made with too little attention for strengthening the reporting system as a whole. Single disease (AIDS) mortality surveillance systems are developed in countries where no reliable information exists on any cause of death.

The M&E framework and CHeSS approach provide a platform for better integration of HIV monitoring and evaluation systems into a country health information system, while still ensuring complete and accurate reporting for key HIV interventions. This implies balancing the number of indicators between diseases according to the country burden of disease, efficient investment in and use of population-based health facility-based and administrative data sources as well as data transfer and database management, and mainstreaming AIDS into country health sector reviews. Furthermore, minimizing international reporting requirements will be essential.

Use case 5: Performance-based funding

Performance-based funding strategies – such as those used by the global health partnerships or for World Bank grants – are increasingly common and generate additional demand for timely, high quality data. In addition to such international transfers there are within-country systems which may reward districts, facilities, health workers, managers and civil society organization for good performance or results.

Indicators for performance-based disbursement are often focused on processes, outputs and sometimes outcomes such as intervention coverage, especially within countries, but also at the global level. It is also argued that more attention is needed on impact, even though results in this area often take more time and many factors beyond the immediate control of programme managers influence changes in impact measures over time.

Performance-based funding puts a heavy premium on the quality of the data upon which decisions are made. The possibility of a reward may affect the quality of reporting at all levels (from individual to country), which further complicates the use of data from health information systems which already have multiple data quality problems. Solid data quality assessment systems need to be put in place, which should benefit national health information systems. It will also be important that investments in improving data availability and quality for performance based funding are made in a way that the general system of country health systems surveillance improves, including better data for annual health sector reviews and other key decision making processes.

Use case 6: Informatics

Health information technologies can be considered as an input or building block of health systems. This may include electronic health records and registers, aggregation of data at health facility, district and national levels, transfer of information up and down between different levels of the health system, reporting of disease outbreaks, etc.

The CHeSS framework and approach indicate that the focus needs to be on two types of results from these innovations. First what results can be expected in terms of better data availability, quality etc. that affects health decision making. In other words, results would have to be measurable in national level decision-making processes and would indirectly benefit international reporting. Second, what results can be measured in terms of better health outcomes, one of the main goals of the health system. This emphasizes the need for evaluation of the informatics intervention, which should use both small scale evaluation studies with randomized or quasi experiemental designs and a broad approach based as proposed in use case 2.

Annex E
Rapid (self-)assessment of country practices and capacity to conduct health systems performance assessment

Demand and use of information

1. What are the main country processes for review of progress and performance to inform annual and longer term planning? For example, annual meetings with domestic and international stakeholders, special processes to review progress and develop new strategic plans.
2. Are special assessments planned to inform such assessment and planning processes? For example, analyses and reports for annual health sector reviews, disease specific reviews, mid term and final review of national health strategic plans?
3. What is the use of indicators, data and analyses to inform such processes: are there core indicators with targets and trends? Is much attention paid to analysis of equity and subnational performance? Is benchmarking of country performance with other countries done?
4. Who/what institution(s) conduct the quantitative and qualitative analyses and synthesis for such reviews?

Supply of data and statistics

1. What kind of data are used for the country reviews and health systems performance assessments? For example, health facility data, surveys etc.
2. What are the main strengths and what are the main data gaps, using the different levels of the framework for monitoring health systems strengthening?
3. What is the status of the five main data sources and which ones have the greatest scope for improvement? See the framework for the five sources.
4. Does the country have data quality control mechanisms and is reporting on data quality and adjustments part of the whole process? Could it be improved?
5. Are the data and analysis used for the reporting in the public domain?
6. Are there systematic processes to pull together all the qualitative information on health systems?

Institutional capacity

1. What country mechanisms and institutions are there to conduct data collection? What are the major strengths and weaknesses and what could be done to improve its capacity?
2. And for data quality assessment, analysis and synthesis in preparation for annual reviews?

Global reporting

1. Who does the main work on global reporting, e.g. MDGs, UNGASS, disease programmes?
2. How well is the global reporting aligned with country processes of health systems progress and performance assessment?
3. What can be done to improve it?