From measurement to improvement: a roadmap

Primary Health Care Improvement
Global Stakeholder Meeting
6-8 April 2016
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This report contains the collective views of an international group of experts, and does not necessarily represent the decisions or the stated policy of the World Health Organization.
Key Messages

1. Health systems based on high-performing primary health care (PHC) are able to achieve better health outcomes, more equitably, and at lower relative cost than health systems that over emphasize disease-specific and/or hospital-based care.

2. Little is known about the performance of PHC, particularly in domains of service delivery: access, comprehensiveness, continuity, coordination, people-centeredness and quality. Challenges exist across the measurement spectrum from data collection, analysis, visualization and use for improvement.

3. Recent efforts by international agencies, including the Primary Health Care Performance Initiative (PHCPI) and the Health Data Collaborative (HDC), offer an opportunity for stakeholders to collaborate and complement country investments in the area of PHC measurement for improvement.

4. The Primary Health Care Performance Initiative (PHCPI) seeks to catalyze improvements in PHC in low- and middle-income countries by developing better measurement of PHC-relevant domains, increasing data availability and sharing knowledge.

5. The Health Data Collaborative (HDC) aims to address disparate funding and fragmented sources of health data that lead to the current inadequacy of data for reliable, timely decision-making. The output of HDC is more collaborative and efficient investment in country information systems and monitoring and evaluation plans.

6. This meeting seeks to inform these stakeholder efforts and provide a common work plan for (1) improved PHC performance measurement including research and development of less measured domains of quality PHC and incorporation of these measures into existing measurement platforms and (2) PHC improvement efforts including relevant guidance and tools and the WHO Global Challenge on Primary Health Care Improvement.
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AeHIN</td>
<td>Asia eHealth Information Network</td>
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<tr>
<td>ASSD</td>
<td>Africa Symposium on Statistical Development</td>
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<tr>
<td>BMGF</td>
<td>The Bill and Melinda Gates Foundation</td>
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<tr>
<td>CoP</td>
<td>Community of practice</td>
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<tr>
<td>CQI</td>
<td>Continuous quality improvement</td>
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<td>CRVS</td>
<td>Civil registration and vital statistics</td>
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<tr>
<td>DHIS</td>
<td>District Health Information System</td>
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<tr>
<td>GAVI</td>
<td>Global Alliance for Vaccines and Immunization</td>
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<tr>
<td>GFATM</td>
<td>The Global Fund to Fight AIDS, Tuberculosis and Malaria</td>
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<tr>
<td>GFF</td>
<td>Global Financing Facility in Support of Every Woman Every Child</td>
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<tr>
<td>GIZ</td>
<td>German Corporation for International Cooperation</td>
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<td>HDC</td>
<td>Health data collaborative</td>
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<td>HMIS</td>
<td>Health management information system</td>
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<td>IHP+</td>
<td>The international health partnership</td>
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<td>IPCHS</td>
<td>Integrated, people-centred health services</td>
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<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<td>LMIC</td>
<td>Low and Middle Income Countries</td>
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<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
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<td>NHA</td>
<td>National health accounts</td>
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<td>NORAD</td>
<td>Norwegian Agency for Development Cooperation</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>PEPFAR</td>
<td>The United States President’s Emergency Plan for AIDS Relief</td>
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<tr>
<td>PHC</td>
<td>Primary health care</td>
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<tr>
<td>PHCPI</td>
<td>Primary health care performance initiative</td>
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<tr>
<td>RBF</td>
<td>Results based financing</td>
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<td>SARA</td>
<td>Service Availability and Readiness Assessment</td>
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<tr>
<td>SDG</td>
<td>Sustainable development goal</td>
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<tr>
<td>SDI</td>
<td>Service Delivery Indicators</td>
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<tr>
<td>SPA</td>
<td>Service Provision Assessment</td>
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<tr>
<td>UHC</td>
<td>Universal health coverage</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>UNSD</td>
<td>United Nations Statistical Division</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WBG</td>
<td>World Bank Group</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Purpose

This document provides background on situation, challenges, and opportunities in the field of measurement for improvement in primary health care (PHC). It then describes current, relevant multi-stakeholder efforts to address these challenges and opportunities, followed by key questions for consideration and potential deliverables for the global stakeholder community. These deliverables (some underway, some proposed) are offered as a draft roadmap toward a collaborative process for supporting country PHC measurement and improvement efforts. This document will undergo significant revision with inputs from the PHC Improvement Global Stakeholder Meeting on 6-8 April to develop a work plan for (1) improved PHC performance measurement including research and development of less measured domains of quality PHC and incorporation of these measures into existing measurement platforms and (2) PHC improvement efforts including the development of relevant guidance and tools and the WHO Global Challenge on Primary Health Care Improvement.

Background

The highest attainable standard of health, including access to timely, acceptable, affordable, and high-quality health care is a fundamental right of every human being. Primary health care (PHC), as a regular site of first-access and on-going care with the capacity to address the majority of health problems, has long been recognized as critical to attaining health for all. Numerous international reviews have bolstered this claim, demonstrating that health systems based on high-performing PHC are able to achieve better health outcomes, more equitably (even equilibrating the negative impact of social determinants of health), and at lower relative cost than health systems that over emphasize selective disease-specific and/or hospital-based care.

It is undeniable that strong PHC is foundational to achieving health for all, particularly the most marginalized and vulnerable. In addition, strong PHC is essential to attaining today’s leading global health objectives including Universal Health Coverage (UHC), Integrated People-centred Health Services (IPCHS), and health related Sustainable Development Goals (SDGs). Yet, too often the potential of PHC for dramatic improvements in the health of populations and function of health systems is undermined by lack of

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1 Recognizing that primary care has variable definitions, this paper is grounded in the historical approach of primary health care established at Alma Ata while emphasizing health system and service delivery reforms relevant to primary care. We adopt a definition from the World Health Report 2008: Primary health care – now more than ever: care that exhibits features of person-centeredness, comprehensiveness, integration, continuity of care, participation of patients, families and communities. This requires health services that are organized with close-to-client multidisciplinary teams responsible for a defined population, collaborate with social services and other sectors, and coordinate the contributions of specialists and community organizations.


6 WHO Framework on integrated people-centred health services was recently adopted by the 138th Session of the Executive Board, and will be discussed at this year’s World Health Assembly. The framework proposes five interdependent strategies (including reorienting the model of care around primary-care based systems) for health services to become more integrated and people-centred. The proposed resolution includes a request for research and development on indicators to trace global progress on integrated people-centered health services; as well as technical support and guidance to Member States for the implementation, national adaptation and operationalization of the framework.

emphasis and underinvestment. As a result, PHC implementation has lagged far behind its aspirational objectives: continuing to focus on the delivery of a basic package of health interventions for selected priority diseases rather than comprehensive care, ineffective decentralization that impedes PHC from responding to local conditions, failing to focus on improved coordination between providers and levels of care, missing out on the benefits of multidisciplinary care, limiting access hours of PHC facilities, and under-emphasising health work force development and retention resulting in overworked and under-supported staff.

In most countries, little is known about the performance of PHC, particularly in service delivery domains that are critical to its effectiveness but often not well measured: access7, comprehensiveness8, continuity9, coordination10, people-centeredness11 (family and community orientation), and quality (both technical and interpersonal). These domains characterize high-quality primary care (as first contact care) and help explain performance variation across country contexts, in all settings from low- to high-income countries. While there are numerous typologies of primary care, not all of them lead to desirable outcomes and impact. Measuring these domains of high quality PHC acknowledges their importance in explaining performance variation and can lead to critical reforms. Increased and improved measurement of PHC performance, with measures relevant to community, facility, district and national processes, is needed to promote accountability and guide improvement efforts at each level of the health system. There is tremendous opportunity to have a major impact on health through targeted measurement of what drives strong primary health care systems and better utilization of these data for improvement by stakeholders at all levels of the health system.

Several recent collaborative efforts by international development agencies have drawn further attention to this area including the Health Data Collaborative (HDC)12 and the Primary Health Care Performance Initiative (PHCPI).13 HDC seeks to facilitate and accelerate progress in strengthening country systems for monitoring progress and performance for accountability and transparency within the context of the health related SDGs. PHCPI brings together partners to improve PHC in low- and middle-income countries through better measurement to inform and accelerate national and sub-national PHC progress and knowledge-sharing.

As a key next step, this meeting serves to engage leadership of Member States, partner organizations, international development associations, academic partners and WHO to move toward a common roadmap for strengthened PHC measurement and improvement. Stakeholder input obtained through this meeting will be used to shape the concrete steps needed to advance the measurement and improvement agenda, including: (1) improved performance measurement (2) research and development for under-measured domains (3) improved transparency and accountability (4) and evidence-informed decision making all leading to (5) performance improvement.

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7 Access: Available, affordable services in close proximity to people. Primary care serves as the entry point into the health care system and the first and regular source of care for most health needs.

8 Comprehensiveness: Delivers a broad spectrum of preventive, promotive, curative and palliative care across the life-course

9 Continuity: Individuals have a relationship with same provider and team over time, health information is available over time, and health management plans are continuous.

10 Coordination: Primary care offers a hub from which people are guided through the health system, managing care across levels, referring to specialists as needed and effectively following-up to monitor health progress.

11 People-centeredness: an approach to care that consciously adopts individuals’, carers’, families’ and communities’ perspectives as participants in, and beneficiaries of, trusted health systems that are organized around the comprehensive needs of people rather than individual diseases, and respects their preferences. People-centred care also requires that patients have the education and support they need to make decisions and participate in their own care and that carers are able to attain maximal function within a supportive working environment. People-centred care is broader than patient and person-centred care, encompassing not only clinical encounters, but also including attention to the health of people in their communities and their crucial role in shaping health policy and health services.

12 Health Data Collaborative www.healthdatacollaborative.org

13 Primary Health Care Performance Initiative www.phcperformanceinitiative.org
In order to improve primary health care performance, countries, districts, and facilities first need information about how their systems are performing and what barriers are preventing them from delivering high-quality, patient-centered primary care services. The last decade saw progress in many low- and middle-income countries toward producing, using, and sharing health data; yet, most country health information systems still do not meet current data demands.

In many countries data collection is not harmonized around the needs of planners and managers, but rather numerous reporting tools to meet the stated objectives of multiple implementers and stakeholders. This lack of coordination requires an enormous data collection effort from already overburdened human resources. At times country HMIS efforts are siloed or lack interoperability, missing out on opportunities for analysis of complex, crosscutting problems. Far too often, there are limited resources for HMIS reforms. Even where coordinated, high-functioning systems exist, data quality assurance can remain challenging.

Traditionally, measures of PHC performance have focused on quantifying the inputs—human resources, facilities, and financing, for example—and describing service delivery volume and outcomes, including disease-specific morbidity and mortality. Measurement of quality service delivery has been largely neglected, as has the experience of patients, health workers, and communities in seeking, accessing and delivering health services. Most countries, districts, and facilities lack data on many of the core functions of quality PHC (first contact accessibility, continuity, coordination, and comprehensiveness), patient-centeredness and responsiveness, and primary care organization and management. This lack of data and knowledge about which components of service delivery and organization need strengthening impedes the ability of actors at all levels of the health system to take action for improvement.

Ideally, measurement of PHC functions and service delivery should be occurring in a coordinated way at the community and facility, subnational and national levels. In such a system, actors at each level of the system - national planners and policy makers, sub-national managers, and providers and communities - would be able to access and use standardized and interoperable data collection platforms to track key performance indicators to continually assess the quality and effectiveness of care delivered and proactively plan for future service delivery needs as well as identify areas where change in existing systems and policies are needed.

Data needs for these activities range from measurement of the local burden of disease to drug and supply availability and from health worker performance and motivation to experiential quality and results of care delivery. Subnational-level decision makers need access to this information from facilities in their catchment area in order to track trends in performance and outcomes over time, quickly detect and act upon emerging issues and gaps, and identify positive outliers to extract and spread promising practices. The same is true at the national level, where timely information from districts is converted to knowledge to drive action for improvement and used to inform future practices, policies and strategic planning. At the global level, measurement informs global surveillance efforts, donor investment priorities, and international policies. At all levels, measurement is a tool for enabling comparability, identifying promising practices for sharing, and creating accountable and transparent systems that are responsive to the needs of their constituents.

Monitoring and Evaluation Framework

Given the expansive field of health systems measurement, an organizing framework for understanding monitoring and evaluation (M&E) is critical. The IHP+ common M&E Framework (Figure 1) provides a results-
chain representation of the key components of a national M&E strategy. It identifies four major indicator domains: system inputs and processes, outputs, outcomes, and impact. The framework demonstrates how inputs to the system and processes result in outputs, outcomes and impact. The framework facilitates the identification of core indicators along the results chain, while also identifying key data collection methods. The framework also highlights the need for analysis and synthesis of data from multiple sources, including data quality assessment; and demonstrates how the data need to be communicated and used to inform decision-making at different levels.

Figure 1. IHP+ common M&E framework

Establishing priorities for PHC measurement

The above framework addresses the key components of a monitoring and evaluation strategy; however, current monitoring and evaluation efforts have overemphasized inputs, outcomes and impact without sufficiently focusing on crosscutting processes at various levels of service delivery – including information on clinical quality and safety. Several efforts at PHC performance assessment frameworks have been undertaken historically; however, due to difficult/costly methodologies, lack of integration into routine data collection efforts, and under emphasis of crosscutting issues, few have had sufficient uptake and integration into national monitoring and evaluation strategies to have sustainable impact.

Despite the vast array of surveys and facility assessment conducted in LMICs, many core PHC service delivery concepts are not routinely measured effectively. For example, existing data collection methodologies in use in LMICs do not adequately capture indicators of the four functions of PHC—first contact accessibility, continuity, comprehensiveness, and coordination. Although the centrality of these functions to primary care is consistent across high, middle, and low-income settings, most existing measures

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are currently validated and used in only high-income countries. Expert consensus is that these measures are not applicable to most LMICs, particularly fragile states. This leads to the paradoxical situation of many low and middle-income countries in which countries are overwhelmed by data and reporting requirements, but lack critical data for decision-making and improvement efforts.

The Primary Health Care Performance Initiative (PHCPI)\textsuperscript{15} framework (Figure 2) attempts to address these challenges by more explicitly articulating the key inputs, functionalities, and desired goals of an effective PHC system. This framework draws from other measurement frameworks while offering a novel focus on the intersection between service delivery and the core functions of PHC as key drivers of performance variation. The PHCPI Conceptual Framework highlights people- and community-centered care, supply and demand functions, and integrated service delivery through effective organization and management.

![Figure 2. Primary Health Care Performance Initiative Framework](image)

Based on an extensive review of the scientific literature and consultations with international experts and health systems practitioners across the globe, PHCPI also identified and selected indicators to assess the performance of country primary health care systems, understand the root causes of primary health care performance and give countries more clarity on what and how to improve.

Using a rigorous process, a core set of internationally comparable indicators and an expanded set of indicators were selected to help countries assess overall primary health care system performance (Core set: \textit{Vital Signs indicators} – See Annex 3) and identify performance determinants (Expanded set: \textit{Diagnostic indicators}), while recognizing that each country will collect a unique set of indicators based upon country priorities in each domain. The chosen Vital Signs indicators align and complement the Global Reference List of 100 Core Health Indicators\textsuperscript{16} by focusing on important service delivery processes that are crucial for

\textsuperscript{15} The Primary Health Care Performance Initiative (PHCPI) is a new partnership that brings together country policymakers, health system managers, practitioners, advocates and other development partners to catalyze improvements in primary health care (PHC) in low- and middle-income countries through better measurement and knowledge sharing. PHCPI was officially launched by the Bill & Melinda Gates Foundation, World Bank Group, and World Health Organization on the sidelines of the UN General Assembly in September 2015. \url{www.phcperformanceinitiative.org}

\textsuperscript{16} Developed through technical consultation of the Interagency Working Group on Indicators and Reporting Burden in 2013 and updated in 2015, the Global Reference List of 100 Core Health Indicators is a standard set of 100 core indicators prioritized by the global community to provide concise information on the health situation and trends including responses at national and global levels. \url{http://www.who.int/healthinfo/indicators/2015/en/}
achieving universal health coverage and other global priorities. Diagnostic indicators, which provide more detailed information to identify performance gaps are, by nature, less internationally comparable, and will need to be tailored to country context and health management information system (HMIS) capacities. Currently available information on LMIC performance related to the Vital Signs can be found on the PHCPI website at www.phcperformanceinitiative.org.

Through the process of developing the Conceptual Framework and identifying and selecting indicator sets, two major gaps in available PHC measures were identified: 1) the need for better ways of measuring PHC service delivery; and 2) the need for expanded data availability of existing measures.

Areas of focus for improved PHC measurement:

• Core functions of PHC - accessibility, comprehensiveness, coordination, continuity and people-centeredness (including participation)
• PHC Quality - safety, effectiveness, timeliness, efficiency and equity
• PHC organization and management - facility management and leadership capabilities, team-based care organization, supportive supervision, population health management, information system use, and continuous quality improvement (CQI) processes.
• Provider performance - motivation, competence, and workload.
• Patient and community experience of care and the health system - trust, respect, communication, and responsiveness
• PHC resource prioritization and investment
• Intersectoral action

Within the arena of measure development, more work is also needed to create indices of PHC system performance such as composite metrics. Such measures would serve to provide quick, easily comparable snapshots of facility, district, or national PHC systems performance and could focus on inputs, effective service coverage, equity, or preventable morbidity or mortality. While the PHCPI partnership is actively engaged in improving measurement in these areas in partnership with the HDC, there is need for global consensus on priority areas and measures as well as a need for increased research on reliability and validity of these measures in differing contexts.

In addition to developing improved measures of PHC service delivery, there is a pressing global need to expand PHC performance data availability and comparability to help countries assess their own performance and to assist the global community to identify positive outliers where effective PHC delivery has been achieved. For example, harmonization of global surveys, including the Service Availability and Readiness Assessment (SARA) and the Service Provision Assessment (SPA), and Service Delivery Indicators (SDI) are one means of ensuring that valid and comparable data are available at the sub-national, national and global levels.

Finally, work also remains to ensure that country-owned HMIS data platforms are able to regularly collect indicators of PHC performance and rapidly feed this information to local and national decision makers for use in informing action and improvement. Incorporation of parallel data platforms into HMIS, such as those available for results based financing (RBF), might offer an additional way to expand data available at the national and subnational level relevant to domains of PHC function.
Numerous stakeholders have been engaged in activities relevant to each of the above identified measurement gaps (indicator development, health facility assessment harmonization efforts, composite development) as well as efforts to strengthen country HMIS. A scoping of stakeholder activities and investments in health data activities can be found in Annex 1. However, to date little of this effort has been specifically focused on improving primary health care. In addition, efforts to develop further quantify quality of care have been fragmented, lacking global consensus on priority measures, indicator definitions and best practices for data collection methodologies. Quality of care measures have also been focused on disease-specific measures, which while relevant to PHC, miss out on the cross-cutting benefits of measuring whole system function. The text box to the right demonstrates key questions relevant to improved measurement of PHC and lists potential PHC measurement deliverables for the global stakeholder community.

Recently, global stakeholders interested in collaborating on health data investments joined together to form the Health Data Collaborative (HDC). The primary strategies of the HDC are to enhance country statistical capacity and stewardship and for partners to align their technical and financial commitments around strong nationally owned health information systems and a common monitoring and evaluation plan. Work at global level to establish common standards, indicators and databases will be geared to contribute to countries health information systems.

Health Data Collaborative

Launched in March 2016, the Health Data Collaborative (HDC) is an inclusive partnership of international agencies, governments, philanthropies, donors and academics, with the common aim of addressing disparate funding and fragmented sources of health data which, in part, leads to the current inadequacy of data for reliable and timely decision making.

The output of the HDC is a more efficient investment in information systems. The timely, accurate and comparable data arising from the national

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17 The Health Data Collaborative aims to facilitate and accelerate progress in strengthening country systems for monitoring progress and performance for accountability within the context of the health related SDGs and health sector strategic plans. www.healthdatacollaborative.org
information system can be used to understand the health challenges, to design and monitor effective interventions and to demonstrate outcomes and impact at national and global level. Further efficiencies will be achieved by sharing experience and learning from countries and other data initiatives.

<table>
<thead>
<tr>
<th>Five Point Call to Action on Measurement &amp; Accountability</th>
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<tbody>
<tr>
<td>1. Investments: levels and efficiency (domestic and international)</td>
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<tr>
<td>2. Capacity strengthening (from collection to use)</td>
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<tr>
<td>3. Well-function population health data sources</td>
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<td>4. Effective open facility and community data systems, including surveillance and administrative resources</td>
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<td>5. Enhanced use and accountability (inclusive transparent reviewed linked to action)</td>
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### Objectives of the Collaborative

<table>
<thead>
<tr>
<th>1. Enhance country level capacity</th>
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<tr>
<td>Enhance country capacity to monitor &amp; review progress towards the health SDGs through better availability, analysis and use of data</td>
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<th>2. Improve efficiency &amp; alignment</th>
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<tr>
<td>Improve efficiency and alignment of investments in health data systems through collective actions</td>
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<th>3. Increase impact of global public goods</th>
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<tr>
<td>Increase impact of global public goods on country health data systems through increased sharing, learning and country engagement</td>
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**Figure 3. Health Data Collaborative Objectives**

Numerous multi-stakeholder working groups, focused on key areas of monitoring for accountability, manage the programmatic and technical work of the Health Data Collaborative. These groups work with and strengthen existing global initiatives and communities of practice working to improve health data systems in country, in an effort to respond to specific data needs and reduce duplication. While the work of numerous working groups intersects the efforts to measure and improve PHC performance, particularly relevant are the working groups on facility and community systems (HMIS/DHIS/Facility Surveys), quality of care and performance improvement measurement (Co-led by PHCPI and GFATM), digital health systems and interoperability and analytics and use. Within the quality working group, the research and development of new indicators and measurement methodologies are critical for service delivery improvement. The majority of the listed potential deliverables above could be delivered through existing working groups of the HDC, but will require extensive stakeholder collaboration to succeed.

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Table 1. Health data collaborative working groups

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>WORKING GROUPS</th>
<th>LEADS + STAKEHOLDERS</th>
<th>DELIVERABLES 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repository of global standards</td>
<td>Core Group + working groups</td>
<td>Lead: WHO + D4Health</td>
<td>Repository established – 2016</td>
</tr>
<tr>
<td>Monitoring of the state and performance of country systems</td>
<td>Core group</td>
<td></td>
<td>Report published Q1 2017</td>
</tr>
<tr>
<td>Country &amp; regional engagement</td>
<td>WG on Country action &amp; regional engagement</td>
<td>Lead: Core team + IHP+, global, regional, country partners, civil society</td>
<td>Engagement in 5 + countries and joint actions in 5+ countries on specific requests</td>
</tr>
<tr>
<td>Global and country databases</td>
<td>WG on Global data</td>
<td>Leads: WHO, UNICEF, PEPFAR +UNAIDS, UNDESA</td>
<td>Global health observatory updated with SDGs, linkages with global &amp; national databases</td>
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<tr>
<td>Facility and community systems</td>
<td>WG on facility data (HMIS/DHIS)</td>
<td>Leads: University of Oslo/WHO + TGF, GAVI, PEPFAR, BMGF, USAID, Measure Evaluation, PHCPI</td>
<td>Package of data standards &amp; tools (Q4 2016)</td>
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<tr>
<td></td>
<td>WG on facility data (surveys)</td>
<td></td>
<td>Facility survey instruments – Q3 2016; country action (10+)</td>
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<tr>
<td>Quality of care and performance improvement measurement</td>
<td>WG on quality of care &amp; performance</td>
<td>Leads: PHCPI; WBG, BMGF, WHO +USAID, UNICEF</td>
<td>Joint work in 5+ countries</td>
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<tr>
<td>Digital health systems and interoperability</td>
<td>WG on digital health systems &amp; interoperability</td>
<td>Leads: USAID, WHO, +BMGF, Open HIE</td>
<td>HIS Interoperability Framework and guidelines Joint work in pathfinder countries</td>
</tr>
<tr>
<td>Analytics and use</td>
<td>WG on analytics and use</td>
<td>Leads: WHO + UNSD, Measure Evaluation WG, TGF, PEPFAR, UNICEF, Countdown</td>
<td>Set of tools to facilitate data quality assessment &amp; analysis (mid 2016); regional strategy in place</td>
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<tr>
<td>CRVS</td>
<td>Link with existing coordination mechanism IAWG on CRVS (UNSD)</td>
<td>Regional bodies (e.g. UNECA, UNESCAP, ASSD), WBG, D4H</td>
<td>Electronic training tool kit (WB lead) (Q4 2016)</td>
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<tr>
<td>Better health systems monitoring</td>
<td>Link with existing mechanisms on HRD data, financial measurement</td>
<td>Health workforce information reference group (WHO &amp; USAID); Health expenditure data work</td>
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From Measurement to Improvement

Accelerating the process of using measurement to drive improvement

Measurement alone is insufficient to drive improvement. In order to move from measurement to improvement, measured data and information must be transformed into knowledge of what is and is not
working to inform improvement efforts, and decision makers must be empowered to make effective changes to address the identified gaps. Performance assessment represents a key first step to understanding problems and promising practices. This must be complemented with formal research and evaluation to better understand root causes. In addition performance assessment and data utilization should be routinely linked to policy formulation cycles and CQI efforts to facilitate the translation of knowledge into action. Knowledge from past experiences or the experience of others can facilitate the process of improvement by inform what changes best address identified gaps.

Figure 4 further describes the processes necessary to convert data into information, information into knowledge, knowledge into action, and how to assure that the actions taken resulted in improvement. Each of these steps is complex and requires existing expertise to assure the correct transition to the next step in the process.

![Figure 4. Transforming data into improvement](image)

While many of the challenges to using data for improvement are technical in nature, the importance of an enabling environment to support change cannot be underestimated. Health service reform can be challenging at many levels. Addressing these challenges requires sustained political commitment, transformational leadership, change management approaches, and mobilizing and engaging health professionals and communities. Effective collaboration will be needed between all stakeholders in countries, with the support of national and international partners, including development organizations, citizens groups, health provider associations, and academics and researchers.

**Knowledge Management**

Knowledge management is the “systematic process of collecting and curating knowledge and connecting people to it so they can act effectively.” Knowledge management enables the generation, collection, sharing, and use of explicit and tacit knowledge for action and improvement. The processes that make up knowledge management include.19, 20

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1. **Knowledge Generation**: The formulation of new information and knowledge through research, collaboration, and innovation. This work includes transforming data into information into knowledge.

2. **Knowledge Capture**: The identification and extraction and documentation of existing data, information or knowledge (tacit or explicit) 21

3. **Knowledge Synthesis**: The organization and interpretation of explicit and/or tacit knowledge from various sources into generalized frameworks, evidence-informed guidance, tools or approaches, reports and manuscripts.

4. **Knowledge Organization and Prioritization**: Evaluating and sorting knowledge and presenting it in meaningful and organized manner around specific themes or areas of focus. Including the identification of knowledge gaps to stimulate further knowledge generation.

5. **Knowledge Sharing**: The transfer of knowledge within and among groups of people with common interests and goals through online platforms, organized collaborations, meetings, print and online publications, etc.

Together, these processes lead to the creation of methods and tools that are designed to drive knowledge uptake and use. These tools include: (1) Products and resources, ex. websites, toolkits, assessment guides (2) Publications, ex. peer-viewed literature, white papers, reports (3) Training and events, ex. conferences, meetings, and consultations (4) Partnerships and communities of practice that can be used to inform learning and action for systems improvement, ex. JLN, Integrated People-Centered Health Systems communities of practice.

When considering knowledge management, it is important to recognize that there are two different types of knowledge, both of which are valuable to improvement efforts22:

- Explicit knowledge is already articulated and could be found in reports, publications or other modalities. This can include lessons learned on improvement, how and what was done and the impact.
- Tacit knowledge is intuitive knowledge that is rooted in context, experience, and practice. This knowledge has not been extracted and might reside in front line implementers, country leaders or the community being served. Capturing this knowledge might need methods such as qualitative interviews and focus groups, case studies and direct observations.

Each of these types of knowledge can either already exist or be emerging through new activities. There are numerous current activities by partners taking place within each knowledge management process. Examples of relevant activities can be found in Table 2. Of note, this list is not intended to be exhaustive.

Knowledge management is an inherently participatory process and requires inputs from actors at all levels of the health system. Knowledge management activities at the community, facility, district, national, and global levels all inform and draw on each other. For example, knowledge generated through improvement efforts in a facility and community can be captured, synthesized, and shared at the district level to inform similar improvement efforts at another facility within the district. Similarly, this knowledge that is synthesized at the district level may be curated, synthesized, and shared at the national level, leading to the creation of toolkits, reports, and collaborative communities of practice so that lessons learned in the first district can accelerate improvements nation-wide. Globally, knowledge of facility, district, and national policies, practices, and reforms can inform publications, be presented at conferences, used to generate toolkits and implementation guides, and inform activities and trainings in other countries.

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21 Tacit would typically require qualitative methods such as KI interviews, observation etc. Explicit sources could include reports or published literature, existing data such as GHO.
Table 2. Sample knowledge management efforts relevant to PHC improvement

<table>
<thead>
<tr>
<th>Examples</th>
<th>Generation</th>
<th>Capture</th>
<th>Synthesis</th>
<th>Org/Prioritization</th>
<th>Sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMASYS</td>
<td>PRIMASYS captures tacit and explicit knowledge about PHC systems</td>
<td>Using this knowledge, develop case studies</td>
<td>Case studies shared through WHO and PHCPI websites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint Learning Network</td>
<td>Generate new knowledge through learning sessions.</td>
<td>Harvesting implicit and explicit knowledge during peer-to-peer sharing.</td>
<td>Development of new tools drawing from generation and capture of knowledge.</td>
<td>During peer-to-peer learning and through PHCPI and JLN websites</td>
<td></td>
</tr>
<tr>
<td>PHCPI Website</td>
<td>Quantitative analysis of PHCPI Vital Signs data to identify low or high performing countries on critical PHC functions</td>
<td>Generate mini-case studies profiling high-performing primary care systems</td>
<td>Prioritized literature made available through the Health Systems Evidence platform in partnership with McMaster University</td>
<td>Sharing of all PHCPI products</td>
<td></td>
</tr>
<tr>
<td>IntegratedCare4People web platform</td>
<td>Practices database</td>
<td>Academic digests/policy briefs</td>
<td>Curated resources</td>
<td>Communities of practice</td>
<td></td>
</tr>
</tbody>
</table>

Action for Improvement

Moving from data to information to knowledge to action and ensuring that the chosen action leads to improvement are critical steps to link measurement efforts to desired impact. The HDC provides a mechanism by which best practices for measurement can be established, coordinated, and scaled within the setting of support to country planning processes. Combined efforts of global stakeholders toward improve measurement of currently under measured domains through the HDC will result in improved data availability for service delivery decision-making at numerous levels. Equally collaborative efforts are needed to support and achieve service delivery improvements. PHCPI offers a partnership model whereby stakeholders, in partnership with countries, agree upon methodologies for country-specific assessment exercises that result in tailored improvement plans, containing relevant actions for facility, subnational and national levels. These plans should be supported in a coordinated manner by global stakeholders and be imbedded in national health policies, strategies, and plans. Technical assistance and financing must be better aligned to provide collaborative support and maximize efficiencies.

Common causes of poor PHC performance

When measures demonstrate that effective, affordable health care is not reaching the populations in need, the PHC system has failed. This can occur for many reasons, some of which are highlighted in the PHCPI framework (Figure 2, page 6). For example, providers may have inadequate skills or an inappropriate skill mix, the consequence of failure or lack of training, investment or incentives; essential drugs and equipment may be unavailable due to poor supply chain management or purchasing. A lack of universal financial protection can deter populations from seeking care, or impede the ability of facilities to finance care delivery. Health information systems may be inadequate to provide necessary information for decision-making. Relevant to primary health care, potential areas for improvement exist in all health system
building blocks\textsuperscript{23} as well as the processes relevant to ensuring that health services are integrated (rather than fragmented) and people-centred (meeting health needs across the care continuum and life course in a way that responds to situation and preferences). However, even when adequately resourced and prioritized, in the presence of necessary inputs financial support, service delivery is often inadequate due to dysfunctional organization and management of the health system.\textsuperscript{24}

**Strategies for PHC improvement**

Strategies to improve PHC are as numerous as the possible issues confronted and should be tailored to each context according to the gaps identified through performance assessment and further investigation. Several key functions have been identified, with each level of the health system playing a unique role to support PHC performance improvement. At the community and facility levels, improvement efforts often focus on improved community empowerment and increased engagement as well as CQI processes to improve service delivery and performance. Within sub-national systems, PHC can be supported through improved organization and management (including supportive supervision), ensuring necessary autonomy and resources. At a national level, policies, financing, governance and leadership arrangements must create an enabling environment that includes financial arrangements and incentives that are supportive of PHC and its central role within the health system, a reorientation of the workforce including improved working conditions, compensation mechanisms, and multi-professional teams, and policies that enable and reinforce the critical functions of PHC.

In addition, there must be clear guidelines for how services should be coordinated both across levels of the health sector (PHC and secondary or hospital care), and clear arrangements for interactions with the private sector, including regulatory functions. The answers for how to achieve these changes should be based upon the best available evidence with tailoring to country context. Civil society has a role to play at all levels, particularly as it relates to accountability to improve areas of poor PHC performance.

Much of the necessary improvement requires political will to reorient health systems toward clear objectives of high-quality PHC: effectiveness, equity, and health for all. This requires a revaluing of health promotion, prevention and public health and facilitating intersectoral action, as well as moving away from overinvestment in disease oriented efforts which do not take into account the overall disease burden and reorienting resources away from specialized outpatient care and hospital inpatient care (so that each fills its essential role in the most efficient way possible). In addition, it involves ensuring adequate funding, appropriate training and important connections to other services and sectors. Progress requires increased capacities to collect, organize, analyze, use and act on data – for policy making, managerial and organizational decisions, and CQI processes.

Political, system, and resource constraints influence the ability to make necessary reforms to prioritize PHC. As a result, stakeholders must come together to create an enabling environment for transformational change. Necessary features include a favorable configuration of political forces around health care reform, inclusive national health policy conversation; shared vision for health care and health system development; health policy capacity in government, the health sector and the community; the level and relevance of health policy research and the engagement research networks; and standards of integrity, accountability and transparency. These features combined can bring about necessary changes in legislative frameworks, financial arrangements and incentives, and the reorientation of the workforce and public policy-making.\textsuperscript{25}

\textsuperscript{23} As described in *Strengthening Health Systems to improve health outcomes: WHO’s framework for action*, the building blocks of a health system include: service delivery; health workforce; information; medical products, vaccines and technologies; financing; and leadership and governance (stewardship).


\textsuperscript{25} WHO. WHO Global strategy on people-centred and integrated health services: interim report. Geneva, Switzerland. 2015. \url{http://apps.who.int/iris/bitstream/10665/135002/1/WHO_HIS_SDS_2015.6_eng.pdf?ua=1}
Numerous tools and mechanisms are in place to facilitate improvement efforts. The process of developing national health sector strategic plans and reviews enables multi-stakeholder involvement and investment to support a single country-led national health strategy – in line with IHP+. In addition, through PHCPI there is opportunity for the development of ethical and evidence-based policy options as well as normative standards and guidance documents for common gaps in PHC system functioning. There are current plans for the development of open access tools, including a self-assessment guide for PHC performance. This guide will be informed by scoping reviews and strengths, challenges, and gaps in previous PHC assessment efforts. Finally, the WHO is currently developing an assessment guide for Integrated, people-centred health services for use at the sub-national level.

International partners may provide direct technical support to build sustainable in-country capacity. As discussed above, the development of a research agenda, including operational research for best practices for data analysis and use for decision-making, is a key output in order to stimulate the generation, translation, and dissemination of important crosscutting themes for improving PHC performance. There is an opportunity for sharing and application of best practices with innovation to address local context. In addition, existing communities of practice (Joint Learning Network, Health Harmonization in Africa, and IntegratedCare4People) offer an opportunity to share experiences and creating new knowledge to advance the field of data use for improvement in PHC.

The text box above demonstrates key questions relevant to PHC improvement and lists potential deliverables for the global stakeholder community. A current situation analysis on improvement efforts is being developed through analysis of pre-meeting surveys.

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PHC improvement activities (current and future)

Key Questions:

- How can data producers and users work together to identify key programmatic questions, link these questions to available data, and analyze the data to develop improvement solutions?
- What other factors affect the process of using data to guide the political process of allocating health resources at the district and national levels?

Potential Improvement Deliverables:

- Systematic review of improvement strategies in primary health care
- PHC assessment tool linked to best practices for improvement
- Set of tools to facilitate data quality assessment & analysis through HDC working groups
- Practices database relevant to: integrating vertical programmes and measurement for improvement (IntegratedCare4People)
- Implementation pathways
- Webinar on PHC improvement
- PHC Case studies (PRIMASYS, etc.) and analysis for cross-cutting themes
- Prioritized literature made available through the Health Systems Evidence platform in partnership with McMaster University
- Communities of practice actively working on improvement of data analysis and use for decision making in PHC (JLN, HHA, IPCHS)
- Operational research on strategies to increase data use at national, sub-national, facility and community level
- Global Challenge for PHC Improvement

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http://www.who.int/about/resources_planning/twelfth-gpw/en/
Global Challenge for Primary Health Care Improvement

One such effort focused on performance improvement is a Global Challenge. Building upon processes and lessons learned from previous patient safety campaigns (“Clean care is safer care”\(^{27}\) and “Safe Surgery”\(^{28}\) WHO Service Delivery and Safety Department is proposing a Global Challenge for PHC improvement as part of the PHCPI. Such an international and multistakeholder effort will increase awareness of the potential of high-quality PHC, heighten participation and buy-in for PHC measurement and improvement among Member States, and facilitate action on country-specific PHC priorities while offering a platform for sharing best practices among countries that have prioritized similar areas for improvement. This short-term advocacy and support strategy should reinforce the medium and long-term improvement plans prioritized through NHPSP. Importantly, this challenge will provide resources and technical assistance to countries seeking to prioritize PHC improvement within their national health strategy, aligned to national planning cycles.

**Figure 5. Theory of action - Global Challenge**

Primary health care improvement requires multiple actions by actors across levels of the health system, and, therefore, represents a larger technical challenge than previous campaigns, which targeted relatively focused interventions such as hand washing and the safe surgery checklist. Therefore, a successful Global Challenge for PHC Improvement will require additional assessment activities and efforts to adjust to country heath system context. These assessment activities will build upon tools and guides being developed through IPCHS, PHCPI, HDC and other relevant efforts.

As part of a global challenge, Member States co-develop a pledge with technical support from partners that highlights the areas of that are targeted for improvement. This pledge is then signed as a demonstration of commitment to improve. Given the context-specific nature of PHC reforms, decisions will need to be made regarding the proportion of the Global Challenge pledge that will be standardized (i.e. all countries could commit to improved monitoring and data use relevant to their PHC systems, or to increased financial allocation toward PHC) and what proportion will be tailored to respond to an evaluation of current PHC performance (i.e. pledges would address areas of performance below benchmarks).

Typically, such global challenges include a global launch event followed by regional or country level launches. Given the decentralized, first-access nature of PHC, there is great potential to involve various country level stakeholders in a country-level event, highlighting role-specific cascading pledges from all

\(^{27}\) WHO Service Delivery and Safety. Clean Care is Safer Care. [http://www.who.int/gpsc/en/](http://www.who.int/gpsc/en/)

involved levels of the health sector (WHO representatives, ministries of health, monitoring and evaluation experts, health system managers, providers – PHC and potentially specialty representatives, donor governments and organizations, CSOs). Cascading pledges would highlight how various stakeholders intend to contribute to national goals and objectives (i.e. If a country has pledged to increase provider competency, ministries could discuss planning relevant to incentives, accreditation and continuing professional development, while training institutions and professional organizations could highlight their respective efforts to improve professional opportunities.)

Participants in the global challenge could also participate in relevant communities of practice or partnerships for shared learning among countries that have identified similar objectives in order to facilitate: networking and communication, research and development, education and training, technical support, and evaluation and feedback.
### Technical area

#### Country planning and investment framework
- IHP+, country compacts, multi partner coordination groups at country level, Civil Society

#### CRVS
- Regional strategies led by UN commissions
- CRVS Centre of Excellence (Canada)
- INDEPTH
- Data4Health
- Addressing Development Data Gaps including CRVS (WBG)

#### Population surveys, census & population estimates
- International household survey network
- DHS-MICS- collaboration
- LSMS working group
- UN statistical commission expert group
- Addressing Development Data Gaps including household surveys (WBG) UN Interagency working groups (child mortality, maternal mortality, WASH, immunization)
- IHME data work

#### Disease surveillance
- Global Health Security Agenda
- Global Outbreak Alert and Response Network

#### Health facility assessments
- Interagency harmonization group (WHO, USAID, World Bank, UNICEF)
- PHC Performance Initiative
- Specific quality of care initiatives

#### Open approaches to facility and community reporting
- DHIS academies
- Open HIE communities,
- RHINO, AeHIN, African Open data initiative,
- IHR, IDSР, GPHIN
- Health workforce

#### Administrative data / Health workforce / National health accounts
- Health workforce information reference group

#### National health accounts / expenditure tracking
- WHO NHA
- WB PETS

#### Improving national HIS institutional capacities
- Ministry of Health, national statistical offices, National Institutes of Public Health
- International Association Public health institutes
- USAID/Measure & WHO curriculum working group

#### Scorecards & profiles
- Countdowns (MNCH, NCD; UHC), UNICEF/RMNCH, Life-saving Commodities
- PHCPI
- Alma 2030, IHP+

#### Global investors

**Country planning and investment framework**
- WHO, WB, GFATM, GAVI, USG, GFF, EC, GIZ

**CRVS**
- Bilaterals (Canada ++)
  - World Bank and regional development banks, GFF
  - UNICEF, WHO, UNSD, and other UN, Bloomberg Philanthropies, GFATM, BMGF

**Population surveys, census & population estimates**
- USAID, UNICEF, World Bank, UNSD, WHO, GAVI, GFATM, BMGF

**Disease surveillance**
- WHO, USG, CDC, WBG

**Health facility assessments**
- USAID, PEPFAR, GFATM, GAVI, WBG, UNFPA, BMGF, PHCPI, UNICEF

**Open approaches to facility and community reporting**
- UNAIDS, PEPFAR
  - TGF, USAID
  - UNICEF, RBM HWG
  - NORAD, Measure Evaluation

**Administrative data / Health workforce / National health accounts**
- USG, EU, bilateral donors, UNICEF, WHO, other UN, BMGF, World Bank

**National health accounts / expenditure tracking**
- WHO, World Bank, GIZ

**Improving national HIS institutional capacities**
- WHO, Paris21

**Analytics, data use & open access**
- PEPFAR, USAID; Measure Evaluation, UNAIDS

**Scorecards & profiles**
- Civil Society, ALMA, African Union, AMDD, BMGF, World bank, USAID, PEPFAR, UNICEF, GFF

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18 December 2015
### Annex 2: PHCPI Vital Signs

<table>
<thead>
<tr>
<th>Domain</th>
<th>Sub-Domain</th>
<th>Indicators</th>
<th>Data Sources</th>
<th>Country Sample Size</th>
</tr>
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<tr>
<td><strong>E. Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>E1. Health Status</td>
<td>Maternal mortality ratio (per 100,000 live births)</td>
<td>GHO</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adult mortality from non-communicable diseases</td>
<td>GHO</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Under-five mortality rate (per 1,000 live births)</td>
<td>GHO</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>E3. Equity</td>
<td>Equity: Under-five mortality wealth differential</td>
<td>GHO</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>E4. Efficiency</td>
<td>Efficiency: under five mortality rate relative to PHC spending per capita</td>
<td>GHO, WHO SHA2011</td>
<td>21</td>
</tr>
<tr>
<td><strong>D. Outputs</strong></td>
<td>D1. Effective Service Coverage</td>
<td>Coverage Index</td>
<td>UNICEF, WHO, World Bank – World Development Indicators</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Antenatal care coverage (4+ visits)</td>
<td>UNICEF</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contraceptive prevalence rate</td>
<td>DHS</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Children with diarrhea receiving appropriate treatment</td>
<td>World Bank - World Development Indicators</td>
<td>105</td>
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<tr>
<td></td>
<td></td>
<td>Diphtheria-tetanus-pertussis (DTP3) coverage</td>
<td>UNICEF/WHO</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Facility-based deliveries</td>
<td>UNICEF</td>
<td>127</td>
</tr>
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<td><strong>C. Service Delivery</strong></td>
<td>C1. Access</td>
<td>Access barriers due to treatment cost</td>
<td>DHS</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>C2. Availability of Effective PHC Services</td>
<td>Provider absence rate</td>
<td>SDI</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diagnostic accuracy</td>
<td>SDI</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>C3. People-Centered Care</td>
<td>Continuity of care: Antenatal care dropout rate</td>
<td>UNICEF</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuity of care: Diphtheria-tetanus-pertussis (DTP3) dropout rate</td>
<td>WHO/UNICEF</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuity of care: Tuberculosis treatment success rate</td>
<td>GHO</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>C4. Organization &amp; Management</td>
<td>Caseload per provider (daily)</td>
<td>SDI</td>
<td>6</td>
</tr>
<tr>
<td><strong>B. Inputs</strong></td>
<td>B1. Drugs &amp; Supplies</td>
<td>Minimum equipment availability</td>
<td>SDI, SARA</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Essential drug availability</td>
<td>SARA, SPA</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vaccine availability</td>
<td>SDI</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>B2. Facility Infrastructure</td>
<td>Health center and health post density (per 100,000 population)</td>
<td>GHO</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>B4. Workforce</td>
<td>Community health worker, nurse, and midwife density (per 1,000 population)</td>
<td>GHO</td>
<td>18</td>
</tr>
<tr>
<td><strong>A. System</strong></td>
<td>A2. Health Financing</td>
<td>Percent of government health spending dedicated to PHC</td>
<td>WHO SHA2011</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per capita primary health care expenditure (PPP)</td>
<td>WHO SHA2011</td>
<td>21</td>
</tr>
</tbody>
</table>