MEETING REPORT

Consultation on National Health Workforce Accounts

Maputo, Mozambique, 17-18 October 2016
WHO/USAID Consultation on National Health Workforce Accounts
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I. Introduction:
The purpose of the WHO/USAID Consultation on National Health Workforce Accounts (NHWAs) was to present and discuss the NHWA concept, framework and modules, and for countries to agree on next steps for advancing NHWA implementation in countries participating in the consultation. The specific objectives of the consultation were:

- Introduce and discuss the NHWA concept, framework, modules and data requirement;
- Understand the capability and maturity (in content and data use) of existing human resources for health information systems (HRIS) and national HRH observatories in participating countries; and
- Develop and agree on next steps towards national roadmaps to support the implementation of NHWA building on existing HRIS and data sources, and responsive to national HRH data needs.

The meeting was attended by 50 participants representing ministry of health officials from nine countries (Ghana, Kenya, Liberia, Malawi, Mozambique, Namibia, Nigeria, Tanzania and Zambia), as well as representatives from USAID missions, WHO Offices, USAID’s HRH2030 programme and CDC Mozambique (Annex 2-List of participants). His Excellency, Dr Mouzinho Saíde, Vice Minister of Health in Mozambique; Dr Djamila Cabral, WHO Representative in Mozambique; and Mr Eugene Cooper, Integrated Health Office Deputy Chief of USAID, made opening remarks emphasizing the centrality of human resources for health for making progress towards Universal Health Coverage (UHC) and improving health outcomes, and highlighting the critical role of metrics to inform decisions and track progress, both at global and national levels.

II. Setting the scene – Global developments and National Health Workforce Accounts

The United Nations General Assembly adopted a new sustainable development agenda in September 2015. Agenda 2030 sets an ambitious multisectoral and interconnected agenda: 17 sustainable development goals and 169 targets. Six of these goals directly address health disparities. SDG 3, on ensuring healthy lives and wellbeing for all ages, recognizes universal health coverage (target 3.8) as key to achieving all health targets. Target 3.c calls for substantially increasing health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small-island developing States.

Health systems are the means to progress towards UHC (Figure 1). The health workforce is central within this equation:

- The stock, skills and geographic distribution of the health workforce are among the critical factors for progress on national priorities and goals for improved population health outcomes;
- The national health workforce is the first line of defense for countries to respond to emerging health threats; and
Recent evidence shows that investment in the health workforce provides positive returns on investments, as demonstrated by the recommendation of the High-Level Commission on Health Employment and Economic Growth (Commission).¹

Strengthening health systems and the workforce impacts positively the majority of SDGs, in particular SDG1 (poverty), SDG3 (health), SDG4 (education), SDG5 (gender), SDG8 (decent jobs and economic growth), SDG10 (inequalities) and SDG16 (inclusive societies).

Figure 1: Framework for Health Systems Strengthening and UHC

To support the global commitments towards achieving universal health coverage and the SDGs, WHO, in collaboration with partners, developed the Global Strategy on Human Resources for Health: Workforce 2030 (GSHRH)². The sixty-ninth World Health Assembly (69th WHA) endorsed the GSHRH and adopted a resolution (WHA69.19)³ in support of its implementation. The GSHRH presents four objectives:

1. Optimize the health workforce to accelerate progress towards UHC and the SDG;
2. Anticipate and prepare for future needs of health systems, harnessing the rising demand in health labour markets to maximize job creation and economic growth;
3. Build institutional capacity to implement this agenda; and

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² The GSHRH can be accessed at the following link: http://www.who.int/hrh/resources/pub_globestrathrh-2030/en/
³ Resolution can be accessed at the following link: http://apps.who.int/gb/ebwha/pdf_files/WHA69/A69_R19-en.pdf
4. Strengthen data on HRH for monitoring and ensuring accountability of implementation of national strategies and the GSHRH itself.

The GSHRH resolution (WHA69.19) urges Member States to consolidate a core set of HRH data with annual reporting to the Global Health Observatory, as well as progressive implementation of National Health Workforce Accounts (NHWA) to support national policy and planning and the GSHRH’s monitoring and accountability framework. The call for strengthening health workforce data, information and accountability has been also highlighted as one of the recommendations of the Commission “Undertake robust research and analysis of health labour markets, using harmonized metrics and methodologies, to strengthen evidence, accountability and action” and “The Commission urges national governments, led by ministries of health, education and employment, to accelerate the progressive implementation and reporting of NHWA”. In addition, the Roadmap for Health and Measurement Accountability and the 5 Point Call to Action presents the implementation of NHWA as a priority action for strengthening country data and accountability. NHWA is a subgroup of the Health Data Collaborative.

USAID recognizes human resources for health (HRH) as being an integral component to achieving goals in global health and advancing Universal Health Coverage. USAID has been a key supporter of the development of the WHO Global Strategy on Human Resources for Health: Workforce 2030 as well as the development of the new National Health Workforce Accounts. Over the past two years, the agency has worked to build upon its 30-year history of investment and technical leadership in workforce development, aligning its HRH approaches and investments with emerging global priorities and recommendations.

USAID’s five year $141M flagship program, HRH2030 program, supports low- and middle-income countries in developing the sufficient, fit-for-purpose and fit-to-practice health workforce needed to end preventable child and maternal deaths (EPCMD), achieve an AIDS-Free Generation (AFG), reach the goals of Family Planning 2020 (FP2020), protect communities from infectious diseases (PCID), and achieve the Global Health Security Agenda (GHSA). HRH2030 was designed to be aligned with the objectives of the WHO Global HRH Strategy and to leverage cross-sector expertise to build the evidence base for HRH impact.

**National Health Workforce Accounts (NHWA):**

The aim of NHWA is to create a harmonized, integrated approach for annual and timely collection of health workforce information, improve the information architecture and interoperability, and define core indicators in support of workforce policy and planning and global monitoring.

Since early 2015, WHO with USAID and a number of other partners and experts have engaged through a Technical Advisory Group on NHWA (TAG/NHWA) to produce a NHWA Handbook that introduces the concept and presents key health workforce indicators organized in 10 modules based on a health labour market framework for UHC.

The NHWA Handbook presents a set of 90 indicators that were consolidated from over 450 existing indicators taking into consideration their policy relevance. The NHWA modules are shaped by four groups of health workforce policies that influence the health labour market dynamics (Figure 2).

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These are policies on production, policies to address inflows and outflows as well as maldistribution and inefficiencies, and policies to regulate the private sector. The implementation of NHWA is a progressive agenda in the period 2016-2030 and beyond.

**Overview of NHWA modules**

**Module 1 – Active Health workforce stock** - Provides a comprehensive overview of the composition and distribution of the health workforce, primarily based on the standard elements of registries or HRH databases. This module enables the detection of gaps in certain professions or competencies and mismatches in geographical or sectoral distribution. The indicators of Module 1 are constructed according to the data elements defined in the WHO Minimum Dataset for Health Workforce Registry which is elaborated later in this document.

**Modules 2, 3 and 4 – Education** - Each of these three modules present a set of indicators related to a specific dimension of education. Collectively, they provide an overview of the supply and capacity of education and training institutions, taking into consideration public expenditures on education and training and the regulatory environment, specifically:

- Health Workforce in education and training (Module 2) maps and tracks health workers in education and training, including the status of pre-entry, new entries, and graduation. Inputs on the volume of production and in-training attrition supports policy makers to reorient and tailor HRH education to meet evolving health care and population needs.
- Education regulation (Module 3) provides information on quality assurance, educational and training requirements, and the responsiveness of education and training systems to evolving population health needs. These indicators can identify areas of intervention in regulation or management of public education and training capacities.
- Education finances (Module 4) supports an effective financing architecture that strengthens intersectoral collaboration between health, education and life-long learning. The indicators can be used to estimate the loss caused by attrition, support decisions on targeted investments to promote health equity and gender equality and generate evidence on the need and utilization of future investments in health workforce education.

**Modules 5, 6, and 7 – Labour force** - Each of these three modules present a set of indicators related to a specific dimension of the health labour market. Collectively, they provide an overview of the health labour market flows, taking into consideration employment characteristics, working conditions as well as health workforce expenditures and remunerations, specifically:

- Health labour market flows (Module 5) measures entries to and exits from the labour market, with particular focus on international mobility. A better understanding of the magnitude and drivers of emigration supports formulating retention policies.
- Employment characteristics and working conditions (Module 6) supports the progressive implementation and review of causal and descriptive labour market analysis.
- Health workforce spending and remuneration (Module 7) maps out expenditures on the health workforce and remunerations in the health sector, and information on policies providing financial and non-financial incentives to students and health workers. Such data support strategies and polices for planning and financing that aim to improve performance.

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5 Minimum Data Set for Health Workforce Registry. WHO. 2015
http://www.who.int/hrh/statistics/minimun_data_set/en/
Modules 8, 9 and 10 – Serving population needs - Each of these modules present a set of indicators reflecting the capacity of the health system to respond to population health needs, specifically:

- Skill mix composition for models of care (Module 8) provides an overview of the available skill mix. This allows for better allocation of skills and competencies to ensure responsiveness to population needs and adaptation to technical progress.
- Performance and productivity (Module 9) measures each of the health workforce performance dimensions (availability productivity, competencies and quality responsiveness). More
advanced methods will need to be developed over time to interrelate these concepts and account for other factors influencing health worker performance.

- Health workforce governance, information systems and planning (Module 10) provides an overview of the governance mechanisms, HRH information systems, data management and their use.

The combination of different indicators across modules can help respond to specific policy questions as shown in Figure 3.

Figure 3: Modules and Indicators Relevant to a Policy Question on HRH Sustainability

WHO minimum dataset for health workforce registry - a key source of data for NHWA implementation:

WHO’s minimum dataset (MDS) for health workforce registry is the foundation of the NHWA. The indicators of Module 1 of the NHWA are constructed according to the data elements defined in the MDS. The MDS-based Health Workforce Registry is a standard-based tool that can be utilized to develop or modify an existing health workforce information system to count and document all health workers within national and subnational contexts. A functional electronic health workforce registry
can be designed to enable health workforce data interoperability. Through this approach, rapid aggregation and display of health workforce data for decision-making can be fully realized.

Four categories of data are recommended for the development of health workforce registry to guide national NHWA implementation:

- Teaching and training institutions (Health workforce production and training data)
- Health professionals’ registration and regulatory bodies (Health workforce licensing, re-licensing, and certification data)
- Health workforce employers (Nominal roll or payroll data of active employees)
- Retirement administration (Data on inactive health workforce)

The implementation of a Health Workforce Registry generally occurs in three phases:

- **Phase 1. Planning**: the phase that includes all stakeholders that are data providers to agree on financing, discuss data sharing and security issues.
- **Phase 2. Design and testing**: when a unique identification is done for all data elements, reports to be produced established, and agreements are made on the location to operate the registry. In addition, during this phase, the registry is tested and validated.
- **Phase 3. Full scale implementation**: Focuses on building the capacity needed for implementation through staff training and ensuring that appropriate policies are in place.

The health workforce registry has been initiated in a number of countries such as Maldives, Nepal, Nigeria, Rwanda, Guatemala and Timor-Leste, among others. Since countries are at various stages of health systems development, the overall time required to implement a national health workforce registry varies between 1 and 3 years.

**Data sources for implementation of NHWA:**

NHWA implementation requires the consolidation of health workforce data from various national information systems, that can span multiple ministries, health professional bodies, training institutions, and the private sector. Mapping data sources across the NHWA modules and indicators is critical for planning and implementation. Participants spent a significant amount of time discussing and mapping out various data sources to inform NHWA indicators. Using a simple data compatibility matrix (Annex 3) helps to analyze the sources of data as well as to identify data gaps. Figure 4 presents the data sources (inside and outside of the health sector) that may be required for NHWA, keeping in mind that differences exist from one country setting to another.

**NHWA reporting:**

NHWA reporting to the Global Health Observatory is about aggregating/consolidating existing data and information from different sources. Countries would need to build on existing national reporting processes and mechanisms. A central coordination mechanism may be needed to aggregate/consolidate existing data.
III. **Country examples of NHWA alignment:**

The workshop included practical examples from three countries to provide insight on country readiness and alignment for NHWA implementation. These examples were chosen to highlight advanced implementation to inspire long-term goals (Hungary) and regional implementation to better match participants’ settings and resources (Mozambique and Malawi).

**The case of Hungary:**

The case of Hungary represents a country example with advanced NHWA alignment. It was chosen to provide participants with long-term goals, and examples of how NHWA reporting might be reached.

The establishment of the national HRH Information System was commissioned in 2009 and 2010 by amendments to the Act on Healthcare. The law regulated the flow of HRH information towards an HRH observatory based in the national Health Regulation and Training Centre. The Centre’s Department of Migration and Human Resources Monitoring is in charge of collecting and analysing HRH data as well as modelling and forecasting the impact of government HRH measures. The Centre issues regular reports on migration and other HRH related data such as wages and staffing numbers at healthcare institutions around the country. The quality of the data collected, as well as the scope and the depth of these reports, have been improved year by year since 2009.

Currently all key national HRH data owners submit their data to this observatory. This includes National Education Office, education institutions, National Statistical Office, National Pharmaceutical...
Office, the Ministry of Economy, National Health Insurance Fund, the professional chambers as well as the National Public Health and Medical Officer Service. A special nation-wide program in 2012-2015 reached most health workers in the country to verify their data in the database. Since then health workers have been actively invited to regularly update their own data in the Observatory.

**Utilization of the HRH database:**

The database of the Observatory can now filter the anonymized data of health workers by any major data category, such as age, gender, profession, work characteristics, geographic location, etc. With the support of the HRH Information System, key policy issues have been successfully tackled since 2009. The monitoring of migration has led to the identification of intervention policies concerning the most mobile medical professionals and age groups. Due to these measures, emigration of doctors from Hungary has significantly decreased. The new system can also provide management information for the following policy questions:

- Emigration management. Interventions by medical scholarship system in specialist training – based on migration statistics
- Salary band system – for a clear career plan and the better motivation of HRH
- Wage increases in entire health sector - wage distribution modelling
- Training needs - number of different level nurses required
- Training capacity requirements for specialist doctor training in regional distribution
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Most of the data categories requested by the NHWA are available in Hungary. However, not all are currently integrated in the Observatory.

Measures that need to be taken to implement NHWA include:

- Firm policy level support for evidence based HRH planning.
- Demonstrate the effectiveness of the NHWA based planning.
- Directive for consolidating all NHWA data at one Focal Point.
- Start new data collection as necessary.
- Ensure data confidentiality to respond to the new EU data protection regulations.
- Increase capacity of current observatory by expanding the human resources, technology, and processes that run it, including methodological amendments such as implementation of survey based data collections.

**Indicative action to prepare a roadmap and complete NHWA reporting**

The case of Mozambique:

The HRH Observatory, launched in 2 November 2011, includes information on all professional cadres for all public sector facilities. Three line ministries contribute data to the observatory: Ministry of State Administration and Civil Service, Ministry of Economy and Finance, and Ministry of Health. The latter also provides data on pre- and in-service training as well as on health facilities. Information from the Observatory supports planning and management processes.

Mapping of the Observatory data elements vis-à-vis NHWA modules demonstrated availability of 42 out of the 90 indicators (47%). An in-depth analysis of selected NHWA modules (1, 2, 7, and 8) demonstrated availability of:

- Nine out of 12 indicators of Module 1 and for all cadres of the public sector;
- Eight out of 9 indicators of Module 2 on education covering all 16 Ministry of Health training institutions of mid-level cadres;
- Four out of 5 indicators of Module 7 for the public sector health workforce; and
Five out of 11 indicators of Module 8 available for the public sector. Issues relative to advanced nursing role, appropriate skill mix, availability of human resource capacity to implement the International Health Regulations, and field epidemiology training programmes are addressed but in a limited manner.

**Measures that need to be taken to implement NHWA include:**

- Regulatory frameworks would need to be reinforced for adequate private sector oversight.
- Coordination with the Ministry of Education and with the Ministry of Science and Technology to put in place accreditation mechanisms particularly for private training institutions.
- Coordination with the Ministry of Foreign Affairs, Ministry of Labour, and health associations to collect data on migration of health workers.

**Indicative action to prepare a roadmap and complete NHWA reporting:**

- Inclusion of indicators for which data is currently available as part of the regular monitoring of the Ministry of Health.
- Reducing gaps in data under the Ministry of Health’s governance.
- Advocacy meetings with all concerned stakeholders who own data to ensure data sharing.

**The case of Malawi:**

Malawi’s human resource information system uses the iHRIS software with 2 of the 5 modules currently operational. It covers all Ministry of Health facilities at central, district and community levels but excludes information on the Christian Health Association of Malawi (CHAM) and other private facilities. The minimum data set which is part of the staff returns registry system – a Government-wide civil service human resource reporting system – was migrated into iHRIS and is reported on a monthly basis. Malawi also has an HRH Observatory that is not fully operational. A range of actors contribute health workforce data at national and sub-national levels.

An assessment of existing data across 4 selected NHWA modules (1, 2, 5 and 10) showed availability of:

- Nine out of 12 indicators of Module 1 from IHRIS and the Observatory.
- Three out of 9 indicators of Module 2 on education from IHRIS Train.
- Four out of 10 indicators of Module 5 on health labour market flows.
- Seven out of 10 indicators of Module 10 on health workforce governance, information systems and planning.

**Measures that need to be taken to implement NHWA include:**

- Making available guidance for stakeholders to report on NHWA.
- Ministry of Health staff orientation and capacity building to set up a data collection platform and reporting processes.
- Mapping of HRH policy questions and objectives of existing HRH information systems in relation to NHWA modules and indicators.
- Assessing implications of imminent decentralization of HR functions in the health sector on monitoring, reporting structures and HR functions of the Ministry of Health.

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6 https://www.ihris.org/
Indicative action to prepare a roadmap and complete NHWA reporting:

- Strengthen existing HRH information systems to ensure data completeness to respond to current policy questions.
- Set up functionality of NHWA based reporting system and interoperability with existing HRH information systems.
- Link HRH reporting to regional reporting platforms (SADC).
- Reporting to the Global Health Observatory.

IV. Critical questions put forward by participants and discussed during the consultation:

1. How do we define “health workers”?

   Early on in the consultation, participants identified the need to clearly define the meaning of the term “health worker” and how this is critical for both country and global specific efforts to comprehensively account for the health workforce through the NHWA. For example, many countries rely heavily on the work of community health workers or cadres, such as clinical officers, to deliver key services. While these individuals constitute a critical connection to health services in the communities they serve, they fail to fit the standardized classifications and are infrequently accounted for in HRH data. This limits comprehensive understanding of health workforce scenarios in country. Moving forward with NHWA implementation, countries will have to ensure identification of key cadres that should be captured in the NHWA that will enable true representation of health workforce situations in country.

   The health workforce is defined as “all people engaged in actions whose primary intent is to enhance health”. Per definition of NHWA and outlined in the indicators, this includes workers that may be captured as part of the social sector, including social workers and others who counsel and provide other supportive care. Module 1 of NHWA expresses health worker density based on the number of “active” health workers per 1000 population, with “active health workers” defined as those who provide services for patients and communities, i.e. “practising health professionals”. Without inclusion of all “active” health workers in a single location, it would be difficult for ministries of health to provide an accurate presentation of the available health workforce (stock).

   The category of practising health professionals is one of three categories presented in the NHWA Handbook to reflect the activity level. The other two being:

   - Professionally active health workers: practising health workers and other health professionals whose qualification is a prerequisite for executing a job (e.g. in education, research, public administration).
   - Health workers licensed to practise: practising and other (non-practising) health workers who are registered and entitled to practise as health care professionals.

   Another issue that was put forward is the ability to do across country comparisons of the health workforce size and characteristics given that there are differences in how countries categorise certain

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8 Based on definitions of the OECD/Eurostat/WHO-Europe Joint Questionnaire on Non-Monetary Health Care Statistics
types of health workers. The ILO International Standards of Classification of Occupations (ISCO-08)\(^9\) provides a system for classifying and aggregating occupational information based on the skill level and skill specialization required for jobs. This facilitates harmonization for the purpose of international reporting and global comparison. The ISCO system can be used as a model for the development of national classifications of occupations or can be used directly by countries to map and classify the existing workforce.

2. How to access data from other sectors?

It was emphasized that multisectoral collaboration is key for the process. Ministries of health would need to build appropriate institutional arrangements that bring together the span of stakeholders, providing the relevant data to enable an effective implementation of the NHWA at various levels of the system.

A number of participating countries have demonstrated effective collaboration between sectors; for example:

- **Ghana:** The President of Ghana has directed the Ministry of Employment and Ministry of Health to hire 20,000 Community Health Workers as part of his commitment towards UHC. The Ministry of Health has identified gaps and vacancies; the Ministry of Employment hired and employed health personnel; and the Ministry of Education has established special colleges for advanced skills development. The supervision of CHW remains the Ministry of Health’s responsibility.

- **Nigeria:** There is a well-established intersectoral collaboration between the Ministry of Health and the Ministry of Labour. While the Ministry of Health provides incentives for rural service, it is the Ministry of Labour that determines what is considered as rural or urban.

- Some countries have opted to register all students to better understand their mobility. This requires building the effective collaboration between ministries of health and ministries of education.

For situations in which formal intersectoral collaboration is non-existent, there is a need for establishing agreements between ministries to share data.

3. How to ensure appropriate data capacities within and beyond the health sector?

Participants raised concerns in relation to capacity of data providers, within the health sector and beyond, to collect, analyse and report on required data, particularly in relation to labour market flows. There will be a need for data specialists and data collectors. In certain settings, these capacities may be difficult to find or the public sector may not be able to compete in terms of salaries. Having the appropriate capacities is essential, as data needs to be structured correctly given that there is third party data, e.g. professional associations and insurance provider registries.

The experience from the implementation of the Minimum Data Set for health workforce registry shows that one dedicated Full Time Equivalent (FTE) is needed to lead. In Nigeria, 4 people have been assigned to the National Health Workforce Registry, and in Timor-Leste, 4 people have been re-assigned from the statistics unit. In Mozambique, the Observatory initially started with 3-4 people and currently, there are 3 additional people (all supported by external funds).

Internationally, observatories start with one person. In some cases, the ministries of health second additional staff. In terms of sustainability, 3 people are needed, depending on the context: 1 data manager, 1 data analytic and 1 person who acts as liaison with other actors.

4. **How to access data from the private sector?**

Country participants noted the importance of being able to capture the private sector health workforce in order to better understand the entirety of a country’s workforce and HRH labour market dynamics. Although, countries noted challenges in engaging with the private sector to capture this data and shared experiences:

- **Mozambique**: Data on private providers is collected through information on taxes as well as through an organized census of private clinics.
- **Namibia**: All practitioners must register with the professional council to receive a registration number that allows them to access their payments. Private sector providers are required to register with the ministry of health as a requirement to collect health insurance or Government sponsored payment plans.
- **Nigeria**: Private nurses are mandated to register by law.

Other issues of concern in relation to the private sector:

- Dual practice is prominent in some countries, affecting the accuracy of numbers of private sector providers. Some countries have approached this issue; for example, in Mozambique, the tax payer number is the unique identifier, therefore ensuring that there is no double counting.
- The private sector is not homogenous. There are private for profit, private not for profit and philanthropic providers. There are also some foreign workers who cross borders to work in a different country only for a certain period or commute daily to work in another country.

5. **How to deal with data sharing and confidentiality?**

Mechanisms can be put in place to ensure that data confidentiality is maintained. In Mozambique, the HRIS includes personnel data and the database is integrated, centralized and used for payments. Mozambique has set up several levels of access to ensure security. The identity of health workers and their salaries are not accessible. Only aggregate data is published on the website.

V. **Meeting conclusions and outcomes:**

1. NHWA was seen as relevant and important for participating countries. There was a consensus that coordination of its implementation must be led by ministries of Health and include line ministries and key stakeholders. Legal instruments may be necessary to mandate the ministry of health to undertake this function and influence effective participation of all stakeholders.
2. Countries shared key lessons from their experiences in strengthening their health workforce registries/observatories or HRIS. These include the importance of political will, collaboration with other sectors for data sharing, and the need for participants to realize that they have enough data to support evidence-based decision making.
3. There is a need to develop resources to help countries advocate and demonstrate the utility of NHWAs to various stakeholders.
4. All countries have outlined the set of indicative actions for the next 6 months to one year necessary for progressive implementation and reporting of NHWA (Annex 1). Country reporting via the Global Health Observatory is expected at the end of 2017.
5. Participants agreed about the importance of staying engaged and using other global forums to discuss progress on the NHWA.
6. USAID is working with WHO in co-chairing the Health Data Collaborative (HDC) HRH Working Group to further guide country NHWA implementation.
Annex 1

Status of existing HRIS and indicative actions for NHWA implementation and reporting
Ghana

Background:

Ghana recognized the need to develop comprehensive and accessible workforce data when member countries of West Africa Health Organization (WAHO) drafted a convention in 2009 to harmonize the HRH database in the ECOWAS sub-region where iHRIS10 was adopted. There was consensus among stakeholders that the health sector, both public and private, needed a common platform for capturing health workforce data. This led to the adoption and piloting of IHRIS in the Northern Region, and the Tamale Teaching Hospital. The pilot was successfully implemented and a mirror server was purchased, although it has yet to be installed or configured. To date, data has been mainly captured from the Christian Health Association of Ghana (representing 13% of the health workforce), and the Ghana Health Service (61% of the health workforce). The remaining data to be captured comes from 4 public hospitals (10%); quasi-government facilities, which are public health facilities that are not governed by the ministry of health (7%); and private for profit health facilities (9%).

The iHRIS platform in Ghana supports service delivery organization by allowing planning, tracking and managing health workers. IHRIS also allows managers to better map and deploy health staff. One of the current weaknesses is that iHRIS, as currently configured, it cannot be used offline. One of the lessons learned from the rollout of the iHRIS system in Ghana is that more capacity to use and manage the system needs to be established so local staff can effectively manipulate and manage the system to meet their own needs. As such, a strong recommendation that came out of this experience is to redesign the application so that it can be used both on and offline. The second recommendation is to build local capacity of managers and information technology staff to use and manage the system.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Sensitization of local stakeholders on National Health Workforce Accounts (NHWAs) targeting heads of the health system working groups, Ministry of Health Education, Ministry of Local Government, and Ministry of Finance, as well as Public Services Commission, Controller and Accountant Generals Department, MoELR, and FWG (responsibility: Ministry of Health).
- Establishing and defining the terms of reference for a technical working group (TWG) and a steering committee for NHWA. Broadly speaking, the technical working group will assume responsibility for direct activity implementation, while the steering committee will provide broader strategic guidance (responsibility: Human resource development Department).
- With broad stakeholder involvement, the first task of the TWG will be to review the IHRIS in relation to the NHWA and assess gaps and means of responding to NHWA. The TWG will work systematically through the different modules such that the preparation of the first NHWA for reporting will be achieved by December 2017.

10 A suite of tools consisting of IHRIS Manage (human resource management system); IHRIS Qualify (training and licensure tracking database); and IHRIS Plan (workforce planning and modelling system).
11 The total health workforce is reported at 124,800 health workers.
Kenya

Background:

Between 2009 and 2016 the Ministry of Health (MOH) Kenya achieved many significant milestones in the implementation of iHRIS. During this time, USAID-funded Capacity Plus and Capacity Bridge Projects supported the MOH in the implementation of iHRIS. The MOH in Kenya was able to establish the Basic iHRIS in all 47 counties including the national government. As of September 2016, 57,373 public health workers have been entered and tracked in iHRIS. The Advanced IHRIS implementation was taken forward in 32 counties. 596 officers were trained on advanced iHRIS and 89 on basic iHRIS and HRH data clean-up. By end of 2014 and in line with the HRH devolution strategy, the MOH was able to scan and upload into iHRIS more than 50,000 personnel files. To improve operations and increase sustainability, the MOH developed an HRIS and record management user guideline. HRH information dashboards were developed and disseminated to 17 counties. The MOH developed a standard HRH data collection template based on the WHO’s Minimum Data Set which allowed for collecting and uploading data into IHRIS including training data that was uploaded in the e-files of health workers. The MOH can now establish interoperability between iHRIS & DHIS2 that will allow HRH data to be more analysed and linked with service delivery data to identify areas where more workforce resources need to be deployed and managed.

Currently, the national MOH and 16 counties have produced HRH information dashboards, and there are more than 50 iHRIS champions countrywide to provide iHRIS knowledge sharing and support. Some counties have formed HRH/iHRIS TWGs to provide a platform for iHRIS knowledge sharing.

The rollout of iHRIS in Kenya allows national and county governments access to accurate and real time HRH data to inform recruitment, promotions and transfer decisions, budgeting and succession planning. At the county level, the MOH used a peer-to-peer learning approach where staff from more experienced counties provided support and mentoring to less experienced counties to use the system and data for decision making. One of the limitations of iHRIS is that it runs parallel to the Integrated Payroll and Personnel Database (IPPD).

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Reporting back to the HRH Interagency Coordination Committee (HRH-ICC) about the key messages emerging from the WHO/USAID Consultation on NHWA, as well as possible next steps for Kenya (responsibility - Head of Human Resources Management and Development)
- Form an HRH Observatory technical working group whereby the establishment and management of the TWG is the main responsibly of the HRH inter-agency coordination committee. Part of this will be to assign someone to collect the data and report HRH data, and ensure continued use of data at national and county level.
Liberia

Background:

The current HRIS data is based on a health worker pay survey which was undertaken by the Governance and Economic Management Support Project (GEMS) in 2012. Approximately 12,000 records were imported into the system. As of December 2015, 8,495 out of the 12,000 records have coded positions and have been updated. Regular updates are undertaken upon receipt of personnel forms at central level. The GEMS survey covered only public sector facilities (hospitals, health centres and clinics). Data fields cover health worker name, contact information, job, position, education and training, facility/location, and work history.

In 2016, the MOHSW organized a Training of Trainers workshop to build capacity at the Central Ministry of Health to use the database and analyse customized reports. The Central MOHSW HRIS team conducted trainings for national human resources officers (HROs) and county data managers. Now all 18 national HROs are using the database. A communication and coordination platform has been established to enable the Ministry of Health to send out SMS messages to frontline health workers. The system is managed directly by the Health Information System unit at the MOHSW, with the Human resources for Health unit being one of the major users of the data. Standard reports are generated based on the needs of various units of the MOHSW. As of now, no stakeholders outside the MOHSW are contributing data to HRIS. Internet connectivity is still a major challenge, as is the capacity of human resource personnel at the county level.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Development and distribution of a questionnaire to determine the role of potential stakeholders and conduct a partner mapping exercise to inform stakeholder meetings (responsibility: Human Resource Department).
- Organization of a technical discussion regarding NHWA data collection in the context of ongoing work (responsibility: M&E Unit)
- Organization of two stakeholder meetings: First meeting to draft a NHWA implementation work plan with timelines (responsibility: Director of Human Resource Department (HRDD). Resources for implementation will need to be mobilized with support from the Health Financing Unit, and the second meeting will aim to review data collection and get feedback on the process.
- Beginning September 2017, NHWA data is reported in the MOHSW quarterly report (responsibility: HRDD).
Malawi

Background:

The HRIS in Malawi is based on IHRIS model. Two of the 5 IHRIS modules are currently operational; iHRIS Manage and iHRIS Train. iHRIS Manage has over 15 reports pre-designed to give specific HR information such as current staff report, staff retirements and vacancy analysis. Current staff and Retirement Information can be disaggregated by facility, cadre, gender, age, position, date of first appointment, retirement year among other filters. The Attrition Report is currently under construction and will be operational soon. iHRIS Train is currently being developed to help track pre-service and in-service training for all MOH employees. The data captured from iHRIS Train will be linked to iHRIS Manage. The iHRIS system contains information for all cadres working in the MOH, including support staff. It covers all MOH facilities at central, district and community level. It does not include CHAM sites and other private facilities.

Malawi has an HRH Observatory website but it is not fully operational. The initial website had security problems emanating from the version of the development software used to design the website. The website was redesigned and the next step is to upload data to the new website. The last observatory report is from 2010.

Malawi has a staff returns registry system whose minimum data set was also migrated into IHRIS and is reported on monthly basis. Staff returns are part of the Government of Malawi wide civil service HR reporting. The MOH needed a more robust and more versatile system aside from the staff returns that is used by the Government of Malawi.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Presentation of a costed implementation plan to an extra-ordinary HRH TWG for review and endorsement and formation of NHWA Steering Committee. It is the hope that the Steering Committee will be able to identify NHWA focal persons from all relevant institutions.
- Data collection will begin and the steering committee will review and adapt data management and processing systems to align with the goals of the NHWA.
- By November 2017, NHWA reporting can take place as part of the annual planning cycle.
Mozambique

Background:
Mozambique established an HRIS in 1998, and the HRH Observatory was launched on 2 November 2011. Data in the HRIS/registry includes information on all professional cadres for all public sector facilities (location, age group, contractual type, sex and health facility type); a registry for CHWs is in progress. Three line ministries contribute data to the HRIS system: Ministry of State Administration and Civil Service, Ministry of Economy and Finance, and the MOH. Within the MOH, the Human Resource Directorate (HRD) provides profiles of the health workforce, age, place of employment as well as information on pre-and in-service training. The Planning Directorate contributes information on health facilities. The integration of HRIS and HMIS is planned for the future. The HRIS has been used to assist the strategic planning process in Mozambique. As an example, it was used for the final evaluation of the HRH Strategic Plan 2008-2015 and situation analysis of the HRH Strategic Plan 2016-2025, as well as the development of the HRH component of the Health Sector Strategic Plan 2014-2019. Data is also used as a management tool to guide staff deployment using strategic Information triangulating HAART services with skilled key personnel on GIS maps. It provides prompts to management for promotion, retirement, and definitive nomination as well as mobility trends.

The HRH Observatory is governed by a Technical Coordinating Committee with representatives from HRD, National Health Institute (NHI) and WHO. It is linked to a network comprised of national directorates, line ministries, national institute of statistics, training institutions, professional associations and councils, civil society and development partners. The HRH Observatory promotes policy dialogue through annual conferences. The HRIS and HRH Observatory support the production of HRD annual report, annual statistics book as well as quarterly report to the Government.

The current systems allow for involvement of province-based MOH partners with a stake in HRH data, monthly feedback on HRH data quality, and provides an online forum to connect HR managers to share challenges and solutions. One of the limitations is that only public sector data is available, with the exception of limited private education data. The Mozambique system does not capture individual productivity date, and costing data is limited.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Debriefing of the HR directorate, sensitization of MOH directorates, and harmonization of information within HRD in collaboration with HR technical working group and development partners (responsibility: Head of planning in HRD).
- After sensitization of MOH Directorates, and with support from the HRH Observatory team, identification of priority indicators along with the data elements for NHWA reporting.
- Review of regulatory mechanisms to obtain data from other sectors (responsibility: HRD).
- Design and regulation of data flow, and identification of additional resources needed for the implementation of NHWA (responsibility: HRD).
- Adaptation of HRIS for data integration and the institutionalization of NHWA.
- Data collection and reporting will begin in November 2017.
Namibia

Background:

The USAID-funded Capacity Project assisted with the initial attempts to establish the HRH observatory in Namibia. As part of the process, the Ministry of Health and Social Services (MOHSS) engaged with relevant stakeholders and agreed on a number of HRH indicators, such as the number of health professionals registered in the health professions council per occupation and sector (public/private); number of health professionals employed in public and private health facilities; number of established posts, filled positions and vacancies; mobility and attritions; number of students in training by year of study, drop outs, and graduates by occupations. The resulting Human Resource Information Management System (HRIMS) developed by the Office of the Prime Minister (OPM) was rolled out. It links the Ministry to its 13 Regional HRH Offices as well as to the OPM.

This HRH data platform has provided the MOH with basic HRH data for Planning and decision making and established linkages with regional offices and OPM. The MOH needs to continue to harmonize this database with other national systems that are sources for HRH data, and increase the broadband capacity of the system.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Debriefing of in country stakeholders on NHWA. Part of this process will be to conduct a sensitization workshop.
- Identification of HR staff to coordinate the establishment and implementation of NHWA (responsibility: MOHSS).
- Organization of an HRH stakeholder working group which will constitute all identified potential HRH data sources and agreement on terms of reference.
- Beginning of process of adapting NHWA modules and indicators (responsibility: working group). The expectation is that data collection against these indicators will begin in July 2017.
- The process for the development of the HRH Strategic Plan will be launched in October 2017 with participation of relevant stakeholders. Part of that strategy will include the development of a NHWA database and a training plan to rollout training to all staff on the use of the NHWA database.
Nigeria

Background:
The process of establishing Nigeria Health Workforce Registry started in January 2011, after the Minister of Health tasked a team to define a minimum data set for the registry. The data set research was jointly conducted by the Federal Government (FMOH) with technical leadership by the World Health Organization (WHO), and in collaboration with US Centres for Disease Control and Prevention (CDC). With the support of the Capacity Plus project, several Professional Health Regulatory Agencies such as the Medical and Dental Council of Nigeria, Nursing and Midwifery Council of Nigeria, Pharmacists Council of Nigeria, Community Health Practitioner Registration Board of Nigeria, Medical Laboratory Science Council of Nigeria have electronic health worker’s database (HRH-IS). At the State level, a number of USAID projects (PATHS2, PRRINN-MNCH and Capacity Plus), provided support to a few States to establish a web-based HRHIS with over 30,000 employee records already captured in the system. The FMOH, supported by WHO and CDC/PEPFAR, has since initiated activities towards the establishment of the National Health Workforce Registry (NHWFR).

In 2014, the Minister for Health established a steering committee to guide the implementation of the NHWFR. A NHWFR focal person and IT expert were appointed to coordinate and provide technical support to States in the implementation of the registry within the HRH branch. Consultants were engaged to develop and deploy a harmonized model and functional NHWFR software with existing data packages from five health regulatory bodies. The NHWFR operational guidelines were developed by a technical working group and approved at the 57th National Council on Health meeting for full implementation in all the 36 States of Nigeria and the Federal Capital Territory (FCT). Agencies contributing data include the Federal Ministries of Health, Defence, and Labour and Productivity; State Ministries of Health; regulatory bodies; National Bureaus of Statistics; the private sector; health training institutions, as well as faith-based organizations and NGOs. This data allows stakeholders to have a holistic picture of the Nigerian health workforce, their location, and skill mix. It also provides solid information to rationalize deployment, monitor pre-service and continuing education to improve HRH planning and forecasting. The challenge going forward is to ensure that all states have the capacity to utilize the NHWFR.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Reactivation of the Human Resources for Health Forum (responsibility: Director DHPRS of FMOH). A critical part of this will be to constitute and develop terms of reference for a technical working group NHWA (TWG).
- Organization of a national sensitization workshop on NHWA in 2017 (responsibility: TWG).
- Revision and production of operational guidelines for submission of data to the NHWFR in February 2017 (responsibility: the technical working group).
- Operationalization of iHRIS and link it to DHIS2.0 (responsibility: Director DHPRS of FMOH, with involvement of the TWG).
- Preparation of a memo to the National Council on Health mandating stakeholders to regularly submit NHWA data to the platform (responsibility: HRH focal person at the FMOH).
- Undertake a review exercise on data sharing agreement between all levels of national health system (responsibility: Director DHPRS of FMOH). The TWG, DHPRS, and NHMIS will ensure that States have their own data collection platform (iHRIS).
- Conduct a mapping exercise, in March 2017, to review data from existing data sources, financial management system and regulatory agencies (responsibility: TWG and HRH focal points).
Tanzania

Background:

Tanzania implemented a web-based Human Resources for Health Information System (HRHIS) in 2010 which covers both public and private health facilities and captures 32 data elements. Data is collected at the health facility/institution level using specific forms filled by staff and approved by heads of facilities or administrators. Filled forms are then transferred to the Regional or District Health Secretaries – the HRHIS focal person – for data entry, data analysis and reporting as required. Only authorized staff in districts, regions and the Ministry have access to online data. However, summary reports are shared with all stakeholders.

The MOH uses this data to guide HRH policy decisions, plans and directives. HRHIS data is fundamental to the preparation of the Annual Health Statistical Abstract and HRH Country profiles. It is also used within regions and districts to drive recruitment strategies and to support HRH redistribution and retention plans, as well as produce HRH quarterly reports.

The system was designed and created by local experts from the University of Dar es Salaam, which means that local expertise is available to support and maintain the system on the longer run. The system’s capacity to capture public and private sector data is a strength, albeit data collection from the private sector remains a challenge.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Briefing of the Ministry of Health, Director of Human Resource, the Director of Policy and Planning and senior management on NHWA implementation and reporting. The aim is for the Ministry of Health to dispatch an official written communication to all line ministries and other relevant stakeholders and donors to inform them about NHWA and invite them to a sensitization workshop to be organized in January 2017.
- Conduct a mapping exercise of existing health workforce data and data sources as well as a gap analysis to support the workshop discussions.
- Communication of gaps identified during the workshop to relevant ministries in a letter sent out by the Permanent Secretary to request them to provide the needed data and highlighting the importance of improving the HRHIS.
- In collaboration with the University of Dar es Salaam, department of computing sciences further build the HRHIS by ensuring that data elements related to the NHWA indicators are captured by the system and reported on. It is foreseen that NHWA reporting can take place by October 2017.
- Afterwards the MOH in collaboration with the University of Dar es Salaam will need to further work on strengthening the institutional arrangements with the other ministries and potential institutions providing data for data collection, validation and reporting.
Zambia

Background:

The human resources information system was developed in 2013 with partner support from the Zambian Integrated Systems Strengthening Program (ZISSP), a USAID-funded bilateral project. The concept was elaborated in 2012 following wide stakeholder consultations. The HRIS system uses basic Microsoft Access which was designed to run on an average personal computer or in a networked environment. It was initially piloted in five institutions before being rolled out, over a two-year period, to all tertiary (2nd and 3rd) level Hospitals and Provincial Medical Offices as well as the MOH Headquarters in 2014. The current system is not web-based, however, once fully operationalized; the web-based HRIS will have access rights per level of care. The presence of internal and external auditors, regulatory bodies, cooperating partners and other stakeholders, provide checks and balances through structured meetings such as those of the Sector Advisory Group, performance assessment and planning meetings.

With this system, facilities and offices are able to produce a wide range of HR reports. Specifically, the MOH can produce annual performance reports for the national planning launches and quarterly updates for policy and planning purpose as well as being able to respond to parliamentary queries within 24 hours. The system is supported by qualified human resource management officers in provinces, districts and tertiary hospitals.

The system has some drawbacks: it is not web-based, it does not have linkages with other data systems, and is not user friendly. In addition, there is a heavy reliance on payroll data, which may not reflect the actual situation on the ground, and does not account for the private sector. In the future, the system will be migrated from Access to a more robust web-based system that is centrally administered while allowing for data updates to be immediately available everywhere for reporting. It is also foreseen that the system will link the entire health sector, i.e. regulatory bodies and government and private health facilities.

Actions towards a roadmap on NHWA implementation and reporting:

Main elements of the proposed action plan:

- Reporting the outcome of the WHO/USAID consultation to the management and to relevant technical working groups (responsibility: HRH and M&E). The aim is to advocate and create enough momentum so the permanent secretary will form and chair a NHWA steering committee.
- Organization of meetings with key stakeholders during the first quarter of 2017; first at national level, then at subnational level for Lusaka only, with participation of provincial and district medical officers as well as senior medical superintendents and medical superintendents. An HRIS concept note in line with the NHWA modules will be developed and shared with key actors.
- Revision of the HRIS standard operating procedures so they are more closely aligned with the NHWA modules. The enhanced HRIS system will be piloted in Lusaka and findings reported to key stakeholders. Thereafter, a rollout plan will be developed and costed.
Annex 2

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