National Health Workforce Accounts
Case Study Series | March 2021

Building an Enabling Environment for Strengthening Health Workforce Data and Decision Making in Ethiopia

A Call to Action: Initiatives, Policies, and Plans

In recent years, Ethiopia's health system has greatly improved its ability to reach people at the last mile, resulting in a 67% drop in under-five mortality, 69% decrease in maternal mortality, and a higher contraceptive prevalence rate that jumped from 3% to 42% between 1990-2014 (Health Sector Transformation Plan 2015/16-2019/20, p. 12). In addition, Ethiopia experienced a rapid decline in mother-to-child transmission of HIV and has declared a political commitment to be malaria-free by 2030. The Federal Ministry of Health (FMOH) has committed to furthering health sector achievements through its national Health Sector Transformation Plan (HSTP). Its four interrelated agendas focus on equity and quality of health care; *woreda* (district) transformation; a caring, respectful, and compassionate health workforce; and an Information Revolution. The main objective of the Information Revolution is to "…maximize the availability, accessibility, quality, and use of health information for decision making processes to positively impact the access, quality, and equity of healthcare delivery at all levels" (Information Revolution Roadmap, 2016, p. 8).

Due to this new emphasis on data, health leaders in Ethiopia have recalibrated activities to focus on health information systems strengthening by developing a common vision. This vision is that all information systems must contribute strategically to a standards-based electronic health (eHealth) architecture that will transform the health system to meet its goals. However, gaps and weaknesses in the country's existing human resource information systems (HRIS), such as a lack of complete, accurate and up to date data, fragmented data sets, and limitations in coordination and data sharing between stakeholders, may hinder momentum on achieving health outcomes. The FMOH determined National Health Workforce Accounts (NHWA) as the mechanism to address these issues with the HRIS. Using NHWA, the FMOH engaged stakeholders from across the health labor market to strengthen the HRIS and improve the availability and quality of data for health workforce decision making.

This case study is intended for all stakeholders endeavoring to implement NHWA, from government institutions to implementing partners of health programs and donor organizations. Perspectives from the Ethiopian experience can help inform other countries attempting to engage diverse stakeholders to develop a strong HRIS, both of which are essential for institutionalizing and sustaining NHWA.

Joint NHWA Collaboration with the FMOH, HRH2030, and WHO

In late 2018, following a request from the FMOH to the United States Agency for International Development (USAID), USAID's Human Resources for Health in 2030 Program (HRH2030) began collaborating with the World Health Organization (WHO) to support the FMOH's Human Resource Development Directorate (HRDD) in implementing NHWA. The initial steps by Representatives from WHO headquarters, the Africa Regional Office, and the Ethiopia Country Office, along with the HRDD and HRH2030 focused on building institutional capacity to conceptualize and operationalize NHWA. These efforts included supporting NHWA focal points at the HRDD to train the NHWA

Technical Working Group (TWG) on NHWA, orient high-level stakeholders, and provide mentorship and on the job coaching to the HRDD through embedded technical advisors.

Health Workforce Priorities in Ethiopia

Improving the development and management of the health workforce is a designated initiative within the HSTP, one that includes several clearly noted priorities that require the availability of quality data from stakeholders across the health labor market as well as the use of this data by these actors for decision making. National priorities include:

- Strengthening HRH regulation, planning, and partnership
- Improving health workforce education and training capacity and regulation
- Strengthening leadership, governance, and human resource management capacity and practices
- Optimizing the availability, retention, and performance of the health workforce

Further, the HSTP also delineates key guiding principles which provide for an enabling environment for NHWA in Ethiopia: country commitment, system linkage, equity, accessibility and accountability, donor alignment, results oriented and multi-sectoral engagement. In this policy context, it was clear that initiating NHWA implementation in early 2019 was an opportune moment to prioritize engaging stakeholders and strengthening the existing HRIS to improve availability and use of health workforce data, advancing the greater health systems strengthening agenda.

After conducting a stakeholder mapping and data maturity assessment in early 2019 (described in Figure 1 on the following page), the HRDD at FMOH and collaborating partners deliberately engaged a broad range of diverse stakeholders to select priority NHWA indicators. The NHWA is a modular system, tied to the three main areas of the Health Labor Market Framework: education, labor markets, the labor market, and serving population health needs. There are 10 modules in total, spread out across these three areas. See box at right. Based on priority health workforce issues and data availability the following modules were selected:

- *Module 1. Active Health Workforce Stock*: Indicators 1-01: Health worker density; and 1-02: Health worker density at subnational level
- *Module 8. Skill-mix Composition for Models of Care*: Indicator 8-01: Percentage of health workforce working in hospitals
- *Module 10. Health Workforce Information Systems*: Indicators 10-01: HRHIS for reporting on International Health Regulations; 10-03: HRHIS for reporting on skilled attendance at birth requirements; and 10-08: HRHIS for producing the geocoded location of health facilities

These initial indicators aligned with Ethiopia's national priorities and were selected as a means by which to progressively increase the availability of data to respond to health workforce priorities.

What are National Health Workforce Accounts?

Developed by the WHO and adopted by the global health community, National Health Workforce Accounts (NHWA) support countries to **progressively** (step-by-step) improve the **availability, quality**, and **use** of health workforce data to help achieve HRH and health goals for a high-performing health system.

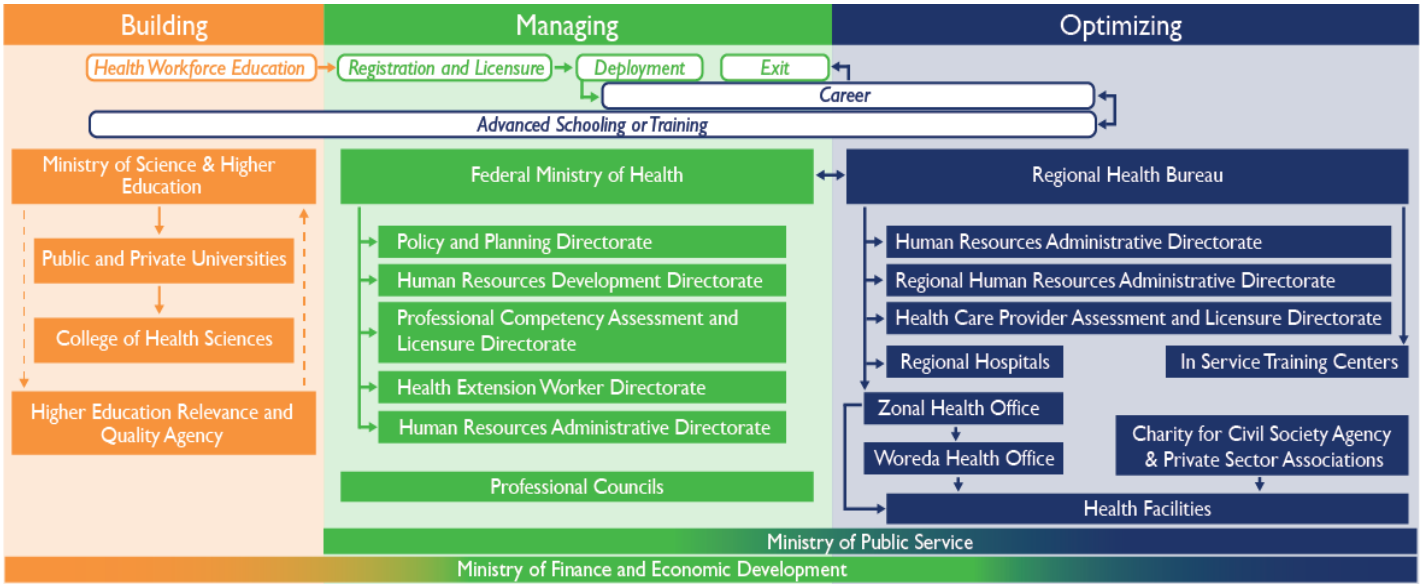
NHWA groups HRH indicators through a set of **10 modules**, categorized under the three main areas of the Health Labor Market Framework: **education, labor markets, and serving population health needs.** The modules are:

1. *Active health workforce stock*
2. *Health workforce in education*
3. *Education regulation*
4. *Education finances*
5. *Health labor market flows*
6. *Employment characteristics and working conditions*
7. *Health workforce spending and renumeration*
8. *Skill mix compositions for models of care*
9. *Performance and productivity*
10. *Health workforce governance, information systems and planning*

Through the online, DHIS2-enabled NHWA platform, country governments can routinely report and review data.

The NHWA promotes effective stakeholder relationships to define country-level data standards, governance, and interoperability, allowing **efficient multisectoral data sharing** for **real-time data analysis and decision making** sustained within a self-reliant health system.

FIGURE 1. HEALTH WORKFORCE STAKEHOLDER MAPPING IN ETHIOPIA



Foundational NHWA Implementation

NHWA implementation should be progressive—done in a stepwise fashion, based on availability and quality of data—multi-sectoral, and built on existing systems, focusing on improving availability, quality, and use of data to strengthen evidence-based decision making on the health workforce. NHWA should serve as a policy mandate and guide to coordinate multi-sectoral stakeholders around improvements of existing systems in a deliberate, progressive process.

Developing the Functional Processes for NHWA Implementation

The HRDD identified the stakeholders it wished to engage in NHWA by mapping data sources (i.e., institutional stakeholders) across the health worker lifecycle, including those responsible for building the health workforce through education; those who manage it through registration and licensure, deployment, and exit functions; and those who are ultimately responsible for optimizing the workforce through career management and advanced schooling and training (see Figure 1, above). To conduct this mapping, the HRDD and HRH2030 held stakeholder consultations to better understand each stakeholder's role in health workforce data collection, management, and use, as well as their motivations and barriers to complete these roles. These stakeholders were then mapped back to the NHWA indicators to identify which stakeholders would support collection of which data elements for NHWA, informing the list of stakeholders for the soon to be established NHWA TWG.

Establishing Foundational Structures, Plans and Frameworks

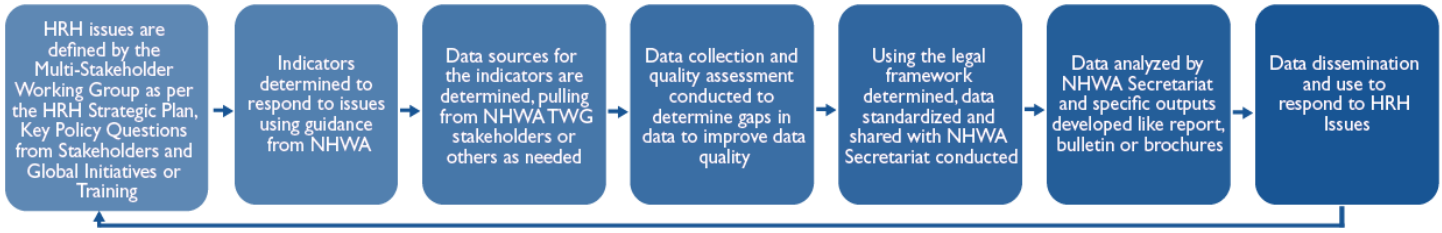
Once the stakeholders were identified, the HRDD focused on developing three foundational elements: a strong governance structure, the TWG, and an NHWA implementation plan. The proposed structure and plans were well received by stakeholders and resulted in collaborative, constructive discussions.

The Ethiopia NHWA governance structure included the Health Workforce Observatory, NHWA TWG, NHWA Secretariat, and NHWA focal point, with linkages to other internal ministerial working groups (e.g., the HRH Sub TWG and HRIS Sub TWG). Existing multi-sectoral committees, such as the Information Revolution National Advisory Committee, were also included in the governance structure as expert reference groups to be engaged as needed.

Although it was considered a new body, the TWG leveraged existing actors and groups as much as it could. Members developed and adopted formal terms of reference describing TWG goals, objectives, and functions, as well as membership and roles and responsibilities. The terms of reference were critical for these key stakeholders to understand their role as active members in the NHWA process, especially as they were already extremely willing and motivated to share relevant health workforce data. Key stakeholders that were engaged in the initial TWG meeting included internal FMOH stakeholders such as HRDD, Human Resource Administration Directorate, HITD, Health Professional Competency Assessment and Licensure Directorate; as well as stakeholders external to the FMOH, including the Ministry of Science and Higher Education, Higher Education Relevance and Quality Agency, Ministry of Public Service, and Ministry of Finance and Economic Development.

Led by the HRDD with support from HRH2030 and WHO Ethiopia, the NHWA TWG finalized an implementation plan that followed the recommended steps within the WHO global NHWA Implementation Guide. The plan identified the

FIGURE 2. CONCEPTUAL FRAMEWORK FOR COLLABORATION AND DATA SHARING BETWEEN KEY STAKEHOLDERS



output/product for each step, estimated costs, and designated an activity lead, support person, and timeline. This plan proved to be a beneficial guide for communication with all stakeholders on "how to" implement NHWA. It also allowed for adaptative management as priorities and timelines changed.

Finally, the HRDD established a conceptual framework for collaboration and sharing of data, demonstrating the process from the initial steps of identifying health workforce issues to be addressed by the TWG, through data collection and sharing, to data analysis, dissemination, and use (see Figure 2 above). This framework was intended to continue to reinforce and motivate key HRH stakeholders to understand the progressive, step-by-step nature of NHWA implementation and demonstrate how it should be responsive to national health workforce policy needs.

Capacity Building

The HRDD placed special emphasis on training and orienting key stakeholders (both internal and external to the FMOH) at the central level, regional health offices, and NHWA implementing partners. With support from HRH2030 and USAID Ethiopia, the HRDD held a high-level stakeholders' advocacy discussion to orient stakeholders to NHWA, garnering their buy-in and support. In addition, the HRDD held several orientation sessions and a formal training of the NHWA TWG to build their capacity on how to operationalize NHWA. These capacity building efforts also served as a critical activity for team building among members of the TWG, clarifying roles and responsibilities, and instilling a sense of ownership in NHWA.

DEVELOPING NHWA-READY HRIS FOR INTEGRATION INTO THE eHEALTH ARCHITECTURE

Several stakeholders within the FMOH (such as the HRDD and Health Information Technology Department [HITD]), as well as at the regional and woreda levels, noted that Ethiopia's current HRIS had significant weakness that needed to be addressed, including incomplete, inaccurate and poor-quality data; fragmentation of the HRIS at all levels of the health system; and inability of the software to be updated to reflect health system changes in the country or exchange data with other systems. While NHWA is not focused wholly on information systems or eHealth technologies, in Ethiopia, due to the current limitations of the HRIS, significant challenges existed in having access to *any* quality health workforce data.

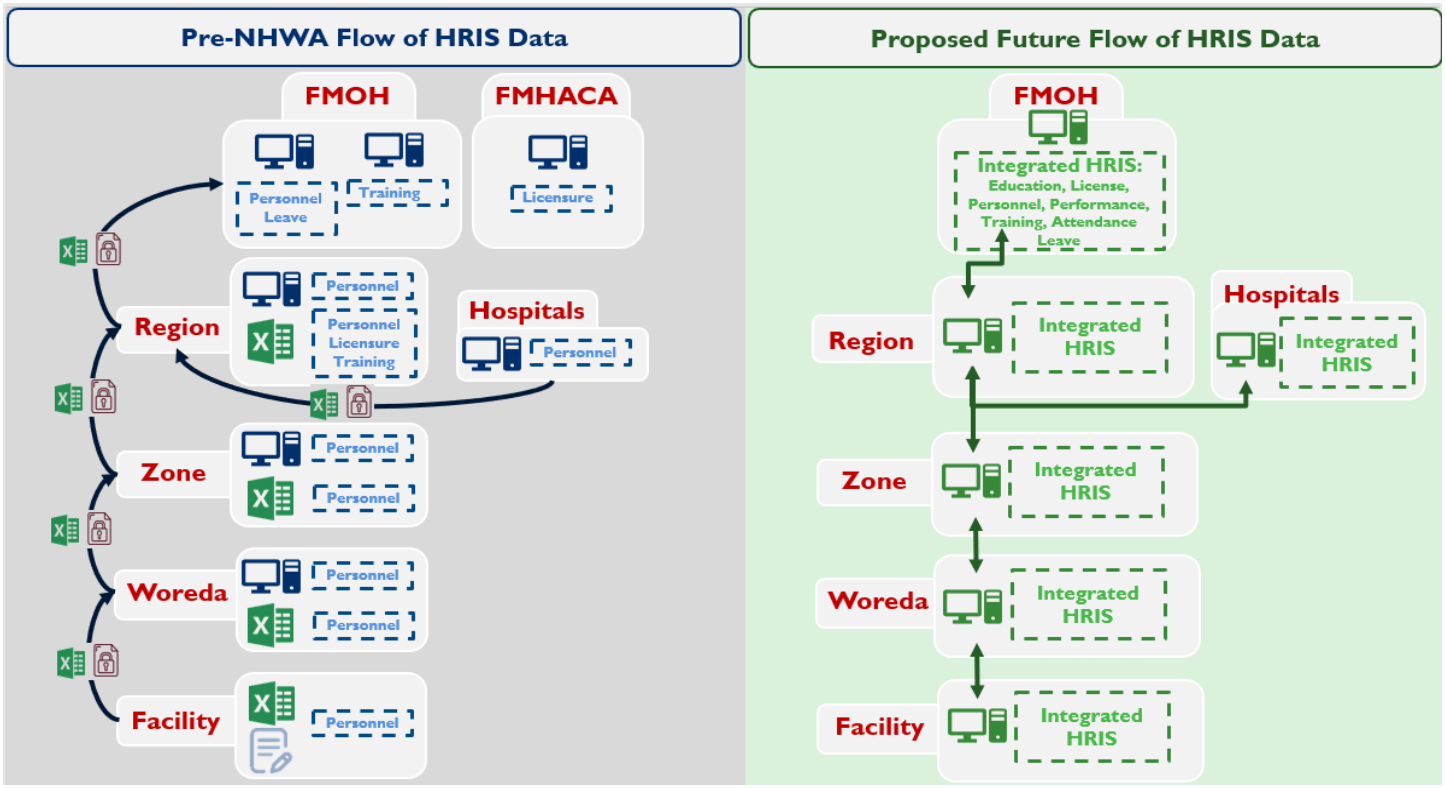
Documenting Data Flows

In response to these issues, HRDD and HRH2030 conducted a thorough deep dive on the flows of data, beginning first with the active labor workforce. While the data mapping for stakeholder engagement had focused more on identifying stakeholders across the health labor market and their roles in managing health workforce data, the data flow documentation focused on understanding the path of HRH data from the facility, to woreda, zone, region, and then the central FMOH (see Figure 3 on the following page). The pre-NHWA data generally flowed upward to the FMOH, with virtually no feedback received downstream, and limited data flowing to the Food, Medicine, and Health Care Administration and Control Authority (FMHACA) of Ethiopia, the entity previously responsible for qualifying and regulating the health workforce.

To conduct this documentation, HRDD and HRH2030 held in-depth interviews at the central FMOH, region, zone, and woreda levels to understand what data they collect, manage, and use to make decisions. Motivations and barriers to collection, management, and use of data were also discussed. Stakeholders were specifically asked about their role in managing the HRIS at their level, to better understand how they used the current HRIS software and whether they received and sent HRH data from/to other levels. The deep dive identified a disjointed flow of reporting as the system was (and still is not) fully interconnected online, as well as issues with data completeness, as the software has not been updated to reflect changes in the number and distribution of health workforce, and health facilities.

These issues are not necessarily due to lack of willingness of stakeholders at these levels, but due to the functionality and capacity of the software being utilized by the FMOH. Stakeholders who emphasized their willingness to use the system tended to be data managers or IT officers, with fewer HR officers or decision makers expressing interest. This indicated that the system was still seen as more of a database for information input, versus a workforce management tool. Without HRIS tasks integrated into the job activities of these stakeholders, it would likely be underutilized.

FIGURE 3. FLOW OF HEALTH WORKFORCE DATA WITHIN THE ETHIOPIAN HEALTH SYSTEM



Defining requirements for an NHWA-ready HRIS

The FMOH's commitments under the HSTP and the Information Revolution call for the development of a culture of data use, improvements to quality of data, establishing of interoperable and standardized systems, and use of appropriate technologies. Since 2017, the FMOH has developed a robust eHealth architecture vision, defined standards, and outlined processes for developing health information systems in Ethiopia. The significant limitations of the current HRIS in terms of data flows and connectivity could potentially impact its ability to meaningfully contribute to the goals and vision of the HSTP and Information Revolution. These limitations may also hinder the role of the HRIS within the eHealth Architecture, ultimately inhibiting NHWA implementation and impacting the availability of quality health workforce data for use by decision makers to make the critical decisions needed to improve health outcomes.

In recognition of the data flow mapping findings, the FMOH and its partners determined that the HRIS must be revitalized to make it "NHWA-ready," which was defined as its ability to collect data from across the health labor market, ensure data quality, follow the policy agenda of the country (HSTP/ Information Revolution), and leverage existing information systems standards. As such, the HRDD and HITD, with support from HRH2030, worked with key stakeholders at all levels of the health system to define the software requirements to deliver an NHWA-ready HRIS. Functional requirements included data fields for personnel management, licensure, training, and education. Non-functional requirements included security, access, and maintainability were also defined. Over the course of two workshops, the HRDD and stakeholders designed the requirements for an NHWA-ready HRIS, following the commitments of the HSTP, and planned for integration of the HRIS into the overall eHealth architecture. Finally, the HRDD and HITD determined which existing eHealth architecture components could be leveraged for NHWA, such as the data warehouse, data analytics platform, and the interoperability layer for exchange of data between stakeholders. Results from these activities are currently being used as a key reference by the FMOH and other implementing partners, such as those under the USAID-funded Digital Health Activity, to further efforts to develop the NHWA-ready HRIS.

Lessons Learned

Ethiopia's strong policy environment reinforced the HRDD's ability to effectively conceptualize and operationalize NHWA, particularly in terms of engaging key stakeholders and improving the availability and use of quality data. Three major takeaways from the experience are as follows:

1. ENGAGE HIGH-LEVEL STAKEHOLDERS TO FACILITATE EFFICIENCIES IN IMPLEMENTING NHWA

While health workforce stakeholders and information systems in Ethiopia are not without their complexities, there is clarity

on who owns what data. In addition, there are policies, plans, and initiatives that prioritize the strengthening and sharing of data, as well as a culture of data use. Generally, there is a culture of collaboration and sharing among stakeholders in Ethiopia. Thus, once key leaders at the top understood the value, importance, and operational aspects of using NHWA to advance their agenda, they designated and promoted more data managers and others at the operational level to participate in the NHWA process. Delineating stakeholders' roles and responsibilities for NHWA implementation and engaging high-level stakeholders early on, advocating the connection to their priorities and agendas was critical so that data managers could then work together to implement NHWA across the health system levels.

2. HRIS DATA QUALITY IS CRITICAL

As noted above, NHWA is not about information systems or eHealth technologies. The heart of NHWA is having and using real-time data on health workers—the backbone of the health system—to make evidence-based decisions to ensure a high-performing health system that supports improved health outcomes. In Ethiopia, the current weak HRIS is a significant barrier to having and using real-time data. Thus, focusing on HRIS revitalization from the outset was important to jump start efforts to address issues relating to the quality and availability of HRH data. From the outset, the FMOH committed to revitalizing the existing HRIS. Without these efforts to strengthen the core information system, Ethiopia could not progress on its journey of strengthening health workforce data and using data for decision making.

3. INTEGRATE NHWA INTO REGULAR OPERATIONS

Ethiopia's approach to fully integrate NHWA activities into HRDD operations is proving to be an important sustainability strategy. The HRDD included the NHWA Implementation Plan, developed by the HRDD for implementation by the NHWA TWG, into their annual workplan activities to create a seamless sector-wide vision for action that could achieve the team's goals, while at the same time incorporating NHWA goals and objectives. NHWA was designed as a guide for countries, not as a standalone intervention or activity. Identifying opportunities to converge, integrate, or adapt current activities and work planning with NHWA tenets is critical for sustaining the availability and use of quality data.

Future Planning

Ethiopia plans to continue NHWA activities as prescribed in the NHWA implementation plan developed by the HRDD for implementation by the NHWA TWG, further institutionalizing the structure of collaboration and sharing of data between stakeholders to make evidence-based decisions on the health workforce. On an operational level, the HRDD will also focus on revitalizing the HRIS, using the defined requirements to develop a NHWA-ready HRIS. These requirements include improved HRIS data feedback loops across health system levels (see Figure 3). Based on the strong foundation laid through the collaboration between the HRDD, HRH2030 and WHO, all investments during these early phases of conceptualization will be built on by future projects, as the FMOH and USAID/Ethiopia are committed to further developing and institutionalizing NHWA. Specifically, USAID Ethiopia is supporting two programs related to this effort, the Digital Health Activity (DHA), which will support the revitalization of the HRIS, and the Health Workforce Improvement Program (HWIP), which will build on previous activities and continue to support the HRDD in their efforts to operationalize NHWA.

Ethiopia has the unique opportunity to leverage its enabling environment of national initiatives such as the HSTP and the Information Revolution to prioritize improving availability and use of quality health workforce data. NHWA provides the mechanism by which to engage stakeholders in this process, and act as a reference for further improving the HRIS of the country. Overall, the policy environment in Ethiopia, coupled with NHWA, will ultimately enhance the use of health workforce data, to ensure that the great health outcomes achieved in recent years are matched and surpassed, and reinforce health sector transformation.

HRH2030
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HRH2030 strives to build the accessible, available, acceptable, and high-quality health workforce needed to improve health outcomes.

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