

STRENGTHENING DATA FOR DECISION-MAKING IN HUMAN RESOURCES FOR HEALTH MANAGEMENT THROUGH SYSTEMS INTEROPERABILITY

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BACKGROUND

One of Kenya's greatest challenges for achieving universal health coverage is ensuring that all people, even the most vulnerable, have access to well-trained, culturally sensitive health staff (USAID 2016). The United Nations' Sustainable Development Goal (SDG) 3 advocates for a substantial increase in health financing and for the recruitment, development, training, and retention of health workers in low- and middle-income countries. The SDG targets of eliminating preventable maternal and child deaths will only be achieved if dramatic improvements are made to strengthen the health workforce (World Health Organization and Global Health Workforce Alliance 2016). Human resources for health (HRH) is one of the core building blocks of a health system and has two essential components: human resources development and human resources management. These two components constitute the health worker life cycle, from training to employment and exit from the health workforce. However, their effectiveness and efficiency depend on the availability and reliability of an HRH information system that is robust enough to query workforce numbers and skills mix against present and future needs, such that decision-makers have the data they need to develop appropriate responses.

eHEALTH CONTEXT

In Kenya, many factors affect the growth of eHealth—the use of digital technologies to improve health care services. These factors encompass social, economic, and technical challenges, including the high cost of eHealth systems and innovation; low information and communications technology literacy among users; a lack of interoperability across eHealth systems; a weak regulatory framework; and patient privacy and confidentiality concerns. However, the situation is rapidly changing. Kenya's Health Act 2017 called for the Ministry of Health (MOH) to launch data exchange standards, tools, and protocols, including an interoperability framework for data exchange and security, to effectively manage personal health information.

The MOH has adopted various systems to support service delivery, including the District Health Information Software 2 (DHIS2) and the iHRIS human resources information system, among others. Regulatory bodies also have independent systems to monitor compliance and licensure. Since the deployment of iHRIS, county teams have increasingly requested that data be integrated to enable HRH decision-making and to analyze the impact of HRH data on service delivery indicators. While great progress has been made in this area, more needs to be done to realize the full benefits



of linking interrelated health information systems for effective management of health workers. There is also need for a data exchange governance policy that clearly gives direction and authority on inter-systems communication and data sharing.

THE ROLE OF iHRIS

Through the successful implementation of HRH projects funded by USAID, IntraHealth International has strengthened HRH systems at the national and county levels in Kenya. During the Capacity Kenya project (2009–2014), IntraHealth began the deployment of iHRIS at the MOH. Through subsequent projects—HRH Capacity Bridge (2014–2015), FUNZOKenya (2012–2017), and the HRH Kenya Mechanism (2016–2021)—IntraHealth has continued to support the MOH and counties in institutionalizing iHRIS to better manage HRH data.

The system has enabled the MOH and service delivery organizations to develop their capacity to track, manage, deploy, and map the health workforce. iHRIS tracks detailed information about ~69,000 health workers throughout their employment, including their place of deployment, salary history, promotions and transfers, qualifications, in-service training courses, and reasons for attrition. iHRIS also tracks open positions and applicants. The county governments adopted iHRIS to support these functions and make evidence-based decisions through data analytics. Following initial deployment of iHRIS, county health departments have increasingly asked for integrated data that combines information from the available health information systems to enable higher-level HRH decision-making and to analyze the impact of HRH data on service delivery indicators.

POLICY IMPLICATIONS

The MOH and regulatory boards and councils that register and license health workers operate independent systems for various management functions. These include the Integrated Personnel and Payroll Database (IPPD), the Regulatory Human Resources Information System (rHRIS), DHIS2, and manual paper filing systems. There is increasing need for the systems to be linked, as they affect a single health worker in different ways. Interoperability can enable the presentation of HRH data and density maps for decision-making, including distribution by gender and cadre and retirement projections, in a single dashboard (Figure 1 shows an example of a visualization using

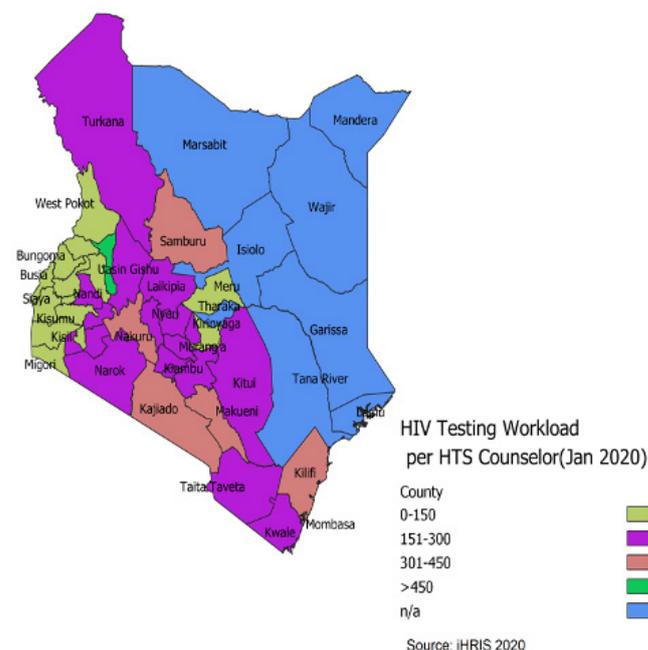


INTEROPERABILITY

In health care, whether regional, national, or global, interoperability is the ability of health care information and technology systems to “work together within and across organizational boundaries in order to advance the effective delivery of health care for individuals and communities.” (CareCloud n.d.)

iHRIS data). iHRIS already generates real-time HRH information dashboards, which are customized to the needs of individual counties and provide critical human resources development and management information for decision-making.

Figure 1: iHRIS data visualization on HIV testing services (HTS) workload



iHRIS has been used to track community health volunteers and community health assistants, and comparing iHRIS data to IPPD data has identified ghost workers—individuals on the payroll who are not actually working. Collating data from President’s Emergency Plan for AIDS Relief (PEPFAR)-supported

preservice graduates for dissemination to potential employers and increasing the use of reliable HRH data for decision-making—made possible by IPPD/iHRIS/rHRIS/DHIS2 interoperability—will increase efficiencies and improve health outcomes, especially those related to universal health coverage, HIV, and reproductive, maternal, newborn, child, and adolescent health/family planning (RMNCAH/FP). In addition, iHRIS supports the tracking of over 27,000 PEPFAR-supported staff working in health facilities and community units. These data can be used to evaluate the impact of staffing on the provision of high-quality HIV and RMNCAH/FP services. They also provide baseline information to the counties for planning and budgeting to transition health workers from implementing partners to the county payrolls.

Interoperability between iHRIS Manage and rHRIS is used to track the registration and licensure of health workers. iHRIS Train (the iHRIS module for managing and tracking health worker training activities) when linked to rHRIS shows which health workers have received in-service training. Together, rHRIS and iHRIS are able to show the continuing professional development points earned by health workers from in-service training and can report on health workers' relicensure.

Various stakeholders within health sector leadership teams use iHRIS data for HRH decision-making. Using iHRIS analytics, counties have been able to conduct HRH gap analyses, including retirement projections, and have budgeted for recruiting staff in a timely manner to avoid service disruptions. In addition, counties can track in real-time the registration and licensure status of staff, as well as in-service trainings, to better plan for training and skill-based deployment.

Kenya is a party to the World Health Organization (WHO)'s National Health Workforce Accounts (NHWA), "a system by which countries progressively improve the availability, quality, and use of data on health workforce through monitoring of a set of indicators to support achievement of universal health coverage, SDGs, and other health objectives" (WHO 2019). In addition to supplying data to the Government of Kenya to inform HRH policy and decision-making, iHRIS can provide the required deployment data, disaggregated by cadre, facility/community unit level, registration, licensure/relicensure, and gender, as well as the in-service

training data required for reporting to the WHO's Global Health Observatory, which provides data and health-based analytics for WHO member states.

POLICY RECOMMENDATIONS

This policy brief is aligned to the current trends and needs of Kenya's health sector, including those identified by the Health Act 2017. The proposed interoperability layer will enhance the collection of HRH data and updates into iHRIS Manage and iHRIS Train. It will also provide the county and national governments with quality information for better decision-making. The users will direct, update, and manage training and HRH management plans and programs, including budgeting, as well as make decisions on health workforce hiring, deployment, training, and staff rationalization, including ensuring a proper skills mix and making decisions for more effective health service delivery. Recommendations include:

- The formation and facilitation of technical working groups within the MOH and county departments of health (those that are yet to institutionalize them) to build the capacity of staff in the use of iHRIS Train and iHRIS Manage for the effective management of health workers and in-service training programs.
- A policy on data exchange governance that clearly gives direction on investment and ownership; compliance with legal requirements; training and capacity-building; infrastructure and resources; research and innovation management; and the management of data architecture, data access and sharing, data infrastructure security, and data quality.
- A policy on interoperability that will allow systems to safely exchange data and for integrated data analytics via a single data decision-making dashboard for county and national leadership teams. The policy will ensure consistency in following defined standards on data exchange, including adherence to privacy and confidentiality policies, compliance with set system architectural standards on data exchange and information security, as well as monitoring for compliance with existing policies on eHealth, mHealth, and the Health Act 2017.

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