

# HUMAN RESOURCES FOR HEALTH IN KENYA: A STOCK AND FLOW REVIEW

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## BACKGROUND

Kenya Vision 2030, the country's blueprint for long-term economic development, sets an ambitious target of reducing health workforce shortages by 60% in order to efficiently provide equitable, affordable, and quality health services to all citizens (Ministry of State for Planning 2007). The ability of Kenya to achieve this target will depend, among other factors, on effective management of the health workforce including implementation of computerized staff tracking systems to monitor key indicators and address critical gaps in the production and deployment of health workers (Ministry of Health 2005).

The Kenya Health Sector Strategic and Investment Plan (KHSSP) highlights the absence of such planning systems, identifying the "lack of a mechanism to link training institutions with service needs in the sector" as one of many human resources for health (HRH) challenges the Government of Kenya (GOK) currently faces (Ministry of Medical Services and Ministry of Public Health and Sanitation 2012). The lack of reliable data to inform decisions about size, skill mix, and geographic distribution of the workforce is also a significant challenge.

To date, HRH data collection in Kenya has been fragmented. Public sector data have improved with the introduction of new health information systems, but there are no comparable sources of

consolidated information for the private sector, making it difficult to arrive at a complete picture of the workforce. As the national government begins to shift its role away from service delivery, in accordance with the devolution framework outlined in the 2010 Constitution of Kenya, and county governments assume responsibility for public sector HRH in a budget constrained environment, there is a critical need for comprehensive health workforce information to aid in strategic planning and decision-making. In particular, there is a need for more information on private sector HRH and the role they can play in helping to ensure equitable distribution of quality health care services.

## PURPOSE

This brief summarizes stock (current number of HRH) and flow (movement in and out of the workforce) findings from a first phase HRH review led by the Kenya Ministry of Health (MOH) with the support of the FUNZOKenya project, specifically from partner Results for Development Institute (R4D). FUNZOKenya is led by IntraHealth International and funded by the President's Emergency Plan for AIDS Relief (PEPFAR) through USAID. The review was designed to address key questions about HRH stock and flow, projected workforce needs and training needs including:

### **Stock and flow of health workers**

- What is the total number of health workers currently delivering health services?



- What is the skill mix of currently available health workers and how are they distributed throughout the country?
- How many health workers enter the workforce each year? How many health workers leave the workforce each year?

### **Projected need for health workers**

- How many health workers will be available to provide services in the future?
- Is there a gap between the recommended number of health workers and the actual number of health workers?

### **Training needs**

- How many health workers are graduating from health training colleges each year?
- How many health workers need to be trained to address gaps or shortages in the workforce?

## **APPROACH**

The review and analysis focus on an initial set of ten cadres (Box 1), and draw on secondary data sources identified in discussions with the MOH, regulatory bodies, and health professional associations, as well as primary data collection efforts.

**Data sources:** Secondary data sources used include the government’s payroll administration system for the civil service, and the iHRIS Manage human resources information system. Both databases were accessed through the MOH. The Regulatory Human

#### **Box 1: Focus Cadres for 2011/2012 Workforce Review, Kenya MOH**

The ten focus cadres for the first phase review of Kenya’s health workforce were selected in consultation with the MOH, taking into consideration contribution to the workforce, in terms of size.

1. Clinical Officers
2. Dentists
3. General Practitioners (not including specialists)
4. Health Records Information Officers (HRIO)
5. Laboratory Technologists
6. Nurses
7. Nutritionists
8. Pharmaceutical Technologists
9. Pharmacists
10. Physiotherapists

Resources Information System (rHWIS), housed within regulatory bodies, provided an additional source of secondary data. Data to address gaps in information about HRH in the private sector and training institution outputs were collected through two specially commissioned surveys:

1. A nationally representative, quantitative survey of private health facilities carried out in 2012. Kenya’s two largest public referral hospitals, Kenyatta National Hospital (KNH) and Moi Teaching and Referral Hospital (MTRH), were also surveyed as they currently are not captured in the iHRIS Manage and payroll information systems
2. A telephonic survey of training institutions carried out in 2013.

## **SUMMARY OF FINDINGS<sup>1</sup>**

The findings represent the most current estimate of stock and flow in both the public and private health sectors in Kenya, at the time of publication in September 2013 (Ministry of Health 2013). In theory,<sup>2</sup> the stock is divided into those who are working in their professional roles (active workforce) and those who are trained but not currently employed in the health workforce (potential workforce), as depicted in Figure 1. Estimates for the future size of health worker stock are derived by adding the annual inflow of workforce to the current stock, while subtracting the sum of those who flow out. In Kenya’s newly devolved health system, the MOH will retain responsibility for preservice education and in-service training for health workers, with counties playing a lead role in employing the trained workforce in the public sector.

**Stock: health workers employed<sup>3</sup>:** An estimate of the total number of active health workers for each of the cadres reviewed is presented in Table 1.

**Table 1: Total number of health workers estimated to be active**

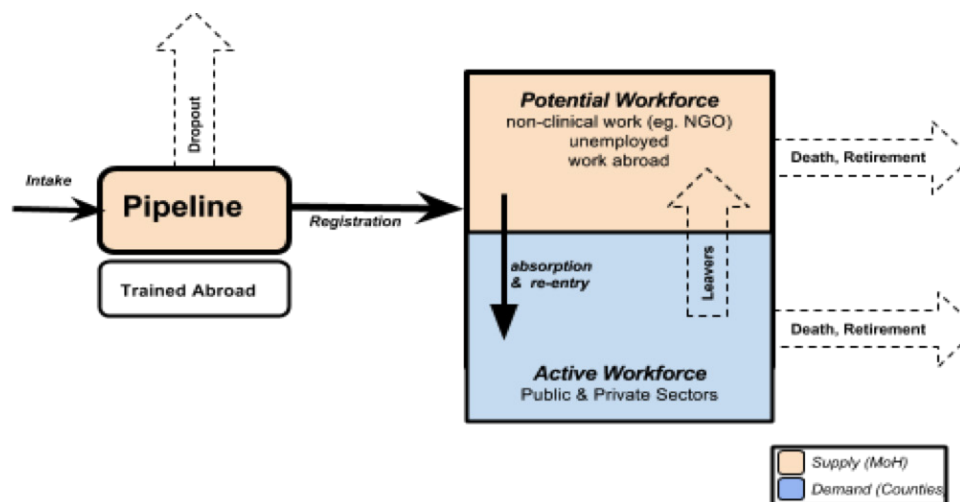
Clinical Officers	7,043
Dentists	712
General Practitioners	3,443
HRIO	1,301
Lab Technologists	4,863
Nurses	34,381
Nutritionists	713
Pharmaceutical Technologists	2,755
Pharmacists	890
Physiotherapists	911

<sup>1</sup> This section summarizes findings from a publication entitled “Health Workforce Forecast Kenya – a reference report,” launched and published by the Ministry of Health Kenya in September 2013.

<sup>2</sup> At the time of writing data on the potential workforce had not yet been collected.

<sup>3</sup> Detailed findings from the HRH review are presented in “Health Workforce Forecast Kenya – a reference report”, launched and published by the Ministry of Health Kenya in September 2013.

**Figure 1: A Basic Stock and Flow Model for the Health Workforce**



The nurse cadre is the largest health care cadre in Kenya, followed by clinical officers, laboratory technologists and general practitioners. There are approximately twice as many nurses and general practitioners employed in the public (MOH and the national referral hospitals) as in the private sector. While there is an almost even distribution of clinical officers and dentists between the public and private sectors, employment is far higher in the public sector for the pharmacist and nutritionist cadres. Finally, there are significantly more pharmaceutical and laboratory technologists employed in the private sector.<sup>4</sup>

**Geographical distribution of public health workforce: doctors, nurses and clinical officers:**

Figure 2 depicts health worker to population ratios in the public sector. The World Health Organization (WHO) recommends a minimum workforce density of 23 health workers (doctors, nurses, and midwives) per 10,000 population, but to reflect the context in Kenya, midwives, who are trained nurses, and clinical officers, who provide physician-type services in district hospitals and rural areas, were added to the mix (Mbindyo, Blauuw, and English 2013).

The ratio of health workers to population in the public sector does not reach the recommended WHO threshold in any of Kenya’s 47 counties. Geographically remote counties (Turkana, Marsabit, Wajir) have the lowest density of health workers relative to population size. In contrast, the less densely populated Isiolo county has the highest health worker to population ratio. The analysis of the health workforce also showed that nearly one in five medical practitioners employed by the MOH work in an administrative position rather than delivering care.

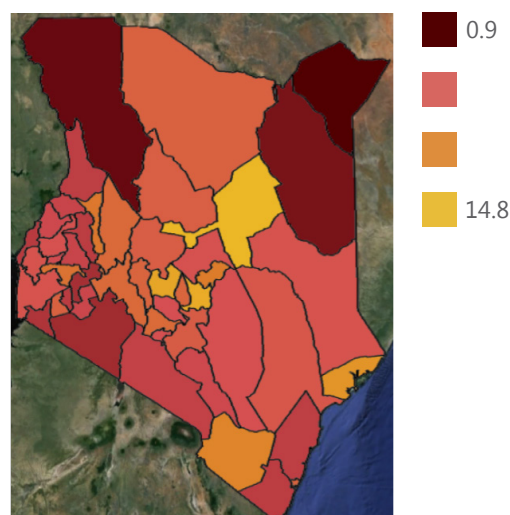
**Flow: workforce exits and registrations by cadre, 2010-2012:** The number of graduates (and other new registries) for the clinical officer, laboratory technologist, and physiotherapist cadres grew significantly over the three years, showing a positive trend in terms of expanding the pool of qualified health workers for these cadres. The number of newly registered dentists, pharmacists, pharmaceutical technologists, nurses, and general

practitioners remained relatively stable while there was a slight decline in registrations for nutritionists.

While the overall estimated average for annual outflow relative to the total active workforce is 4.5% across all the assessed cadres, public and private sectors combined, the clinical officers had an estimated overall attrition of 4.4%, laboratory technologists 5.1%, and physiotherapists 3.6%. These attrition rates compare to an inflow rate of 21.3%, relative to the total number of active workforce for clinical officers, 17.6% for laboratory technologists, and 9.2% for physiotherapists, indicating a significant net growth of qualified professionals. However, the net growth does not assume the absorption (employment) of new graduates. Based on reported new hires in 2012, there is significant demand for laboratory technologists and clinical officers in the private sector.

**More clinical officers, general practitioners, and nurses needed:** At the time the findings from the HRH review were published (September

**Figure 2: Doctors, nurses and clinical officers combined, per 10,000 population in the public sector (December 2012)**



<sup>4</sup> Registration information for Health Records Information Officers was not available at the time of the HRH review.

2013), there was limited discussion or consensus on a methodology for setting minimum health workforce requirements that would enable Kenya to meet its health goals. To better estimate the gap between the number of health workers currently available and the number required, clearly defined benchmarks that are realistic both in terms of financial affordability and potential production capacity of training institutions, are needed. When WHO's minimum threshold for health worker density of 23 doctors, nurses, and midwives per 10,000 population is used as the benchmark, and current ratios between these professions are maintained, there are significant shortages in the number of clinical officers, general practitioners, and nurses in Kenya. For example, 34,381 nurses were employed in the workforce in 2013, falling short of the WHO recommendations by 41,026 nurses. There were approximately 3,329 newly registered nurses in 2012. Assuming population growth, exits from the workforce, and the production of new nurses remain constant; it would take over 12 years to reach the minimum recommended number of 75,407 nurses. In the immediate term, it would be a challenge to address this gap through the existing training infrastructure alone, suggesting a need for alternative short-term solutions and a review of priorities.

## CONCLUSION

The HRH review led by the Kenya MOH is paving the way for routine monitoring of the health workforce and helping to improve HRH information for decision-making at the national and county levels. This type of stock-taking is a practical way to gauge the current state of the workforce and raise awareness about gaps and weaknesses in information systems. It can also be used to assess the extent to which information is shared and used for planning activities.

Kenya's devolution has made human resources planning more complex and possibly even more critical. Counties now have the responsibility of employing their own health workforce and thus, need access to timely and reliable HRH information for monitoring workforce needs. Further, the MOH is moving from an active role in HRH deployment to a monitoring role that focuses more on maintaining robust information on hiring needs and training outputs in both the public and private sectors, in

order to align public preservice education needs with gaps in the workforce, and incentivizing use of this information for strategic planning purposes. In this new capacity, the MOH may wish to consider feedback mechanisms that could, for example, be used to empower county health leaders to advocate for higher budgets to respond to health worker shortages identified in planning processes. A sharing of experiences and lessons learned in HRH planning across Kenya's newly devolved counties could also contribute to strengthened systems and approaches for managing the workforce.

Workforce environments change over time with transformations in demographic and epidemiologic profiles, shifting priorities, such as a renewed emphasis on preventative care, and organizational restructuring like devolution of health services. Regular monitoring of the workforce would facilitate a timely response to these types of changes and help to ensure the right numbers of appropriately trained and distributed health workers. While routine review of the workforce in Kenya is still in its infancy, it is expected to improve with enhanced data collection, a deepened understanding of workforce supply and demand dynamics, increased HRH information sharing and implementation of strategic workforce planning.

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