

Why measure the retention of health workers within borders? Lessons learned from the ETATMBA program in measuring health workforce retention in Malawi and Tanzania

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Abstract

Health workforce retention is a recognised strategy for alleviating the health workforce scarcity in low- and middle-income countries. However, there is a lack of clarity on what retention is and how it is measured. We followed up with health workers who participated in the ETATMBA program, an in-service training program from selected healthcare facilities in Malawi and Tanzania, once per quarter, for five years, to determine their retention. We measured retention in three aspects: i) duration of stay in target healthcare facilities, ii) retention in clinical roles, and iii) retention in government employment. We tracked 127 participants, 46 in Malawi and 81 in Tanzania. At the end of tracking, the retention in each aspect measured was different. In Malawi, the retention in target facilities was 47.2%, the retention for clinical roles was 69.5%, and retention for government employment was 76.1%. In Tanzania, the rates were 45.7%, 72.8%, and 76.5%, respectively. The extent of workforce retention depends on the parameters chosen to measure it. Standard indicators for workforce retention needs to be outlined to streamline retention measurement, inform health policies and improve human resources for health planning.

Introduction

Since the first global conference on Human Resources for Health (HRH) in Kampala in 2008, health workforce retention has become a recognised strategy for alleviating the deficit of health workers.¹

Likewise, subsequent global fora on HRH^{2,3} and later Workforce 2030 – the current global strategy on HRH considers enhanced health workforce retention to be critical for improving the availability and access to HRH, and strongly stresses the role of HRH in attaining the Universal Health Coverage (UHC).⁴ In the same way, health policies in many countries, including Malawi and Tanzania, mention health workforce retention as a crucial strategy for improving HRH.^{5,6} But what is health workforce retention? How is it measured? Moreover, how can improved workforce retention improve HRH? Unfortunately, these documents do not provide sufficient answers to these questions.

Multiple definitions of health workforce retention exist; there appears to be no consensus on the definition for health workforce retention or its opposite – attrition. For example, Wilson *et al.* defines retention as a stay of more than five years in a healthcare facility, or more than two years beyond the termination of a contractual agreement,⁷ while Humphreys *et al.* refers to health workforce retention as the length of time between the commencement and termination of employment. The “length of time” referred to by Humphreys *et al.* is not specified, making the definition arbitrary.⁸

Attrition, on the other hand, refers to the rate at which people leave the organisation.⁹ Castro Lopes *et al.* define attrition as exits from the workforce for reasons other than death or retirement and notes the commonly used synonyms for attrition – “brain drain,” “turnover,” “drop-outs,” “losses,” “separation,” and “premature departure,”¹⁰ adding to the complexity of the definition.

External brain-drain, commonly referred to as “brain-drain,” is the most documented form of attrition which, in most cases, involves the flow of health workers from low- to high-income countries.¹¹ However, movements of health workers within borders, also referred to as internal brain-drain,⁹ internal occupational mobility¹² or intersectoral mobility,¹³ are common. They can equally disrupt access to the health workforce, especially in rural and remote areas,¹⁴ and needs addressing.

A better understanding of patterns of health workforce mobility within countries and their linkage to retention is needed to determine the extent to which health workforce movements occur, the reasons behind such movements, and how to harness such movements to optimize HRH access. For example, should movements from public to private healthcare facilities or changing the health worker’s main roles from clinical to non-clinical roles – such as administrative or managerial be regarded as attrition if

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they occur within borders?

Similarly, there are no specific internationally agreed indicators to measure health workforce retention, attrition, or mobility. The World Health Organization (WHO) proposes seven parameters of measuring health workforce market flows: i) graduates starting practice within a year, ii) replenishment rate from domestic sources, iii) entry rate of the foreign health workforce, iv) voluntary exits, v) involuntary exits, vi) vacancy rate, and vii) health care worker's unemployment rate. The WHO also proposes the numerator and denominator for measuring these indicators, suggests the data sources required, and the reporting frequency.¹⁵ However, these parameters are not in everyday use in most countries, in part due to the lack of awareness on these indicators and poor HRH monitoring practices, especially in low-resource countries.¹⁶

Russell *et al.* describes five parameters for measuring health workforce retention: i) the turnover rate, ii) stability rate, iii) survival probability, iv) median survival years, and v) cox-proportional hazard ratio.¹⁷ However, studies that have attempted to measure retention using these parameters choose numerators and denominators differently, making it difficult to compare or synthesize the reported parameters.^{18,19}

We describe our experience in measuring retention among health workers who took part in the ETATMBA program in Malawi and Tanzania. We briefly describe the ETATMBA program below; however, details are available elsewhere.^{20,21}

The *Enhancing Training and Appropriate Technologies for Mothers and Babies in Africa* (ETATMBA) program was an in-service training program that was implemented in Malawi and Tanzania between 2011 and 2014. Health authorities chose two to six health workers from target healthcare facilities to be trained in emergency obstetric care, new-born care, and leadership skills. The training took 18 months in total and was organized into six modules. Each module was taught for two weeks. The time in between the modules was to allow participants to return to their health facilities and implement the skills they had acquired.

We followed up with the participants of the ETATMBA program for five years to determine their retention. We present their retention pattern and argue the relevance of measuring health workforce retention for movements within borders.

Materials and Methods

Study design

We conducted a longitudinal quantitative study with a retrospective arm from May 2012 to October 2014 and a prospective arm from October 2014 to April 2017.

Study participants and selection

The participants were health workers from 14 districts in Malawi and 16 districts in Tanzania.

Data collection

We got in touch with the participants for the first time in October 2014. We collected participants' details at recruitment into the ETATMBA program in 2011 as the reference point for the follow-up.

We then contacted participants once every three months to establish location (healthcare facility), their key role (clinical, administrative, public health, private clinic, non-governmental organisation, etc.), and their employment details (who their employer was). In addition, we made telephone calls, wrote emails, and used social media such as WhatsApp® and Messenger® to obtain information from participants.

We made 22 observations per participant, the first observation in May 2012 and the last in April 2017.

Data analysis

We entered data into an Excel® spreadsheet for analysis. We determined the par-

ticipant's mobility by recording the change in location (healthcare facility), role, or employer. We used histograms and line graphs to present the data.

Results

The study recruited 127 participants, 36.2% (46/127) in Malawi and 63.8% (81/127) in Tanzania.

Measuring retention of health workers

In the course of the tracking, the majority of participants changed location (healthcare facility), employer, roles or a combination of these. Of the 22 observations made, we present the tracking data at six time-points: May 2012, April 2013, April 2014, April 2015, April 2016, and April 2017.

Retention in target healthcare facilities

The retention of health workers declined steadily in both countries over the five years.

Figure 1 shows the number of participants remaining in target healthcare facilities during the tracking period per country. The attrition rate in both countries was almost similar.

After five years, 46.5% (59/127) of health workers were still in the target healthcare facilities, 47.8% (22/46) in Malawi, and 45.7% (37/81) in Tanzania. The attrition rate was relatively higher between April 2013 and April 2016.

Some participants changed their

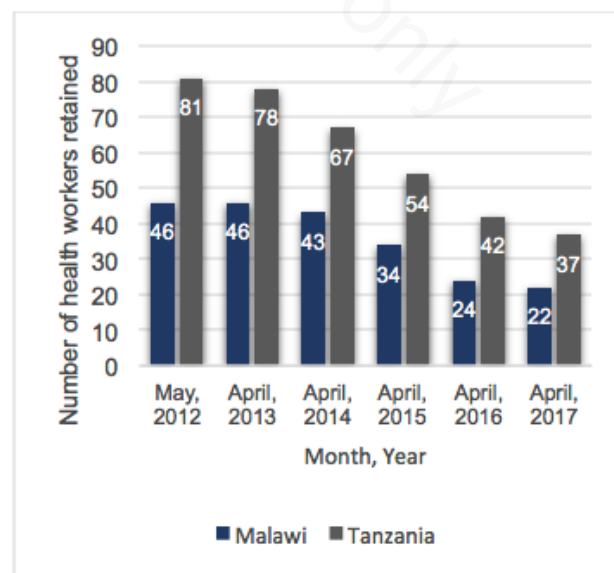


Figure 1. The number of health workers in the target healthcare facilities per year.

employer and continued working at the same facility; others changed roles, e.g., from clinical to non-clinical duties such as administrative or managerial roles, but remained at the same healthcare facilities as at the start of the ETATMBA program. The retention pattern for the employer and the main roles are presented in the following two sections.

Retention in government employment

Figure 2 shows the number of health workers who remained in government employment over the tracking period. We considered those health workers who got transferred across to non-target healthcare facilities, promoted to leadership positions, changed roles to perform administrative duties, or coordinated specific programs as retained (in this instance), as long as their employment contract with the government was maintained.

For example, the Ministry of Health in Malawi seconded four participants to non-profit private healthcare facilities. We considered these as retained in government employment, but attrition had occurred as far as the location was concerned.

There was steady attrition of health workers in government employment from 100% (127) at the start of the tracking to 74% (94/127). The attrition rate was higher between April 2014 and April 2016 in both countries and slightly higher in Tanzania, 27.2% (22/81), than in Malawi, 23.9% (11/46).

Retention in clinical roles

In this respect, we considered retention to have occurred if the health worker continued in the role of providing clinical patient care as their main role, even after relocating to another healthcare facility or had changed employers (Figure 3).

The number of health workers performing clinical roles decreased in both countries, from 100% (127) at the start of the tracking to 74% (94/127) at the end, the decrease being slightly higher in Malawi 30.4% (14/46) than in Tanzania 23.5% (19/81).

In Malawi, 30.4% (14/46) of the participants were no longer in clinical patient care; the highest attrition happened between April 2015 to April 2016, with six participants leaving clinical practice. In Tanzania, 23.5% (19/81) of participants had left clinical roles by the end of the tracking period.

Retention of health workers at healthcare facilities, employer and clinical care roles

Figure 4 compares the retention rate in all the three aspects of retention considered in this study. In both countries, the propor-

tion of health workers retained in target healthcare facilities was relatively lower than the employer's and clinical roles' retention.

At the end of tracking, the retention in government employment in Malawi was higher than in clinical roles, whereas in Tanzania retention in the clinical role was higher than in the government employment.

Discussion

We have determined the retention rate

of health workers by presenting the proportion of health workers who, for whatever reason, left target healthcare facilities, government employment, or clinical roles during the tracking period. The attrition rate per year was different in each aspect considered.

It is essential to state that none of the participants left their countries (no brain drain). Apart from the involuntary attrition due to retirement or death, the remaining health workers continued to provide healthcare in their countries in different capacities and roles or with a different employer. For

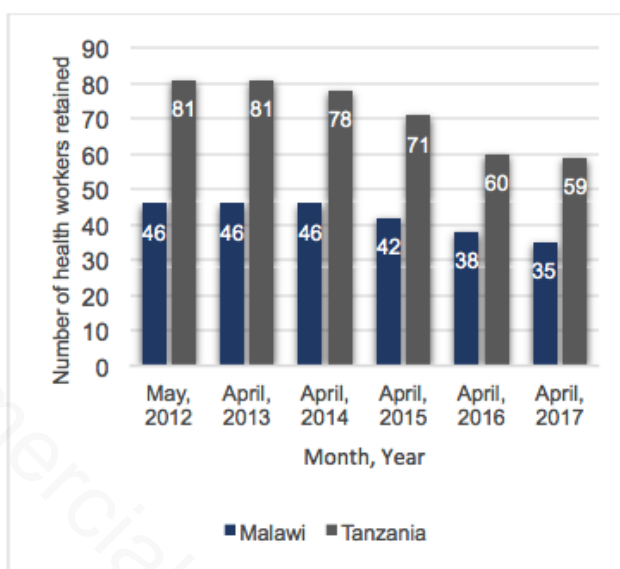


Figure 2. The number of health workers in government employment per year.

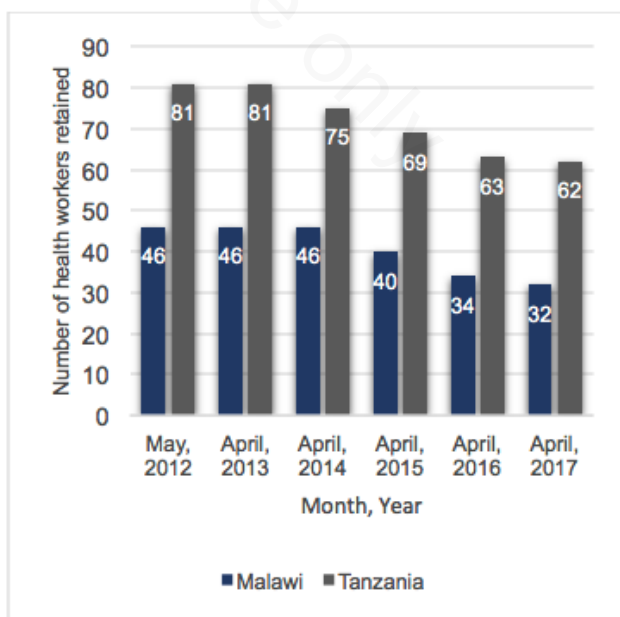


Figure 3. The number of health workers in clinical roles per year.

example, in Malawi, participants left target healthcare facilities to work for public health programs in the government or NGOs, and others went to serve in the military. However, healthcare facility retention was 46.5% (Figure 1).

The migration of health workers from one country to another, also called brain drain, is the most common form of attrition documented. The movement is usually from a low- to a high-resource country.^{11,22-27} However, the tendency to overemphasise the international migration of the health workforce diverts attention from focusing on the attrition/mobility of the health workforce within countries, the internal occupational mobility, or internal brain drain,^{12,27,28} which affects not only health workforce availability and distribution, but also its accessibility, acceptability and quality.²⁹ This aspect needs to be explored further along with the interventions to mitigate its effects. For this study, we chose three aspects of health workforce retention as a platform to determine health workforce movements within countries. We could have chosen or added other parameters, e.g., retention within sub-national geographical areas (district/region/province), in the maternity or other departments within the health facility, etc. We feel that these “intercountry” movements need to be explored, measured, and tangible indicators developed. Rather than measuring health workforce retention and attrition at the national level, we propose that health mobility within countries is also measured comprehensively to specify the individual (or cadre, etc.) involved, the role, and employer, where health workers are leaving from, and where they are moving to.

Most studies state health workforce retention in arbitrary terms without specifying the duration of employment that would amount to “adequate” retention. For example, although the duration of the ETATMBA program was four years, the program expected that, following the training, participants would stay in target healthcare facilities for a “considerable” time.¹⁹ However, since the duration of this “considerable” time was not specified, it would be challenging to determine what constitutes retention in this instance. However, movements across the different facets of the health system within the country could precisely be determined, as is the case in this study.

Had this study tracked all available health workers in target healthcare facilities, it would have been possible to determine parameters suggested by Russell or the WHO, including the stability rate, median survival years, replenishment rate from domestic sources, vacancy rate and health

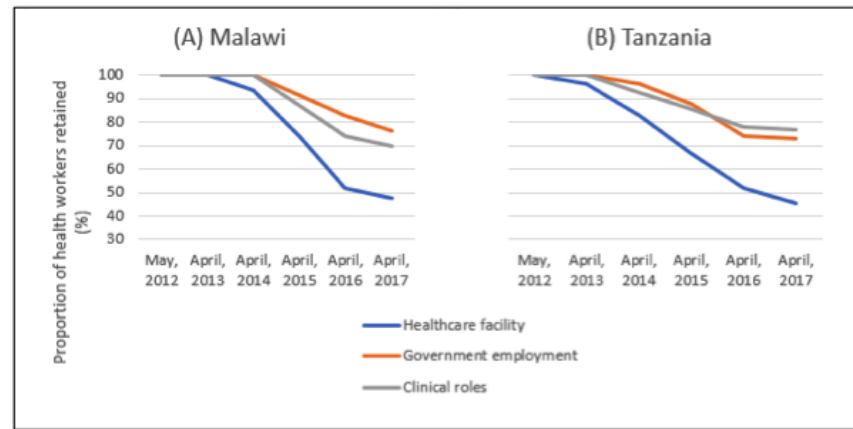


Figure 4. Proportion of health workers retained by facility, employer and clinical roles per year.

care worker’s unemployment rate. We could not obtain this information, which was one of the reasons for embarking on a prospective study, highlighting the urgent need for improvements in HRH monitoring at all levels of healthcare delivery in low-resource settings.¹⁵⁻¹⁷

Health authorities should develop locally relevant indicators to capture health workforce movements at national and sub-national levels. For example, they could adopt indicators suggested by the WHO or Russell, informed by the local context, clearly defining the numerator, denominator, and the relevant data source(s). The health system could integrate these data through the existing Health Information Management Systems (HMIS) to improve efficiency. Such data would be a valuable contribution to HRH planning. Similarly, such data would allow for the monitoring and comparing of HRH availability and distribution and enable a better understanding of the dynamics at play in the HRH labour market within and across countries.

Improving the working conditions or formulating and implementing cohesive employment policies could help minimise the unnecessary staff transfers across healthcare facilities, departments, or programs. For example, the traffic between public and private healthcare facilities seen in this study could have been reduced by enhancing the public-private partnership, which was successfully done in Uganda in a similar program.³⁰

We propose that internal mobility of the health workforce does not amount to attrition as long as such movements are controlled and occur within the health sector. For low-resources countries like Malawi and Tanzania, curbing the external migration of the health workforce is a challenge.²² Hence, optimizing the access to the available workforce through managing internal

movements could be a suitable, less costly alternative.

A dynamic health system that allows health workers to change jobs or locations, within countries, based on local labour market forces is likely to promote a healthy contention among employers, boost the competitive advantage to attract and retain the required health workforce. Hopefully, such competition will improve access to the health workforce, improve healthcare delivery, and accelerate the attainment of Universal Health Coverage.

Conclusions

Measuring workforce movements within a country appears to be more practical and informative to the health system than measuring health workforce retention. Developing indicators for in-country workforce mobility and promoting their use will likely streamline HRH research and planning and improve health workforce availability, distribution and access.

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