

Original Research Article

Job retention among healthcare workers in Tabora province, Tanzania

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ABSTRACT

Background: Manpower shortage is a serious problem in healthcare in sub-Saharan Africa. We tried to characterize the health manpower retention and attrition pattern in Tabora province, Tanzania comparing the types of health facilities and different job levels through a review of provincial health manpower registration ledger retrospectively for 3 years, from 2012-2015.

Methods: The job retention audit was planned through provincial human resources registration in 6 districts within the Tabora province and at the Kietete provincial referral hospital. The audit was conducted from August and September 2015 by notifying by email to obtain job retention from the human resource registration ledger for 3 years from 2012 to 2015. We compared retention patterns among different types of facilities and among different levels of healthcare personnel.

Results: The overall job attrition rate for 3 years in Tabora was 5.7%. Among different level of healthcare facilities, compared with hospitals, lower-tier facilities (dispensaries) had a better job retention but the was not statistically significant. Among job levels, highest job level, medial officers had significantly higher rate of attrition compared with nurses. Lower-level job category (clinical officers) seems to have better retention rate but again it was not statistically significant.

Conclusions: Our study will incur the need for bigger and longer follow-up study to examine the trend we observed here; lower-tier facilities (dispensaries) and lower-level levels (clinical officers) seem to have better job retention. The further study is expected to contribute how we allocate our budget and human resources in the provincial healthcare structure in the future.

Keywords: Job retention, Primary care, Human resources

INTRODUCTION

Manpower shortage is one of the most pressing issues in healthcare in sub-Saharan Africa.¹ While facing nearly 24% of the disease burden of the world, Africa only has 3% of the global healthcare workforce.² The effect of manpower shortage is felt throughout every level of healthcare, from primary care to referral hospitals.³ In a study from Botswana, stakeholders' perceptions indicated that manpower shortage was perceived as being worst in

primary care and rural areas.⁴ Human resource development is therefore considered one of the most important elements of a health sector reform that was launched by the World Health Organization (WHO) in 2009.⁵ This reform emphasizes the need for both, high-quality and sufficient density of healthcare workers in rural areas.

There are three types of healthcare facilities depending on their function in the province of Tabora (one of the rural

provinces of Tanzania): hospitals, health centers, and dispensaries. Tanzania adopted more than 10 years ago task-shifting in the healthcare workforce. Three job levels of healthcare providers exist in addition to conventional medical doctors (also known as medical officers); assistant medical officers who undergo two years of training (the newest category of 'mid-level' providers in the Tanzanian healthcare system, which was introduced to in an effort to combat manpower shortages); and clinical officers who complete 3 years of training and acquire comprehensive medical skills.⁶

The province of Tabora, located in central Western Tanzania has a population of 2,291,623 according to the 2012 national census and is thus the largest province in Tanzania. The region's average household size of 6.0 persons was the 3rd highest in the country according to the 2012 census. The main industry in the province is agriculture, and the majority of residents are commercial and subsistence farmers. The province has 1 provincial hospital (Kitete Regional Hospital), 8 district hospitals, 24 health centers, and 273 health dispensaries.

We conducted an audit of provincial human resources registrations in Tabora, Tanzania, to provide a cross-sectional perspective on job attrition (retention) in a rural healthcare system in Sub-Saharan Africa.

METHODS

The audit was based on provincial human resources registrations in six districts within the Tabora province and at the Kietete Regional Hospital. Emails were sent to healthcare facilities in August and September 2015 to obtain job retention and attrition data from their human resource registration ledgers for 3 years (2012 to 2015). Personnel at each facility who were not directly involved in direct patient care (e.g., guards or environmental service personnel) were excluded.

Facility managers tallied the numbers of personnel from employment records and annual contracts for each year. All facilities responded to the audit request after email reminders were sent out, follow-up phone calls were made, and emails were sent.

Data were categorized into three different types of facilities in the province: hospital, health centers, and dispensaries and the level of jobs, medical officer, clinical officer and assist medical officer (nurse as a reference category). The associations between attrition and facility types and job levels were conducted by logistic regression modeling to estimate odds ratios (OR) and 95% confidence intervals (95% CI). Statistical tests were 2-sided, and $p < 0.05$ were considered statistically significant. All statistical analyses were performed with the SAS Statistical Software (version 9.4; SAS Institute).

RESULTS

The overall job attrition rate over the 3 years was 5.7%. We detected differences in attrition between the different levels of healthcare facilities and job types (Table 1). Using the hospital as the reference, lower-tier facilities (health centers, and dispensaries) showed lower attrition; however, this was not statistically significant. When comparing job levels and using nurses as the reference, medical officers, the highest qualification in the group, showed a significantly higher attrition rate. The other job levels seemed to have lower attrition when compared to the nurse, but this was not statistically significant.

Table 1: Facility profile and job specialty analysis and odds ratio (OR).

Variable	OR (95% CI)	P value
Facility		
Hospital (reference)	1	
Health center	0.88 (0.34 – 2.05)	0.7864
Dispensary	0.53 (0.26 – 1.08)	0.0846
Job specialty		
Nurse	1	
Medical officer	5.52 (1.50 – 16.35)	0.004
Assistant medical Officer	0.88 (0.14 – 3.05)	0.8465
Clinical officer	0.56 (0.19 – 1.34)	0.2326

DISCUSSION

Our audit provides a cross-sectional view on job attrition among healthcare workers in the Tabora province of Tanzania over 3 years (2012 to 2015). Compared with nurses, medical officers (physicians) had a significantly higher attrition rate in this 3-year period, whereas no significant differences were observed for the other job levels. Lower-tier healthcare facilities (dispensaries) employing lower-level provider (clinical officers) demonstrated a tendency for lower attrition; however, these results were not statistically significant.

Manpower shortage in sub-Saharan Africa is the highest in rural areas.⁷ Mid-level practitioners are trained and employed in these areas to maximize healthcare manpower. It has been shown that this has improved the quality of care in district hospitals.⁸ Previous studies on healthcare manpower shortage in Tanzania revealed that rural health workers prefer the public sector to church-run hospitals due to better pension plans; moreover, lower status workers are often excluded from training and suffer from a subsequent increase in workload.^{9,10}

Our findings are cross-sectional in nature and captured only a three-year period of job retention/attrition. Moreover, our data are based on human resources registries, and we did not verify the actual headcounts on site; this makes it difficult to draw any conclusions on the

reality of job retention/attrition. However, we did analyze data of six districts of six separate registries. Thus, future studies should be conducted to verify our findings. A longitudinal study might be particularly valuable as a previous study from Kenya demonstrated that the group of healthcare workers who were contemplating leaving their jobs as much higher than the group that actually did leave their jobs.¹¹

Our review of registry data from rural Tanzania urges a further study to verify the lower attrition rate we observed for lower tier facilities (dispensaries) employing lower-tier healthcare providers (clinical officers). If this finding can be verified, it would help redesign Tanzania's healthcare structure in two ways: First, the 'inverse primary care law', previously reported by Willcox and others and stating that staffing shortage is most serious in primary care and lowest-level healthcare facilities, and that this phenomenon is often observed in sub-Saharan Africa, would be challenged.¹² Second, it would encourage us to spend more resources on lower-tier healthcare facilities and the training of lower-tier health care personnel to boost primary care in rural Africa. In Ethiopia, for example, a community-based healthcare extension program has been contributing to the rapid expansion of primary care in rural areas.¹³

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