

COUNTRY NAME: MALAWI

TASK SHIFTING IN HEALTH SUPPLY CHAIN MANAGEMENT: A MALAWI CASE STUDY

By Stanley Chindove

ABSTRACT

Many health programmes rely heavily on rational management of essential medicines and medical supplies. Over the years, the range and volume of medicines and medical supplies supported has increased, particularly in the scale-up of HIV/AIDS, TB and malaria treatments. However, these life-saving commodities often do not reach those most in need due to poor management of medicines, inadequate distribution systems and a lack of information about demand at the lower levels of the health system.

Malawi faces significant shortages in human resources for health, including pharmacy personnel. The shortage of pharmacy personnel leaves pharmacy tasks to be performed by other health workers, such as medical attendants, health surveillance attendants nurses and nurse aides. This informal delegation of supply tasks to clinical or lay health workers diverts these cadres from their core duty of direct patient care.

The Malawi Ministry of Health, in partnership with VillageReach, the Barr Foundation, the Malawi College of Health Sciences and the University of Washington Global Medicines Program, commenced a novel two-year pharmacy assistant training, deployment and support programme. The programme allows for rotational class and hands-on training. The intervention has shifted health supply chain tasks back to dedicated pharmacy cadres and has seen immediate improvements in the availability of pharmacy personnel at health centres, storage and dispensing practices, and the quality of logistics data reporting.

Keywords: health supply chain workforce, pharmacy assistant, task shifting



Esther Kantwera

“Being a pharmacy assistant has been challenging because it has taken a while to adapt and change things at my health facility but the programme prepared us well to handle such challenges.”

Esther Kantwera, Pharmacy Assistant, Area 18 Health Centre, Lilongwe, Malawi

BACKGROUND

Health workforce¹ and access to essential medicines are two of the six core building blocks of a health system (World Health Organization [WHO], 2007). Pharmacy personnel are recognized as part of the health workforce and are essential to managing the supply chain of essential health commodities.

Meeting a country's health goals, including access to essential medicines, depends on the knowledge, skills, motivation and deployment of the people responsible for organizing and delivering health services (WHO, 2010). However, like most low-income countries, Malawi continues to face a critical shortage of human resources for health, including pharmacy personnel at all levels of the public health system (Palmer, 2006; Larsen-Cooper et al., 2017).

A vacancy analysis conducted in 2008 estimated the vacancy rate among pharmacy personnel in Malawi's public health system to be 74 per cent. In 2011, the Ministry of Health reported only five pharmacists working in the country's public health system and that only 24 per cent of the established positions for pharmacy technicians were filled (Ministry of Health Malawi, 2011). As a result, pharmacy tasks are performed by other health workers, such as medical attendants, health surveillance attendants, nurses and nurse aides. This informal delegation of supply tasks to clinical or lay health workers diverts these cadres from their core duty of direct patient care. In 2012, the USAID|DELIVER Project provided short (three-day) supply chain trainings to health surveillance assistants (two per health facility) and pharmacy attendants at CHAM facilities to build the capacity of these cadres. Although improvements were noted following these trainings in aspects such as availability and quality of logistics reports, the improvements were short-lived. Refresher trainings were needed every year as some cadres were transferred or were now sticking to their core non-pharmacy related duties. Without dedicated personnel to manage health supply chain tasks, inefficiencies and losses occur within the supply chain.

Task shifting has been implemented in various settings as a solution to human resources shortages, especially in scaling up antiretroviral therapy in resource-limited settings. Several studies have demonstrated effectiveness and cost-effectiveness of task shifting in resource-limited settings (Mdege et al., 2013).

"Task Shifting is process of delegation whereby tasks are moved, where appropriate, to less specialized health workers."

World Health Organization, 2007

STRATEGY & IMPLEMENTATION

Box 1: Pharmacy assistant course curriculum

A. Basic science modules

Anatomy and physiology
Microbiology and parasitology
Basic pathology
Chemistry

B. Basic support modules

Psychology
Sociology
Health centre management
First aid
Basic principles of community health

C. Core pharmacy modules

Pharmacology
Pharmaceutics
Medicines and medical supplies management
Pharmacy law and ethics
Communication and counselling
Basic computer skills

In 2012, the Malawi Ministry of Health, in collaboration with VillageReach, the Barr Foundation, the Malawi College of Health Sciences and the University of Washington Global Medicines Program, launched a two-year pharmacy assistant training programme that seeks to train and deploy at least 150 pharmacy assistants. The training programme was designed to improve health system capacity through increasing the human resources needed for better supply chain performance and medicines management in rural communities in 18 districts from three regions of the country.

Pharmacy assistant training is not entirely new in Malawi. In 1977, pharmacy assistants were the only pharmacy cadre that was being trained in the country. This certificate programme was changed to a pharmacy technician diploma in 1999. The pharmacy assistant programme was reintroduced to address the lack of trained pharmacy personnel at the 630 public health centres across the country. Public health centres are usually the first port of call for health services provision in rural areas, which constitutes approximately 85 per cent of the country's population (Larsen-Cooper et al., 2017).

The reintroduced pharmacy assistant training programme is an enhanced two-year certificate, currently delivered by the Malawi College of Health Sciences. The course curriculum consists of 15 modules that include new and greatly enhanced modules from the original curriculum. The programme has a strong emphasis on supply chain management and hands-on, experiential learning, including two 20-week practicums supervised by a pharmacy technician.

¹ Health workforce is defined as "all people engaged in actions whose primary intent is to enhance health" (World Health Report 2006).

PROGRESS & RESULTS

The formal delegation of health supply chain task to dedicated pharmacy personnel at health facilities in Malawi's public health system has brought immediate results and promises to be a lasting solution to the challenge of pharmacy personnel shortages. The Principal Pharmacist, Health Technical Support Services – Pharmaceutical (Ministry of Health), Charles Chimenya, acknowledges that *“there is a big difference in practices between health facilities with and without a pharmacy assistant. Specifically, health facilities manned by pharmacy assistants are maintaining very good inventory records.”*

Data from a baseline assessment and monthly data collection on stock-outs, reporting timelines and accuracy, dispensing quality and dispensary and storeroom conditions conducted at health facilities prior to and during pharmacy assistant practicum placements indicate great improvements at health centres over time. The ongoing quasi-experimental study will validate the impact of the pharmacy assistant training programme on access to medicines and health outcomes.

Availability of pharmacy personnel at primary health care level

All 50 students from the first intake of the pharmacy assistant programme graduated in 2015 and were deployed to health centres across the country. A second cohort of 86 students graduated in 2016, and the Ministry of Health is in the process of finalizing their deployment to rural health centres. A total of about 130 students are expected to graduate from the programme in 2017 and 2018.

The 136 pharmacy assistants that have been graduated so far represent about 22 per cent of the Ministry of Health target of 650 trained pharmacy assistant positions approved by Treasury in 2014. The deployment of these qualified pharmacy assistants has provided dedicated pharmacy personnel at health facilities. The Ministry of Health is satisfied with the 100 per cent retention of the 50 pharmacy assistants that deployed in 2015.

“Training cadres such as pharmacy assistants is one of the best investments that a country can do because having these highly qualified cadres at health facilities will go towards long-term improvements in availability of health commodities due to better logistics data availability and quality, reducing expiries and better quantification”

Phil Kamutenga, Country Director GHSC-PSM Project, Malawi

Clinical staff time versus time spent on logistics tasks

Time spent on health supply chain tasks by clinical staff and lay health workers diverts these cadres from their core duties of direct patient care. Deployment of pharmacy assistants at health centres has decreased clinical staff time spent on logistics tasks by **81 per cent from 48 hours to 9 hours** (VillageReach, 2017). This has been a huge relief for many health workers who were managing health commodities stores/dispensaries on an ad hoc basis.

“Before the pharmacy assistant came, the few nurses we have also had to manage the pharmacy stores and dispensary. The pharmacy assistant focuses 100 per cent on the pharmacy stores and dispensary, and this has relieved the nurses to attend to more patients”

Steve Makhuyula, Deputy Facility In-Charge, Lumbadzi Health Centre

Storage and dispensing practices



Aaron Sendeza, Pharmacy Assistant at Lumbadzi Health Centre

Pharmacy assistants have taken direct control in improving store management practices at health centres. Health Centre In-charges where pharmacy assistants are deployed report that medicine stores are now orderly, with proper records kept for all commodities. The average score for appropriate storeroom management, including practicing “First Expiry, First Out,” has increased from **72 per cent to 79 per cent** (VillageReach, 2017). Dispensing practices at health centres have improved since the deployment of pharmacy assistants. The average score for appropriate dispensing, including giving proper instructions to patients on how to take medication and possible side effects, increased from **41 per cent to 60 per cent** (VillageReach, 2017).

Quality of logistics data reporting

Accuracy of stock on hand and consumption data reported on monthly logistics management information system reports increased from **55 per cent to 73 per cent**. Reports from the quarterly technical monitoring exercises conducted by Central Medical Stores Trust and Ministry of Health allude to improvements in the accuracy of entries on stock card and adherence to standard operating procedures at health centres with pharmacy assistants compared to health centres without pharmacy assistants.

Observations from technical monitoring of last mile distribution of health commodities

“Presence of pharmacy assistants at health centres has brought significant changes in record keeping and arrangement of commodities in the stores, and they have added a professional touch to management of health commodities at primary health facilities. The nurses and other clinical health workers are now more relaxed and can focus on their specific duties.”

Rex Kuyeri, Senior Logistics Officer, Central Medical Stores Trust

CHALLENGES

The pharmacy assistant training programme has faced the following obstacles:

- ❖ **Delay in recruitment and deployment:** The second cohort of 86 graduates who graduated in 2016 have faced a 9-month wait before deployment to health centres due to a change in deployment protocol at the Ministry of Health. Most members of the Appointment and Discipline Committee, responsible for conducting interviews of staff entering common service, have retired or have been transferred out. The Health Service Commission is currently finalizing the replacements. Interviews and deployment of the 2016 graduates are expected to commence in April 2017.
- ❖ **Meeting the national target of 650 pharmacy assistants:** At the current rate, the existing pharmacy assistant programme will take at least five years to meet the Malawi Ministry of Health’s desire to place as many as 650 Pharmacy Assistants at health facilities serving rural communities. The number of lecturers (total of three, two seconded by VillageReach) are not adequate to scale up the training programme. In addition, training facilities (lecture rooms and equipment) currently present some challenges. Development partners such as Global Fund are currently working with the Ministry of Health and other relevant ministries to accredit to other training institutions to expand pharmacy assistant training.
- ❖ **Inadequate pharmacy technicians:** The pharmacy assistant relies on hands-on learning under the supervision of pharmacy technicians. Inadequate numbers and skills of pharmacy technicians at district hospitals to supervise the pharmacy assistants have resulted in an overload of students per pharmacy technician. The lecturers at Malawi College of Health Sciences join in the supervision of students during the practicum, but this is costly. In addition, the shortage of pharmacists or pharmacy technicians at district level has resulted in requests for pharmacy assistants to work at the District Health Offices instead of health centres.

LESSONS LEARNED

Policy, legal and regulatory support

The Pharmacy Medicine and Poisons Act (1991) provides for registration, disciplining and training within Malawi of pharmacy assistants, among other pharmacy personnel (pharmacists and pharmacy technologists). This provides a regulatory/legal framework that supports the code of conduct, practices and recognition of pharmacy assistants as bona fide pharmacy professionals. The Ministry of Health accepted the novel approach of reintroducing pharmacy assistants into the health system by integrating this cadre as part of the health establishment. In 2014, the Treasury approved 650 pharmacy assistant positions.

Development partner support

In addition to funding from the Barr Foundation, VillageReach and University of Washington, the programme has benefited from technical and financial support from the United States Agency for International Development (USAID), the Global Fund and Médecins Sans Frontières (MSF). USAID and MSF are supporting the training of 80 students to be recruited at end of 2017. The Global Fund is seeking to support training of 100 students through accreditation of new training institutions within the country. This continued financial support from development partners to expand training of pharmacy assistants and the desire of the Ministry of Health to have a pharmacy assistant at every health centre is very encouraging.

Coordination mechanism

A task force was set up within the Ministry of Health to plan, coordinate and monitor all activities pertaining to the pharmacy assistant training programme. Members of the task force include the Ministry of Health, represented by the Directorate of Health Technical Support Services – Pharmaceutical and Directorate of Planning and Policy Development; development and implementing partners including VillageReach and USAID; and Malawi College of Health Sciences. Representatives from other ministries such as those of Education and Finance were also included in the task force. The task force meets quarterly and has provided a strong platform for the coordination and monitoring of activities related to the pharmacy assistant trainings.

POTENTIAL APPLICATION

This model of shifting tasks in health supply chain systems has the potential to be replicated in other developing countries that continue to face human resources challenges in managing health commodities in peripheral health facilities, especially in rural areas. Some key considerations for an institutional framework for the Ministry of Health (or other relevant authority) in countries seeking to implement similar initiatives include:

- ❖ **Stakeholder buy-in:** Introducing a new cadre or upgrading an existing cadre within the health system to take a similar role as the pharmacy assistant requires strong buy-in from the Ministry of Health; other key ministries such as Education and Finance; local training institutions; regulatory authorities; and development partners. Establishment of a task force that draws together key stakeholders within the country is vital for planning, coordination and advocacy. The responsibility for advocating and championing task shifting lies with the department/directorate of pharmaceutical services within the Ministry of Health (or equivalent).
- ❖ **Regulatory framework:** Recognition of the cadre within the country's health system is crucial. Most countries have laws and regulations that govern the conduct of pharmaceutical personnel. From the onset, provision should be made to revise the relevant pharmaceutical policies and regulatory documents to accommodate the new/upgraded pharmaceutical cadre.
- ❖ **Funding:** As with many health programme interventions, implementing this initiative does not come cheap but the rewards from the investment are huge. It is important for the country to adequately estimate the cost requirements to meet country targets and secure funding from available sources. It is helpful to include plans to introduce this initiative as part of the health/pharmaceutical strategic plan to help mobilize funding.
- ❖ **Enabling environment:** Adequate salaries and allowances, good working conditions and opportunities for career growth are some key factors that are crucial to retain health workers. Policymakers and implementers should work to address factors that create an enabling environment for these new/upgraded cadres for sustainability and the realization of the full impact of the initiative.
- ❖ **Recruitment strategy:** The health facilities targeted by this initiative are mostly in rural areas, some in hard-to-reach areas with limited access to many of the amenities that can be accessed in urban areas. As a result, implementers should develop a good recruitment strategy that can help identify students willing to live and work in rural, hard-to-reach locations. A potential suggestion is to consider candidates from the vicinity of a cluster of health facilities in target districts for deployment.

INNOVATION

The Malawi pharmacy assistant programme is a novel approach that focus on two 20-week field-based practicum placements for the students to gain hands-on training to solve real-life problems. The students rotate through practical settings (district hospitals and health centres) after ten weeks of class-based learning at the Malawi College of Health Sciences.

NEXT STEPS

VillageReach Malawi is currently implementing a pilot study on pharmacy assistant mentorship in three districts. During the mentorship programme, pharmacy assistants provides mentorship to three health facilities, staffed by drug store clerks, through two visits per month during the six-month pilot.

RELATED LINK

<www.villagereach.org/impact/pharmacy-assistant-training-program>

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