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Getting Treatment and Care to the Last Mile: Analyzing the Health Surveillance Assistant Cadre in Malawi

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ACRONYMS

AEHO	assistant environmental health officer
ART	antiretroviral therapy
CHW	community health worker
DBS	dry blood spot
DEHO	district environmental health officer
DHO	district health office
HSA	health surveillance assistant
HTC	HIV testing and counselling
IMCI	integrated management of childhood illnesses
MMOH	Malawi Ministry of Health
NGO	non-governmental organization
TB	tuberculosis
WHO	World Health Organization

ABSTRACT

As low- and middle-income countries face continued shortages of human resources for health and the double burden of infectious and chronic diseases, there is renewed international interest in the potential for community health workers (CHWs) to take on a growing role in strengthening health systems. Health surveillance assistants (HSAs) — as the CHW cadre in Malawi is known — play a vital role by connecting the community with the formal health care sector. Yet, little is known about the routine experience and challenges faced by HSAs, as their roles and responsibilities have grown due to task shifting. A situational analysis of the HSA cadre and its contribution to the delivery of health services in Zomba District, Malawi was conducted, focussing on HSAs' perspectives collected through focus groups and interviews. The findings show that HSAs face numerous challenges related to training, as well as challenges in defining their roles and those of their supervisors, and setting priority tasks by HSAs, their supervisors and policy makers. The paper concludes with recommendations to improve HSA training and policy, with the ultimate goal of improving the effectiveness of this cadre of worker, and improving the health of the population.

INTRODUCTION

An estimated 57 countries are facing health workforce shortages and more than four million health workers are needed to fill this gap (Global Health Workforce Alliance and World Health Organization [WHO] 2010). The shortage of human resources for health and the double burden of infectious and chronic diseases cause greater mortality and morbidity, hamper the achievement of the health-related Millennium Development Goals, and impede economic growth in low- and middle-income countries. As a result, there is renewed international interest in the potential for CHWs to take on an expanded role in strengthening health system responses.

CHWs are community-level practitioners, often selected from among community members, who provide basic health and medical care to residents with a special focus on preventive services. CHWs generally function as the first point of care for communities and often interact with their communities at the household level (The Earth Institute 2011), unlike doctors and nurses who are formally educated health practitioners, situated in clinics or hospitals. As this paper further explains, CHWs also work with much less training and significantly less pay than doctors and nurses. Many countries developed national programs of CHWs following the Alma-Ata Declaration on primary health care in 1978.[1] CHWs are widely employed throughout Africa and Asia and, to a lesser extent, in South America, as well as in higher-income countries such as the United States and the United Kingdom. CHWs around the globe have been deployed to provide a variety

1 The declaration brought the gross inequality between the health of people in the developing and developed world to international attention, a fact that is politically, socially and economically unacceptable. It emphasized that health is a fundamental human right and that all governments have a responsibility to launch and sustain primary health care through national programs. It presented primary health care as the means to achieve "health for all" and, consequently, CHWs became a cornerstone of primary health care programs (Christopher et al. 2011).

of services with a general focus on nutritional interventions, maternal and child health promotion, childhood immunization, infectious disease control and non-communicable disease interventions (Global Health Workforce Alliance and WHO 2010).

The WHO asserts that increasing the role of CHWs is appropriate in settings that have a high disease burden and shortage of health workers. In this regard, CHWs can fill the human resources gap and effectively supply essential health services (WHO 2008). Several existing systematic (Lewin et al. 2010) and non-systematic reviews (Haines et al. 2007; Sanders and Lehmann 2007) demonstrate that CHW interventions are effective against malaria (Christopher et al. 2011), and that CHWs can increase immunization coverage and improve breastfeeding rates, tuberculosis (TB) treatment and neonatal survival (Bang et al. 2005). Less is known about the effectiveness of CHW programs in preventing child deaths from pneumonia or diarrhea (Bryce et al. 2005).

Despite recognition of the importance of CHWs and the research evidence about their role and efficacy, their voice is rarely heard to express on-the-ground perspectives. More specifically, relatively little is known about how CHWs actually function in terms of training, supervision, prioritizing tasks and facing challenges. These perspectives are important for informing health policy in Malawi and elsewhere. This paper examines the role of HSAs in Zomba District, Malawi, before describing the methods used for data collection and analysis, and ethical considerations. The findings will be discussed in three broad categories: training, the roles of CHWs and their supervisors, and priority setting by CHWs, their supervisors and policy makers. The paper concludes with suggestions to improve the effectiveness of HSAs.

The Current Role of the HSA in Malawi

Malawi is a low-income country with a critical shortage of health workers (one doctor per 100,000 people) and a high disease burden (WHO 2008). Life expectancy at birth is 47 years and the infant mortality rate is 92 deaths per 1,000 live births. HIV prevalence is 11 percent in adults aged 15 to 49, and TB prevalence is 174 per 100,000 people (WHO 2012). Throughout Malawi, CHWs (known as HSAs) are critical to the overall health system, playing a vital role by connecting the community with the formal healthcare sector.

The Malawi Ministry of Health (MMOH) considers that the primary role of the HSA is to provide essential health care at the community level to improve the health status of all Malawians, thus improving productivity and ultimately national economic growth (MMOH 2012). The MMOH states that the three primary roles of the HSA are to:

- provide health promotion, disease prevention and curative care;
- promote community participation in health-care activities; and
- provide surveillance of health problems in the community.

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HSAs currently comprise 30 percent of the health workforce in Malawi and they are often the only health workers serving rural communities (MMOH 2010). HSAs have primary responsibility for the delivery of several health services, particularly child immunization (ibid.). The MMOH aims to have HSAs responsible for further prevention work such as recognizing, treating and referring pneumonia cases, yet the MMOH recognizes that HSAs may be ill equipped, in terms of training and resources, to do so (Carlson et al. 2008).

A recent task force (established to review the job description of the HSA cadre) interviewed HSAs in several districts throughout Malawi (Nkhono, Banda and Kalilangwe 2011). This provided initial insights into the roles and activities of HSAs, supervision and reporting structures, and constraints on HSAs in completing their listed duties. This paper's research complements and builds on the work of the task force via an in-depth situational analysis of the cadre within Zomba District.

"HSAs CURRENTLY COMPRISE 30 PERCENT OF THE HEALTH WORKFORCE IN MALAWI AND THEY ARE OFTEN THE ONLY HEALTH WORKERS SERVING RURAL COMMUNITIES"

RESEARCH OBJECTIVES

Prior to this study, limited systematically collected data existed on the complex and multi-faceted role that HSAs fill within the Zomba District health-care system. This study's research team was hosted by Dignitas International, a medical humanitarian organization focussed on HIV/AIDS-related care, treatment and operations research, working in Zomba District. The team conducted a rigorous situational analysis of the HSA cadre and its contribution to the delivery of health services in Zomba District, in collaboration with the MMOH.

The specific objectives were to first conduct a baseline cross-sectional assessment of the on-the-ground realities of the HSAs' initial and ongoing training, their performed versus documented roles and responsibilities, and their supervisors' performed versus documented roles and responsibilities. A second objective was to determine the priority given to tasks by HSAs, their supervisors and policy makers. The final objective was to investigate multi-level explanatory factors related to constraints in completing listed job responsibilities, including costs at the national policy level, the health centre or community level, and at the individual healthcare worker level.

Methodology and Analysis

Zomba District in southern Malawi has over 670,000 inhabitants, 80 percent of whom live in rural areas. Within Zomba District, there are 31 health centres in seven health service clusters (National Statistical Office 2008). The population for the study was HSAs and HSA supervisors currently employed in Zomba District. National-level policy makers within the MMOH were also included to provide high-level perspectives on the HSA system.

An ethnographic methodology and multiple data collection methods in combination were utilized to gain a comprehensive understanding of the HSA system, its training, supervision and functioning within Zomba District (Creswell 2007). This methodology generates a deeper understanding of the current situation and day-to-day realities of the HSA system. Consistent

with this methodology, methods used included a desk review, direct observation, field notes, HSA work diaries semi-structured interviews and focus groups. Ethnographic methods were chosen over other qualitative or quantitative data collection methods in order to gain an in-depth and credible understanding of the HSA population's role and training. Without observation of HSAs performing their roles in "real time" and in-depth interviews to gain the perspectives of informants, the data obtained using alternative methods (such as surveys) would not have provided such extensive and in-depth findings about the HSA experience.

A desk review was completed, which involved gathering and reviewing documents from the peer-reviewed and grey literature related to the HSA cadre. This was conducted via an online PubMed and Google search using key terms such as "HSA," "CHW" and "HSA role/training." In addition, documents were obtained from the MMOH, including national and district-level policy documents, past and current HSA and HSA supervisor job descriptions, past and current HSA initial training curricula, and a review of the HSA job description tabled to the Human Resources for Health Technical Working Group (Nkhono, Banda and Kalilangwe 2011). Interview guides were developed from the desk review and drafts were piloted to inform the final interview guides. Documents were also analyzed in conjunction with peer-review literature and considered in relation to the data collected in the study of the reported and observed experiences of HSAs, their supervisors and policy makers.

Data collection took place over six weeks during July and August 2012. In total, 75 of the 632 HSAs employed in Zomba District at the time of the study participated and they were drawn from 17 of the district's health centres. Data collected included eight focus groups of HSAs, 15 individual HSA interviews, six policy maker interviews, seven interviews with HSA supervisors, five HSA five-day work diaries and field notes from three three-day HSA observations. Saturation was reached, but data collection continued until HSAs and their supervisors were recruited from all clusters so that the HSA experience across the district was obtained.

The study team spent one day in each of the seven clusters collecting data. A combination of random and purposive sampling was used to recruit participants, with an aim to gain a broad representation while also selecting HSAs from particular sites of interest to add depth to the understanding of the cadre. Focus groups were drawn from each cluster's largest health centre. Individual HSAs and HSA supervisors were selected from the health centres chosen purposively because they were identified by the district environmental health officer (DEHO) as "exemplar: demonstrating strengths" and "exemplar: demonstrating challenges," or because the research team identified social and geographical characteristics, such as remoteness, which made them of interest to the study. Selecting study sites in this way was considered essential to understanding the breadth of challenges that HSAs encounter in fulfilling their roles and thus gaining further depth and understanding of the HSA cadre.

HSAs were selected from chosen sites using a random number generation system and invited to participate. When HSAs declined or were unavailable

"ETHNOGRAPHIC METHODS WERE CHOSEN...TO GAIN AN IN-DEPTH AND CREDIBLE UNDERSTANDING OF THE HSA POPULATION"

due to reasons such as leave, prior commitment or transfer, convenience sampling was used and available HSAs were invited to participate. The three HSAs shadowed for observation and the five HSAs who completed work diaries were purposively chosen from exemplar sites and other selected sites. HSA supervisors were chosen from the centres selected for HSA interviews and policy makers were chosen purposively to include a range across HSA-associated MMOH departments.

Malawian research assistants fluent in both English and the local language, Chichewa, conducted interviews and focus groups with HSAs and their supervisors in Chichewa. Policy maker interviews were conducted in English. All interviews and focus groups used semi-structured interview guides, were audio recorded, transcribed verbatim and then translated into English. The five-day work diaries were completed in Chichewa and translated into English. Malawian research assistants also conducted the participant observation. The research team was unable to observe HSA basic training sessions as none were scheduled during the data collection period.

> "THE TEAM USED A COMBINATION OF NVIVO 9 QUALITATIVE DATA STORAGE SOFTWARE AND MANUAL DATA CODING"

Data was analyzed using content analysis. Themes and subthemes were derived directly from the data consistent with ethnographic methodology (Spencer and Ritchie 2003). The team used a combination of NVivo 9 qualitative data storage software and manual data coding. Investigators read transcripts from in-depth interviews, work diaries and field notes independently, coding the transcript data according to emerging themes. In an iterative process, investigators clustered emerging themes and subthemes, discussing them amongst the team to find consistencies and differences, and to synthesize them according to the project objectives. Anomalies in the data were also identified so these could be further investigated in future in-depth interviews. Saturation was reached through this process when no new themes emerged from the data after three consecutive interviews.

Ethical Considerations

This study was approved by the district health management team in Zomba District, the Malawi National Health Science Research Committee and the University of Toronto HIV Research Ethics Board. All HSAs, HSA supervisors and policy makers participated voluntarily. Written informed consent was obtained from all participants in Chichewa or English. All HSAs and their supervisors were accessed via the Zomba DEHO, in line with the district directive. The participants' confidentiality was assured by separating identifying information from the transcripts and quotes.

FINDINGS

Training of HSAs

HSAs receive three types of training: initial training (termed "basic" training), additional training and on-the-job training. Basic training provides an introduction to the role and some basic skills while additional training

intends to build on those skills, providing in-depth information on specific topics and introducing new topics.

BASIC TRAINING

Basic training consists of 12 weeks of intensive instruction under a national standardized curriculum. The Preventive Health Department developed the curriculum with input from other departments, such as the Nursing and Midwifery Department, which oversees some programs in which HSAs are involved. The curriculum consists of 29 topic-specific units in three categories, all taught through a competency-based approach: preventive health, family health, and basic management and administration (MMOH 2009).

When asked about topics on which they were trained, almost every respondent mentioned child immunization. Most HSAs also responded with community assessment, disease surveillance, communication and family planning. The reproductive system, harmful reproductive health practices and infertility are topics that appear in the training manual, yet were not mentioned by any HSAs.

The training consists of classroom lessons, a practical component and regular examinations. One policy maker reported that the practical component is not always provided because of lack of funding. Another policy maker expressed serious concern because HSAs who fail the final exam may continue practicing as HSAs.

DELAY BETWEEN RECRUITMENT AND BASIC TRAINING

According to MMOH documents, five percent of HSAs nationally have yet to receive basic training (MMOH 2012). Ten percent (n=8) of participants had not received basic training at the time of the study, and of those, 85 percent (n=6) had been working for at least five years. One HSA who had not received basic training was working as a supervisor.

A supervisor reported that there should be a maximum of three months between basic training and commencement of work as an HSA, yet the majority of HSAs wait much longer. Participants in our study reported an average wait of 2.6 years between basic training and recruitment (starting work). The most frequently reported wait was one year. For HSAs without basic training, so-called “additional training” is the only formalized training they receive, yet they are still expected to complete tasks covered by basic training.

A long delay in training causes concern for many HSAs and those who have not received training feel that they are ill-prepared to do their job. As one HSA stated: “[some HSAs] have not yet undergone basic training, they are just working ignorant. They don’t know if what they are doing is right or wrong, just because some of us here we did not go on basic training. For example there are people amongst us who have worked for five years without going to basic training and of course we have on job training but it’s not enough.” HSAs who have not received basic training rely on on-the-job

“ACCORDING TO MMOH DOCUMENTS, FIVE PERCENT OF HSAs NATIONALLY HAVE YET TO RECEIVE BASIC TRAINING”

training, which is regarded as insufficient by HSAs, supervisors and policy makers.

The majority of HSAs in Zomba District who have not yet received basic training were recruited in 2007, when mass recruitment of HSAs outstripped training resources. In 2007, the MMOH doubled its target HSA density to one HSA per 1,000 people (MMOH 2012). There was not enough funding, however, to train all the HSAs that were recruited. Training is expensive and lack of funding at the national level restricts provision. The MMOH estimates that it will require K200 million (US$610,000) to train the remaining untrained HSAs (ibid.).

INADEQUACY OF BASIC TRAINING: DURATION AND CONTENT

Because the role of the HSA has been expanding, the MMOH has gradually added new topics to basic training. The duration had increased from six weeks in 1992 to 12 weeks at the time of the study (MMOH 2012). HSAs in our study that received the shorter training had not received "catch-up" training on topics later added to the curriculum; furthermore, they believed that the shorter training courses were inadequate for their current role.

> "BECAUSE THE ROLE OF THE HSA HAS BEEN EXPANDING, THE MMOH HAS GRADUALLY ADDED NEW TOPICS TO BASIC TRAINING"

Many respondents felt that the duration and content of the current 12-week training needed to be further increased to reflect the HSAs' role. As one policy maker put it: "the content is just too much…they don't have too much time to synthesise what they learned." There was a diverse range of opinions among HSAs, supervisors and policy makers on the sufficiency of basic training. While some policy makers and HSAs believed that the training provided was adequate to fulfill the HSA's role, many felt that the scope of the role was beyond what was taught at basic training. Of those who felt that the training was adequate, many were concerned that the ongoing task shifting meant that basic training would soon be inadequate.

In some cases, HSAs expressed concern about the consequences of inadequate training for their patients: "sometimes it pains us because we are not qualified to do [certain tasks]. We give treatment to the younger ones, it's like putting their life at risk" and "they should not be prioritising on saving the money but on how to save the lives of the people. Honestly, when you have not mastered on the drugs, you can end up destroying other people's lives."

ADDITIONAL TRAINING

Additional training can be an extension of the topics taught at basic training or training on new topics altogether. This study found that it was provided mostly in the form of off-site workshops, specific to a disease, health issue, program or competency. These training sessions ranged in length from a few days to five weeks and were provided by government and non-governmental organizations (NGOs).

Some of the additional training was provided when the MMOH added new tasks to the HSA's role. For example, offering an integrated management of childhood illnesses (IMCI) village clinic was recently added to the HSA job description, and the MMOH sent the majority of HSAs to an IMCI workshop.

In addition, NGOs often played an important role in providing additional program-specific training. Several policy makers noted that these training sessions led to HSAs specializing in certain areas, such as HIV testing and counselling (HTC) and pharmacy management.

Although these training sessions were sometimes called "refreshers," study findings did not show that they refreshed what was learned at basic training, but instead provided new information on topics taught at basic training. Many HSAs expressed a need for refresher courses on what they had learned at basic training. One supervisor stated: "I have been trained long time ago, the refreshers do not happen…the tasks for the hospitals keep changing."

FRAGMENTATION OF ADDITIONAL TRAINING

Additional training appears to be ad hoc and fragmented, with no horizontal integration. The project team found that, overall, HSAs had received training on a wide variety of topics, yet few had received the same training. The 77 participants mentioned more than 35 additional training topics from 24 different providers; 25 of these topics were each mentioned by only one participant. Village clinic (67 percent), family planning (40 percent), and HTC (33 percent) were the most commonly mentioned topics.

The opportunities for HSAs to attend additional training were found to vary by location, depending on local NGO activity and MMOH programs. Even within the same geographic area, there was a wide variation in the quantity and topics of training received by HSAs in our study. This disparity created tension among HSAs, especially because those who attended additional training were often given compensation and incentives, such as accommodation and meal allowances, resulting in resentment toward HSAs that received additional or "better" training. As one supervisor put it: "This is discouraging because they say our friends have attended trainings so they have advantage of being called to refresh training…while…we cannot even go to workshops. This can affect a person's performance at work because in the same office others cannot go to workshops while some of us just stay and only depend on salary."

> **"ADDITIONAL TRAINING APPEARS TO BE AD HOC AND FRAGMENTED, WITH NO HORIZONTAL INTEGRATION"**

HSAs that received this additional training were expected to train their peers. As one HSA stated: "it is not all HSAs that go for training, they select a few and train them, so it's those who have been trained that teach the others." The HSAs on both sides of this situation were unsatisfied with this system; those who did the training felt they were not adequately equipped to teach the topics to their peers and the others were not satisfied with being briefed by their peers. HSAs and supervisors expressed a desire for all HSAs to be trained on each additional topic. However, policy makers recognized that a lack of funding restricts training provision.

For this system to be effective, the HSAs who receive the training must have a clear understanding of the topic and be able to effectively instruct their peers. HSAs expressed concern because this did not always happen. One HSA stated: "there is a lot of information that they want to teach us… [and] the mind cannot understand what is intended to be delivered or even

coming here and failing to render the acquired information to our friends during local meetings as it was given. This means that there exists a wrong implementation of that exercise in the village and at the end the job does not occur well."

One supervisor was dissatisfied that supervisors are not trained on the same topics as the HSAs. He noted that he is expected to supervise HSAs on topics in which he has no understanding and this was difficult for him: "This supervisor cannot supervise this HSA on other things which this HSA has been trained on…the HSA has information yet the supervisor doesn't have the information. How can you supervise something you don't know?"

ON-THE-JOB TRAINING

On-the-job training begins with a week-long orientation for new HSAs and HSAs that are relocated to new catchment areas. Supervisors are responsible for ensuring new HSAs are given an orientation. One HSA referred to it as "removing the fears" associated with starting a new position. HSAs receive informal training and mentoring from their peers and supervisors. This can involve one-on-one instruction and learning by watching peers undertake tasks. It also includes peer briefings by HSAs who attended additional trainings, as discussed in the previous section.

"ONE SUPERVISOR WAS DISSATISFIED THAT SUPERVISORS ARE NOT TRAINED ON THE SAME TOPICS AS THE HSAs"

This study found mixed opinions among policy makers about this system. Most felt that it gave HSAs confidence to carry out their tasks, and some felt it provided competence in the absence of formal basic training. A number of HSAs said they felt competent performing tasks such as dispensing TB medication and family planning, having learned from a friend. One supervisor said: "there are some not yet trained but they are doing a good job...just being mentored by others on job, they are doing a [better] job than even HSAs who have been working for twenty, fifteen years." However, the same supervisor felt that on-the-job training sometimes teaches HSAs bad habits that are difficult to correct.

HSAs' Performed versus Documented Roles and Responsibilities

According to the MMOH (2012), each HSA should be given a written job description, but of the 70 HSAs interviewed, 30 said they did not have a copy of their current HSA job description. Many reported seeing one previously, stating it was shown during orientation, or referred to their curriculum notes as outlining their role. There was recognition at all levels that the HSA job description had been repeatedly revised, and HSAs who reported having a job description said it guided their work.

Consistent with their job descriptions, HSAs across Zomba District frequently described themselves as community-based health workers with a designated catchment area (MMOH 2012). Additionally, as documented in the job description, HSAs spoke about building relationships with their catchment leaders and communities, and encouraging community participation in health care. They often referred to themselves as a bridge or link between villages and health facilities. As one respondent stated, "we

mostly do our work in the village and it needs HSAs to be a bridge between the village and hospital."

While having an interface between community and health centres was seen as essential to effectively fulfilling this function, it was recognized at all levels that, to varying degrees, HSAs were being expected to spend more and more time at health facilities performing "static" duties. HSAs in one facility were required to spend one week per month away from their catchment areas, while in another, HSAs complained that two weeks out of four were spent in clinics. The task force reviewing HSA job descriptions concluded that HSAs currently spend on average 65 percent of the time in the communities and 35 percent in the health centres (Nkhono, Banda and Kalilangwe 2011). HSAs were clear that spending a week or more working at health centres was not consistent with their documented or expected role. HSAs enjoyed and felt competent doing many clinic-based tasks, but respondents at all levels worried about the consequence of clinic work on their documented roles, particularly preventive efforts in the community. HSAs were increasingly working in facilities on tasks such as microscopy, drug management and HTC. The MMOH (2012, 12) argues that this is not the intended role of the HSA and "something needs to be done in order not to lose the direction of having the HSAs as community based health workers," a sentiment echoed by policy makers in this study.

Interviews, observations, field notes and HSA work diaries were analyzed and compared with the current job description and basic training curriculum. The following core duties listed in the job description and incorporated in basic training were being consistently and frequently performed by HSAs:

- immunizations;
- village inspections of hygiene and sanitation;
- health talks to educate communities;
- child growth monitoring, nutrition and feeding practices, antenatal care and environmental hygiene;
- data collection and recording as well as feedback to community;
- facilitating health committees made up of community residents;
- disease surveillance and responses to outbreaks;
- family planning services;
- community assessments to resolve health problems at the community level; and
- ensuring safe water supply at household and community levels, including chlorination.

Less frequently mentioned tasks that HSAs were doing, but that were in the current job description and basic training were:

- maintaining equipment, mainly immunization refrigerators;

"CONSISTENT WITH THEIR JOB DESCRIPTION, HSAs ACROSS ZOMBA DISTRICT FREQUENTLY DESCRIBED THEMSELVES AS COMMUNITY-BASED HEALTH WORKERS WITH A DESIGNATED CATCHMENT AREA"

- vector and vermin control, including bed nets and spraying for vermin and larvae; and
- inspecting facilities, such as schools, restaurants and other public buildings.

The performed role differed from the job description in terms of the additional tasks that HSAs were being asked or trained to do by MMOH supervisors or by NGO programs. One HSA stated that, "not all the works we do were written on the job description because there are other organisations which use us. So we cannot say that we only follow what was written to us by the government."

HSAs, policy makers and supervisors acknowledged that HSAs were often pulled away to work on tasks beyond their job description. The following tasks were being undertaken by HSAs, those not explicitly listed in the job description or taught within the basic training curriculum:

- running community therapeutic care nutrition programs for malnourished children at facilities;
- TB testing, drug dispensing, review of TB patients and defaulter tracing;
- dispensing and administering contraceptives within family planning activities;
- dispensing and monitoring antiretroviral therapy (ART), ART defaulter tracing and pre-ART activities;
- performing dry blood spot (DBS) testing for infants within prevention of mother to child transmission of HIV programs;
- cholera care at health centres;
- drug store management; and
- outpatient registering at the facility.

HSAs frequently mentioned the IMCI village clinic as an additional or, as some classified it, curative task they performed, and regarded it as the domain of other cadres. As the IMCI village clinic is a designated HSA duty according to the job description, it should be included in an updated HSA curriculum (Fullerton, Schneider and Auruku 2011).

Many HSAs had not seen the current job description, so their assessment of the performed versus documented role was based on previous versions or on their basic training curriculum, neither of which accurately reflected the current MMOH job description for HSAs. Another reason for the disparity in HSAs' perceptions of actual versus documented roles was the statement on the current job description that HSAs may perform "any other duties deemed reasonable for the post by the immediate supervisor." As a result, assistant environmental health officers (AEHOs) or, in their absence, community nurses in charge of a facility or senior HSAs were allocating other tasks. This means that while some HSAs accepted these additional tasks,

"THE PERFORMED ROLE DIFFERED FROM THE JOB DESCRIPTION IN TERMS OF THE ADDITIONAL TASKS THAT HSAs WERE BEING ASKED OR TRAINED TO DO BY MMOH SUPERVISORS OR BY NGO PROGRAMS"

such as completing the outpatient register or treating cholera patients at facilities, a few expressed frustration, since they saw these tasks as outside the HSA's role.

A task force review of the HSA job description noted that HIV and TB defaulter tracing and treatment monitoring activities were being performed throughout Malawi and recommended they be added specifically to the HSA's role (Nkhono, Banda and Kalilangwe 2011). The task force also suggested including HTC, pre-ART activities, DBS, sampling tests for malaria and family planning interventions in a revised job description, given that HSAs are performing these tasks routinely and safely (ibid.).

It is worth noting that neither the current HSA job description, basic training curriculum nor participants at any level in this study referred to a role for HSAs in the prevention and management of chronic diseases, despite these increasingly accounting for much of the disease burden in low- and middle-income countries (Samb et al. 2010).

Supervisors' Performed versus Documented Roles and Responsibilities

The HSA job description lists the AEHO as the foremost supervisor of HSAs, however, a cadre called the senior HSA — also commonly called the HSA supervisor in interviews — provides the majority of direct supervision to HSAs day to day. With the expansion of the HSA cadre's numbers and role, it was recognized that AEHOs were no longer best placed to supervise aspects of HSAs' role. The senior HSA is a relatively recent addition to the supervision structure of HSAs in Malawi.

Consistent with the job description, participants at all levels identified the senior HSA's main role as providing "supportive supervision" to HSAs. Within this, they were said to observe and monitor performance and give feedback to enhance capabilities. Collating HSAs' monthly reports for the AEHO was also frequently identified at all levels as being a component of the senior HSAs' role.

There were notable differences between the current job description of senior HSAs and the roles and responsibilities as reported by research participants. The main roles respondents identified were not listed in the job description: orienting HSAs to their catchment areas, orienting new HSAs to their roles, managing supplies, linking the centre to the district health office (DHO) and disciplining HSAs. Significantly, training HSAs on the job was not reflected in the current job description despite it being recognized as a substantial demand on senior HSAs. As one policy maker stated, "we depend on the HSA supervisor...they are the ones doing on job training... so, they have a big role to play."

Senior HSAs across Zomba District were using consistent approaches to supervise HSAs. The six mechanisms being used by HSA supervisors day-to-day to supervise were: Monday meetings, observation of performance (in clinic or village tasks), "best HSA competition," work plan monitoring, report monitoring and community feedback.

"A TASK FORCE REVIEW OF THE HSA JOB DESCRIPTION NOTED THAT HIV AND TB DEFAULTER TRACING AND TREATMENT MONITORING... BE ADDED SPECIFICALLY TO THE HSAs' ROLE"

For many HSAs, Monday meetings provided the majority of supervisor contact and the opportunity to discuss problems, share experiences and learning. HSA observation was reported to occur opportunistically in clinics primarily, with village visits being far less frequent. Monthly field visits were the most commonly reported, while some in remote areas reported no visits by either senior HSA or other supervisor for up to a year. One HSA said that no supervision at all was happening at their health centre.

Research participants described the "best HSA competition," a Zomba District innovation, as a supervision tool and incentive. They frequently referred to it when discussing supervision, and some respondents indicated that it provided a tool for supervisors to assess HSAs on attendance, uniform, performance, catchment area feedback and reporting. One policy maker stated: "Since we have a checklist, which we [use to] assess each HSA, then the one who scores more marks it means for that facility is the best HSA."

"THERE WERE NOTABLE DIFFERENCES BETWEEN THE CURRENT JOB DESCRIPTION OF SENIOR HSAs AND THE ROLES AND RESPONSIBILITIES AS REPORTED BY RESEARCH PARTICIPANTS"

There was consensus that the level of supervision being provided to HSAs was inadequate and that this represented one of the major constraints to HSA effectiveness.[2] A policy maker commented that: "Many HSAs have ended up not being supervised and supervision has been a biggest problem in this cadre." According to an HSA, "supervision is also a problem. For us on the bottom, our top bosses don't want to come watch us. They just want that when they want something, they should just take us by surprise yet they don't come to supervise us as it is supposed to be."

Senior HSAs were aware of their responsibilities; however, they also acknowledged that they often failed to perform supervision adequately due to systemic and environmental constraints. One policy maker noted that senior HSAs are recruited based on good performance as an HSA, which does not guarantee strong supervision skills. Furthermore, a lack of supervisor training potentially limits their capacity to fulfil their roles.

Senior HSAs acknowledged that they provide supervision infrequently and they attributed this to a large number of HSAs per supervisor, a lack of transport to visit HSAs in the field, long travelling distances and competing demands, such as local program coordination. Some policy makers also found the lack of standardized assessment tools for the supervision of HSAs as problematic.

Furthermore, senior HSAs all reported that they had to carry out regular HSA duties in addition to supervision, which placed great demands on their time, despite their job description not explicitly stating that they must fulfill this role within a catchment. One respondent stated that supervising takes the vast majority of work time, leaving little time to perform effectively as an HSA: "It takes three quarters of my time and the remaining time is when I do my work."

2 For more on HSAs receiving inadequate supervision, see Katsulukuta (2010) and Kadzandira (2002).

Study participants reported that HSAs have multiple supervisors and this creates confusion for all parties. HSAs have supervisors from various MMOH departments as well as supervisors within NGO programs. When asked about their supervisor, several HSAs replied, "which one?" A policy maker also noted this issue: "they have many masters, they have to listen to this program manager, they have to listen to [that] one…it's a big challenge."

Supervision occurs vertically within programs and there is little, if any, integration either across MMOH departments or with NGO programs. As one policy maker remarked: "I don't know what other supervisors are doing because mostly we don't go as an integrated program...it's usually maybe the nursing [who] will supervise them on its own component, the clinical we will supervise them on the clinical component, the preventive will go also, another supervision on that component and we have different programs."

PRIORITY GIVEN TO TASKS BY HSAs, THEIR SUPERVISORS AND POLICY MAKERS

Priority on Prevention and Community Service

HSAs, policy makers and supervisors agreed the HSAs' prevention role is the most important as it reduces disease burden, mortality and service demand in stretched health facilities. HSAs expressed pride in their capacity to reduce disease and save lives: "when we hear that this year in our country the report reveals that there is zero outbreak of such diseases we become very happy because the job…we sometimes think to ourselves that when there is zero report it means that the one who has tried to do a very important job is we the HSAs in the community." Policy makers and supervisors echoed this sentiment. Prevention was also acknowledged to save money for the Malawian government. As one policy maker stated: "My plea is that we should continue giving them [HSAs] the right support and doing more on preventive health services. You know prevention is cheaper and is simple."

"HSAs, POLICY MAKERS AND SUPERVISORS AGREED THE HSAs' PREVENTION ROLE IS THE MOST IMPORTANT AS IT REDUCES DISEASE BURDEN, MORTALITY AND SERVICE DEMAND"

Being the only community-based cadre and an effective link between villages and health centres has placed HSAs at the forefront of large-scale prevention campaigns such as the expanded program on immunizations. The strengths and skill mix of HSAs mean they are relatively effective and efficient in gaining good coverage and providing more equitable access to services. This allows the MMOH to drive its agenda, as recognized by one policy maker: "those people are very close to the community so for any public health intervention they are close to the people and they would carry that very well and dissemination of that promotion would be even faster and more effective."

The HSA role has been evolving as the health needs and the capacity of the health system to provide services has changed. Despite the MMOH (2012) listing "curative" in the definition of HSAs' primary role, this study found varying opinions about whether HSAs should perform curative tasks. Activities including IMCI, family planning, and TB medication monitoring and dispensing, though officially the domain of other cadres, have been allocated to HSAs across Zomba District. The ideal for policy makers is

having more highly qualified personnel performing these tasks; however, without more qualified workers, HSAs are the most appropriate cadre. The MMOH recognizes that HSAs cannot be removed from these tasks until there is a significant increase in numbers among other cadres at health facilities (Nkhono, Banda and Kalilangwe 2011).

Among HSAs, opinion was divided on the ongoing delivery of IMCI. Many saw it as a priority from a health promotion and prevention perspective as it reduces barriers to access, fits well at the community level and villagers value it; others considered it clinical, not preventative, and the responsibility of other cadres. Some felt insufficiently trained to perform the role and worried about the consequences to themselves and others by potentially misdiagnosing, mistreating or causing harm inadvertently.

Day-to-day Priority Given to Tasks

Day to day, HSAs used work plans as a tool to assign priority to tasks. HSAs and supervisors invariably spoke of work plans and many were observed. The work plans were similar for each HSA and were used routinely to outline intended activities for the month ahead. Many HSAs said work plans are key to meeting demands: "we have to write a monthly work plan. That means what we are supposed to do that month; we arrange them in a way that we finish the clinic work as well as the field work. So we work according to our work plan."

> "THE HSA ROLE HAS BEEN EVOLVING AS THE HEALTH NEEDS AND THE CAPACITY OF THE HEALTH SYSTEM TO PROVIDE SERVICES HAS CHANGED"

At the facility level, there was evidence that HSAs factored in yearly and monthly plans established by local or district supervisors to assign priority to activities based on seasonal disease patterns. As one HSA commented: "So for instance as it is now we are going towards the rainy season we prioritise [sic] on sanitation so that the people have necessities like toilets…. If the rainy season comes and we have done much we then prioritise [sic] for instance the issue of bringing health messages to them." Supervisors created rosters for clinic duties which HSAs then incorporated into work plans. HSAs reported that data, reports and disease monitoring were central to giving activities priority: "We are also taught on data assessment, how we can collect data at the community. So that we know how my village is, base line data, this is how we can tell them where we are going to start." Some HSAs spoke about reviewing data with communities to determine health priorities collaboratively and one spoke about setting targets for the catchment as a way of assigning priority to work and monitoring his or her own performance.

Challenges in Setting Priority

HSAs experienced day-to-day challenges in setting priorities because of the increasing amount of time they spent at clinics, attending training and responding to unexpected demands and emergencies such as disease outbreaks. HSAs, supervisors and policy makers recognized the challenge inherent in setting priorities, given the ever-expanding role of the HSA (Kadzandira 2002; Katsulukuta 2010; Nkhono, Banda and Kalilangwe 2011; MMOH 2012). Most HSAs felt they have too many jobs to do them all well: "we have a lot of jobs, so for you to become an expert at a particular job it

becomes difficult because if you are to do a job you should put your heart into it, another one comes that you should do such, so we have a lot of jobs so that it becomes difficult to pick out one job that we are good that, the jobs are just too many."

Policy makers admitted to not having "full control" of HSA tasks and recognized that NGOs and local programs allocate activities to HSAs. Several policy makers expressed concern that "a lack of policy" and "ad hoc policy" resulted in variation in tasks given priority across the HSA cadre. One respondent spoke of NGOs bypassing the DHO and supervisors and directly recruiting HSAs for their programs. In an attempt to increase control over the assignment of tasks to HSAs, the DHO issued a directive in July 2012 to restrict direct access of NGOs to HSAs and advised local organizations that all access to the cadre must be arranged via the DEHO.

Although NGO tasks were seen as complementing government efforts, vertical programming, multiple supervisors and the lack of integration associated with programs created competing demands on HSAs to assign priority to activities, and this caused role confusion. Policy makers expressed concern that, depending on demands made or incentives offered from well-funded programs, some tasks could and were being given priority almost exclusively over others. Policy makers feared this would further divert HSAs from core community duties:

"That's why the HSA sometimes, at the minimum, may focus on only one area probably because that area is well funded. And the supervisor wants to produce the results so most of the time that supervisor goes out to the HSA to track, to ask for data for that, for that, then the HSA will tend in the process to some sort of specialising in that area... "

"It is like program managers are biased towards their program because everyone wants his program to work [succeed] it is like the HSAs now start losing focus to other activities which also they are supposed to implement."

Setting Priorities into the Future

HSAs placed importance on increasing access and equity and providing essential services to their communities. Some HSAs wanted to expand their role and provide additional services at the village level where they recognized a need and demand. They saw benefit in all HSAs providing services, such as HTC, in villages. One HSA remarked: "If possible [the] government should teach all HSAs in HTC and family planning in order to help people, what happens when we are working in the community giving treatment, people ask us if we can provide to them these services, so like to my village, the health centre is very far and other people just stay without knowing their status."

While many respondents acknowledged that the HSA role is ever expanding, two policy makers believed HSAs had the capacity to integrate extra tasks into their community role if programs were better organized. According to Carlson et al. (2008), the MMOH wants to expand programs such as TB treatment, with HSAs as primary providers. Due to a severe

"POLICY MAKERS ADMITTED TO NOT HAVING 'FULL CONTROL' OF HSA TASKS AND RECOGNIZED THAT NGOs AND LOCAL PROGRAMS ALLOCATE ACTIVITIES TO HSAs"

shortage of higher-level health workers, *Médecins Sans Frontières* recognizes a need for task shifting to HSAs, primarily in relation to HTC (Bemelmans et al. 2010).

Policy makers agreed that it was essential for HSAs to remain preventative and community based; however, there were divergent views on HSAs specializing, given the growing nature of their roles and responsibilities. While some believed specialization was required, others feared that HSAs would risk losing their community health surveillance and prevention role. They felt that an alternative to HSA specialization would need to be found, such as recruiting personnel directly to programs or to perform specific tasks. This would allow HSAs to remain broad-based, community-level preventive health workers. The current dilemma for policy makers was evident. As one policy maker said: "If we want to add more and more, we should find another way of I think increasing the capacity, not recruiting more HSAs. Why not specialise if we want some HSAs to be doing family planning, they should look into that."

"POLICY MAKERS AGREED THAT IT WAS ESSENTIAL FOR HSAs TO REMAIN PREVENTATIVE AND COMMUNITY BASED"

ADDITIONAL CONSTRAINTS TO COMPLETING JOB RESPONSIBILITIES

Lack of Incentives

Policy makers, supervisors and HSAs recognized that a lack of incentives affected HSA performance. At the time of the study, the typical range of pay of an HSA was US$80–$100 per month. Inadequate remuneration, poor working conditions, lack of recognition and limited opportunity for career progression acted as disincentives. This led to poor morale and motivation among HSAs. One HSA stated: "the salary that we receive each and every month is very little and that salary is not equivalent to the work that we do each month." Several previous studies also noted a similar finding (Kadzandira 2002; Gwatkin et al. 2007; Katsulukuta 2010; Fullerton, Schneider and Auruku 2011; Nkhono, Banda and Kalilangwe 2011). HSAs saw this as a lack of recognition of the important role they play in the community. They also felt that they were afforded a low status among civil servants and this significantly affected their motivation to perform.

HSAs, supervisors and policy makers all noted that HSAs living in remote communities should be receiving housing and hardship allowances. Gwatkin et al. (2007) argue that HSAs need an increased hardship allowance if they are expected to work in remote areas. The lack of these allowances contributes to the feeling of underappreciation and builds resentment, especially since other civil servants receive these allowances.

Remuneration does not seem to be related to education level, performance or years of service. This provides little incentive for HSAs to improve their education and skills. This study (and others) highlights that HSAs who take on additional roles, such as HTC, do not receive any increase in remuneration (Bemelmans et al. 2010).

Lack of Resources

Many HSAs reported that they were hampered by a lack of medical supplies, office supplies, computers and protective equipment. Sometimes they were unable to do their job because they were not given the necessary supplies, yet they were still reprimanded by their superiors: "they say 'no documentation no work done'…saying why are we not writing reports [but] they forgot that stationery was not supplied."

Some HSAs also reported that personal protective equipment is often not supplied: a number of HSAs reported shortages of protective face masks and latex gloves. Many HSAs and supervisors mentioned that raincoats and gumboots should be supplied so HSAs can adequately and comfortably do their jobs, yet they rarely are provided.[3] Kadzandira (2002) reports that in another study, 65 percent of HSAs stated a lack of protective clothing and stationery as a problem.

Transport

Transport was the most common constraint mentioned across all levels. Each HSA is expected to cover three to five villages, often separated by significant distances. HSAs, supervisors and policy makers reported that the government is supposed to provide HSAs with bicycles and spare parts for maintenance; however, a majority of HSAs reported that they did not have a bicycle or they had one that was not in working order. One HSA commented that the bicycles they received were not appropriate for the conditions: "When maybe they have bought bicycles for us, they buy those of low quality and with this area; it does not work because there are a lot of stones. Giving us those of low quality, they get damaged easily." Another survey found that only 37 percent of HSAs had government-supplied bicycles and only 10 percent of them were in working condition. The rest were damaged and HSAs were not given spare parts to repair them (Kadzandira 2002).

Housing

HSAs, supervisors and policy makers all asserted that the government should provide HSAs with housing in their catchment areas, yet many HSAs and supervisors receive no housing or very poor housing, and so do not reside within their catchment area. Many HSAs also reported that other civil servants such as teachers and agricultural workers receive housing, fuelling their perception that the HSA cadre is not accorded its due respect. As a consequence of residing outside their catchment areas, HSAs reported having to travel further in the mornings and evenings, cutting into their work time. Furthermore, HSAs who reside outside their communities of service may not be in touch with the community's needs or readily available to serve the health needs of the population. Kadzandira (2002) also reports that housing is a significant constraint on HSAs and only 43 percent of HSAs surveyed reside in their catchment areas.

> "REMUNERATION DOES NOT SEEM TO BE RELATED TO EDUCATION LEVEL, PERFORMANCE OR YEARS OF SERVICE"

3 See Nkhono, Banda and Kalilangwe (2011).

CONCLUSIONS

The purpose of this study was to gain an understanding of the HSA cadre in Zomba District, Malawi, to inform policy and training initiatives within that context and thereby to improve effectiveness. The study's findings and conclusions, however, will also have relevance to other CHW systems in Africa or indeed globally. A lack of clarity around job description, competing demands being made of CHWs and insufficient training resources are likely challenges facing CHWs across low-resource settings.

Evidence-based Training Required

The study highlighted significant variations in the amount and type of training received by HSAs in Zomba District. As a result, there was disparity amongst HSAs in terms of skill sets and activities they implemented and felt confident performing. Given challenges in the delivery of training, an evidence-based training approach to support competency-based learning and skill development at the point of care may work well in the Malawian context. Clinical tools and train-the-trainer programs may improve quality and enhance satisfaction and confidence in the delivery of clinical care (Schull et al. 2011). NGO-supported basic training and greater collaboration between the MMOH and NGOs on training may reduce the disparity in training opportunities and skills. More uniform, evidence-based training is likely to improve effectiveness of HSAs.

Better Integration of Supervision

Improved supervision is also likely to lead to more effective HSAs. Supportive supervision is recognized as essential to creating an environment in which workers feel motivated, satisfied and competent (Lehmann, Dieleman and Martineau 2008). This study found that the supervision HSAs were receiving was inadequate and significantly impacted the capacity of the cadre to perform their duties effectively. Having multiple supervisors across various programs caused confusion for HSAs and sometimes placed competing demands on them. In addition, the capacity of MMOH supervisors, namely the senior HSAs, to provide supervision was hampered for a multitude of reasons, particularly the demands placed on them to deliver HSA services to a catchment area while supervising HSAs across large distances. Seeking better integration of supervision and developing a standardized supervision tool across programs and sectors may address many of the systemic constraints to effective supervision. Some of these constraints could also be addressed by removing the requirement for senior HSAs to serve a catchment area in addition to their supervisory role.

Role Clarification

There was disparity between the roles HSAs were performing and what was specified in their job descriptions, with many HSAs becoming increasingly specialized in areas such as HTC, TB and ART monitoring, and malaria testing. In giving priority to HSA tasks in the future, all respondents agreed that it was essential that HSAs remain community based and focussed on preventive services; however, policy makers had divergent views on HSAs

“A LACK OF CLARITY AROUND JOB DESCRIPTION, COMPETING DEMANDS BEING MADE OF CHWs AND INSUFFICIENT TRAINING RESOURCES ARE LIKELY TO BE CHALLENGES FACING CHW ACROSS LOW-RESOURCE SETTINGS”

specializing, given the growing nature of their roles and responsibilities. Some believed specialization on certain tasks was required, yet others felt that the MMOH needed to pursue alternatives to specialization of HSAs.

Recruiting personnel to particular programs or to perform specific tasks that do not require HSA skills, such as drug store management, lab testing and health information management, is an option that would allow HSAs to remain effectively focussed on core duties. Alternatively, more HSAs could be trained in specialized activities, such as HTC, so they can rotate through health centres, allowing each HSA more time in his or her catchment area. This dilemma for policy makers on the specialization of HSAs warrants further research. Each option has important implications for future policy, program and training directions.

Given the disparity this study found between the role HSAs were performing and their job description, the MMOH should revise the current job description and ensure that all HSAs are informed of the changes. This would also serve to reduce confusion and the resulting frustration for HSAs around what is and is not their role. If it is decided that HSAs should be responsible for specialized tasks — such as HTC; TB and ART medication monitoring, testing and tracing; malaria testing; and family planning interventions — then these tasks should be added to the HSA job description.

The study also indicated the need for a review of the senior HSA job description so that it better reflects the current supervision activities being undertaken. Removing the commitment of senior HSAs to fulfill regular HSA duties within a catchment area would allow them to focus on supervision. Clear job descriptions would help HSAs and their supervisors clarify their roles and should help them to effectively execute those roles.

Enhance Incentives and Working Conditions

HSAs commonly cited low salary and lack of allowances and opportunities as being constraints to practice. HSAs perceived the lack of appropriate remuneration as a lack of recognition for the important role they perform. A review of HSA remuneration and allowances, including allocated transport, housing and education opportunities, may enhance HSA job satisfaction and performance and, for the vast majority of HSAs, compensate for increased workload. There is much evidence that improving working conditions, including incentives and supportive supervision, leads to improved motivation, work satisfaction, performance and quality of care (Lehmann et al. 2008).

Integration to Increase Efficiency and Capacity

Finally, vertical, disease-specific programming was found to impact HSAs' abilities to fulfill their job descriptions, and to affect the assignment of priorities at the local level, which resulted in fragmented and ineffective supervision of HSAs. Improved collaboration of NGOs in planning and implementing programs, and policies that involve collaboration and joint planning between the MMOH, other government departments and NGOs

"THE MMOH SHOULD REVISE THE CURRENT JOB DESCRIPTION AND ENSURE THAT ALL HSAs ARE INFORMED OF THE CHANGES"

may improve integration and the capacity of HSAs to meet the demands of an expanding role.

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“IMPROVED COLLABORATION OF NGOs IN PLANNING AND IMPLEMENTING PROGRAMS... MAY IMPROVE INTEGRATION AND THE CAPACITY OF HSAs TO MEET THE DEMANDS OF AN EXPANDING ROLE”

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