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LANDSCAPE ANALYSIS OF CONTINUING PROFESSIONAL DEVELOPMENT SYSTEMS FOR THE HEALTH SECTOR IN MALAWI, SOUTH AFRICA, AND TANZANIA

UNIVERSITY OF WASHINGTON STRATEGIC ANALYSIS, RESEARCH, & TRAINING (START) CENTER

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EXECUTIVE SUMMARY

We conducted a landscape analysis of health-related continuing professional development (CPD) systems focusing on HIV and tuberculosis in three target African countries (Malawi, Tanzania, and South Africa). The goal of the analysis was to provide a snapshot of the CPD environment including regulatory, current CPD interventions, needs, gaps, and opportunities in each target country. We reviewed reports and articles from both peer-reviewed and grey literature. Our review found that the CPD systems for the health sector in each country were at varying stages of implementation. In South Africa for example, the Health Professions Council of South Africa (HPCSA) has had an all-encompassing CPD framework for 12 professional boards, including the Medical and Dental Board, which has medical, dental, and medical science workers under their purview, since 2007. Meanwhile in Tanzania, the CPD guidelines for healthcare workers (HCWs) are still being finalized. In all three countries, accrual of a certain minimum number of CPD points is required for re-licensure for nurses and midwives. Doctors in Tanzania, however, are not currently required to meet a certain number of CPD points for license renewal.

We identified examples of several effective and feasible CPD interventions that have been implemented in the three target countries – with particular emphasis on CPD interventions for HIV and TB. These include Practical Approach to Lung Health and HIV/AIDS in Malawi (PALM-PLUS) and several e-learning interventions in Malawi; Harvard University and University of Washington e-learning platforms in Tanzania; and PALSA-PLUS and inPractice Africa e-learning programs in South Africa. Major barriers to CPD highlighted in the reviewed literature include limited capacity of regulatory bodies, negative attitudes of some HCWs towards CPD, financial constraints, poor quality of CPD activities, and limited access to CPD opportunities especially for HCWs working in rural areas along with those in the private sector. In several studies, HCWs reported the need to update current knowledge and acquire new skills, financial rewards, desire for promotion, and to meet licensing requirements (job retention) as their primary motivators for engaging in CPD.

Several external agencies have supported CPD in the three target countries including the United States Centers for Disease Control of Prevention (CDC), United States Agency for International Development (USAID), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the African Health Professions Regulatory Collaborative (ARC), and Voluntary Service Overseas (VSO) International. This international support has been key to the formalization of the CPD regulatory environment and the expansion of CPD programs in the three target countries.

INTRODUCTION

This report summarizes work conducted by the University of Washington (UW) START team in response to a work order to conduct a "desk review" of health-related continuing professional development (CPD) systems in three target African countries (Malawi, Tanzania, and South Africa) initiated by the Treatment, Research and Expert Education (TREE) and the International Training and Education Center on Health (I-TECH) programs at the UW Department of Global Health. The main goal of this review was to provide a comprehensive overview of the health sector CPD system in each target country with a focus on CPD programs for nurses, midwives, and doctors engaging in HIV and TB service delivery.

The START team searched peer-reviewed and grey literature for articles and reports on CPD in the three target countries as well as in other sub-Saharan African countries. Searches were conducted in PubMed, EBSCOhost, Web of Science, Cochrane Reviews, Google Scholar, and Google. Boolean operators linked nested CPD and equivalent terms with country and CPD-related topics (e.g. task shifting, HIV, or TB). The team reviewed the articles and reports identified from these searches as well as those provided by I-TECH. The reports reviewed included CPD publications, national level CPD policies, guidelines, and frameworks, CPD evaluation reports, and national CPD-related strategic plans, policies, and legislation.

This report is the first chapter in a larger report to be submitted to the Bill and Melinda Gates Foundation (BMGF) that will provide a better understanding of HIV and TB-related CPD programs directed at nurses, midwives, and doctors. It contains the following sections:

1) CPD background
2) Country background
3) Overview of health-related CPD systems by country
4) Overview of current HIV and TB CPD programs/interventions
5) Lessons from other sub-Saharan African countries
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CPD BACKGROUND

Continuing professional development (CPD) refers to the purposeful, systematic, and ongoing education that healthcare workers (HCWs) undertake after completion of basic training with the aim to maintain their core competencies, and acquire and update their knowledge, skills, and attitudes (1, 2). The goal of CPD is to ensure that HCWs have the capacity to practice safely, effectively, competently, and legally within their evolving work in order to meet changing societal healthcare needs, advances in medicine, revised scopes of practice (task shifting), and emerging health conditions (e.g. Ebola, SARS, and Zika) (2). CPD is a lifelong learning commitment, and encompasses both formal and informal learning activities. What is considered CPD varies by country and profession, but may include workshops, conferences, self-directed learning, and postgraduate training (3).

In the literature, CPD is sometimes referred to by other names such as continuing medical education, continuing professional education, and in-service training (3, 4). CPD systems vary quite considerably worldwide with no internationally agreed upon standards on the number of annual CPD points required, mandatory versus voluntary CPD, accreditation standards, and measures against non-compliance. However, several countries follow the accreditation standards of the Accreditation Council of Continuing Medical Education (ACCME) (5). In the United States, CPD has been mandatory for physicians since 1971 and for nurses since 1985 (6). Similar mandatory licensing requirements exist in the United Kingdom, Australia, and France, but licensing requirements are voluntary in Sweden and Belgium (5).

In Africa, the landscape of health sector CPD is an evolving one. Although CPD activities have been integral to health systems in most African countries for decades, often these were carried out in the absence of a national regulatory framework and HCWs did not receive CPD points for participation (7). Some countries, such as Tanzania and South Africa, developed national CPD guidelines for certain cadres of HCWs in the 2000s which were never fully implemented (8, 9). However, recognition of the need to support human resources for health (HRH) has increased steadily over the past decade with global initiatives such as the President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund investing significant resources to strengthen HRH especially in countries with high HIV and TB burden. These, along with initiatives such as the African Health Professions Regulatory Collaborative for Nurses and Midwives (ARC), and political commitment from governments, have led to significant movement towards the formalization of health CPD systems in many African countries, especially those in the east, central, and southern African regions (10-12). In this paper, we provide an overview of the extent of the

formalization of health CPD systems, with a particular focus on HIV and TB, in three African countries (Malawi, Tanzania, and South Africa). We start with an overview of the healthcare system in each country, then summarize the regulatory and programmatic landscape of CPD, and conclude with lessons from other sub-Saharan African countries and recommendations.

COUNTRY BACKGROUND

The World Health Organization (WHO) defines health workers as all people engaged in actions with the intention to protect and improve the health of their communities. In this paper, we focus only on doctors, nurses, and midwives as HCWs. Therefore, unless otherwise stated, any reference to HCWs in this paper, encompass only doctors, nurses, and midwives.

South Africa: According the Joint United Nations Program on AIDS (UNAIDS), South Africa has the largest HIV epidemic in the world with an estimated 7 million people living with HIV (13). The country also ranks third in the world in terms of TB burden (Table 1). South Africa has a multi-stakeholder health system consisting of a large public health sector and a sizeable private health sector (Figure 1). The healthcare system relies on various licensed and non-licensed HCWs to provide services to its population (Table 2). Despite the South African government spending about 11% of its total national budget on the public health sector, health outcomes are comparably worse in South Africa than in similar middle income countries largely due to the country's high HIV and TB burden, and chronic shortages of HCWs especially in rural areas (43.6% of the population live in rural areas, but served by only 12% of the doctors and 19% of nurses) (14). There are currently 3.7 doctors and 18.5 nurses per 10,000 population but they are poorly distributed across the country with few doctors willing to work in rural areas (14). The HRH crisis has necessitated the need for a shift from physician-centered to a nurse-managed HIV and TB programs (15).

Tanzania: The health system in Tanzania is based on three levels of care (Figure 1) (16). Healthcare is provided by both government and private actors. The private sector provides the majority of healthcare in rural areas where 74% of Tanzanians live (17). There are over 50 different cadres of HCWs, both licensed and unlicensed, involved in health service delivery (Table 2) (18). Tanzania is one of 57 countries designated by the WHO as experiencing a HRH crisis (19). Only 35% of the health sector positions are filled. There are 0.25 doctors and 3.03 nurses per 10,000 population (Figure 2). HCW shortages are most severe in the private health sector and in rural areas where only 26% of doctors serve (17). This chronic shortage of HCWs has been exacerbated by a high HIV and TB burden (Table 1) (20). Tanzania's Ministry

of Health and Social Welfare (MOHSW) has worked closely with the private health sector to provide HIV and TB services (e.g. ART provision, TB screening and treatment, and HCW training) (17). In 2012 for example, about 22% of TB services were provided through the private sector (21). Despite these joint efforts at collaboration, the for-profit component of the private sector remains reluctant to provide TB and HIV services since by law they are exempted services (i.e. should be provided free of charge). In addition, HIV and TB training opportunities are not always available for private sector HCWs. The 2015 Tanzania service provision assessment survey for example found that only 27% and 36% of the HCWs surveyed had received HIV and TB-related training in the past two years respectively, and 70% had received supportive supervision in the six months prior to the survey (22).

Malawi: Malawi has a four-tiered health system (Figure 1). The government provides about 60% of the healthcare in the country with the rest provided by the Christian Health Association of Malawi (CHAM), various NGOs, and the for-profit sector. CHAM delivers healthcare to more than 4 million Malawians annually through its network of hospitals and health centers that operate mostly in rural areas (23). Like most countries in Southern Africa, Malawi suffers from a high HIV and TB burden (Table 1) (24, 25). Efforts to reduce the HIV and TB burden have been hampered by chronic shortages and unequal distribution of HCWs in the country. HCWs are disproportionately concentrated in urban centers although nearly 80% of the Malawian population lives in rural areas, where services are most needed (26). There are currently 0.16 doctors and 2.4 nurses per 10,000 population; 51% of positions for doctors are not filled, along with vacancies of 68% for nurse technicians and 80% for specialist doctors. Malawi's HRH crisis is generally a product of limited graduates from its training institutions, poor retention of HCWs, and limited HCW productivity (26).

Task shifting and preservice education: Creating new cadres of HCWs, strengthening preservice education, and task shifting are the main strategies that have been adopted by the three target countries to address their chronic HRH crises. The governments of Tanzania and Malawi, for example, created new health cadres (e.g. health aides and medical attendants in Tanzania, and health surveillance assistants (HSAs) in Malawi) (17, 27, 28). All three target countries worked with both public and private training institutes to increase the number of graduating HCWs. Training institutions in the three countries have worked on building their capacity through partnerships with Western universities. For example, the Tanzania HIV/AIDS Nursing Education (THANE) project, a partnership between the University of California, San Francisco, and the Muhimbili University of Health and Allied Sciences, through collaboration with the MOHSW and other stakeholders, supported trainings for nurse educators on HIV. As of 2010, 300 nurse

educators, from Tanzania's 62 nursing schools, have been trained. The initiative also supported the development of a 12-module pre-service HIV curriculum for nurses and its incorporation into nursing education nationwide (29, 30). Other partnership programs implemented in the three countries include PEPFAR-funded Medical Education Partnership Initiative (MEPI) and Nursing Education Partnership Initiative (NEPI) (8, 31). All three countries have implemented various levels of formal and informal task shifting. Adopted by the WHO in 2008 as a strategy to mitigate the HRH crisis in sub-Saharan Africa and to improve patient outcomes, task shifting refers to the transfer of tasks to HCWs who have not conventionally performed the shifted tasks as part of their scope of practice (32). A review of task shifting by Callaghan and colleagues found that it can increase program efficiency and access to HIV testing and counseling while maintaining the quality of patient outcomes (33). Several studies have shown that shifting provision of ART from doctors to nurses, also known as nurse-initiated and managed ART (NIMART), does not compromise patient outcomes as long as nurses received the necessary training and ongoing support (32-38). Tanzania have rolled out task shifting guidelines to ensure task-shifted staff received the necessary training to be effective in their new roles (19). An example of successful task shifting is the Baylor College of Medicine Children's Foundation Malawi (BCM-CFM) Tingathe-Basic and Tingathe-PMTCT (Tingathe means "yes we can" in the Chichewa language) programs in Malawi which utilized CHWs to improve uptake and use of prevention of mother-to-child transmission (PMTCT) of HIV and pediatric HIV services. The programs used specialized training, on-site mentorship, and regular quarterly refresher trainings to build the capacity of CHWs. An evaluation of the program reported a six-fold increase in the enrollment of HIV infected children into care (39). Although studies have shown that HCWs accept task shifting, the strategy can only be successful if it is accompanied by training, mentoring, and ongoing support (32, 33, 40, 41). Task-shifting to allow NIMART has created staffing pressure on lower-level cadres for other aspects of HIV care, particularly counseling and community follow-up. Several strategies have been applied to address this. In Malawi, the HSAs were trained to assist with infant follow-up; in Zambia, 600 community health assistants were trained to support Option B+; in Tanzania, a new cadre of MCH CHWs was introduced to retain mother-baby pairs along the continuum of care; and in Mozambique, new lay counselors were recruited to assist with client counseling (42). In 2010, South Africa task-shifted HIV testing to lay counselors. A study that evaluated the experience of 32 of these counselors sampled from private and public health facilities found that although 86% of the counselors rated their training as adequate, 94% indicated they would like to have additional training especially on counseling pregnant teenagers and same sex partners, and on TB and HIV integration. Counselors also reported gaps in counseling skills for serodiscordant couples, homosexuals, and children (43). In Malawi, HSAs reported

being increasingly called upon to provide services outside their scope of practice including immunization, HIV testing and counseling, and TB treatment, yet they felt they lacked the training, supervision, and remuneration to perform these extra roles (26, 27). Major challenges to task shifting include inadequate supervision and mentoring, absent regulatory frameworks, poor quality trainings, and limited evidence of incorporation of new competencies into preservice curriculum (27, 40). In their survey of nursing leadership from 15 African countries, Zuber and colleagues reported that 11 countries had initiated NIMART (including Malawi and South Africa but not Tanzania), of which only 5 countries had it incorporated into their nurse preservice curricula, and only eight had a mentorship program for nurses providing ART (Table 3). All 11 countries however did provide in-service trainings for nurses involved in NIMART. Nurse leaders were also consistently positive about NIMART implementation and most commonly stated that it had expanded coverage and access to ART. The most common challenge reported was the increased workload for nurses (40)

OVERVIEW OF HEALTH-RELATED CPD SYSTEMS BY COUNTRY

For CPD to be successful, it needs to be embedded within national frameworks and policies in which issues of accreditation, licensing, training needs, and resources are clearly articulated (3). In this section, we provide a brief summary of the regulatory environment of the health sector CPD in each of the three target countries.

South Africa: The CPD system for HCWs in South Africa is regulated by professional boards and councils under the Health Professions Council of South Africa (HPCSA). The HPCSA consists of 12 professional boards encompassing all HCWs in South Africa except nurses and midwives and pharmacists who are overseen by the South African Nursing Council (SANC) and the South African Pharmacy Council respectively (44, 45). The HPCSA is a statutory body established under the Health Professions Act No. 56 of 1974 (6). It is empowered by this act and other government acts and policies to regulate the practice of all HCWs in South Africa. The HPCSA has a CPD Committee which works with professional boards and councils on CPD issues. The committee empowers individual professional boards and councils to regulate CPD activities for the HCWs under their jurisdiction (6, 45). HPCSA first developed and piloted a CPD program for all its professional boards in 1999. Despite high compliance rates (83% of doctors and 80% of dentists submitted their Portfolios of Evidence (POEs), of which 63% of doctors and 57% of dentists accumulated more than the required 50 CPD points per year), the program was dismantled in 2004 due to implementation issues (inadequate infrastructure, logistical difficulties, and practitioners' perception

of the program as a "points chasing" exercise) (45, 46). A revamped program was piloted with two boards in 2006, and rolled out to all 12 boards in 2007(6, 45). No formal CPD program for nurses and midwives was established until 2014. This was despite at least two attempts to establish such a program in 2003 and 2009 (6, 46, 47). With financial and technical support from Atlantic Philanthropies and I-TECH, SANC developed a CPD program for its HCWs in 2014. The program was piloted for one year in 2015 in two of South Africa's nine provinces (Gauteng and Mpumalanga). An evaluation of the pilot phase has been completed and the program is slated for a nation-wide rollout in 2017. Details of the CPD guidelines for doctors and nurses (e.g. CPD points, compliance, and accreditation) and key CPD players are summarized in Tables 4 and 5.

Tanzania: The MOHSW Human Resources Development (HRD) Department first issued national CPD guidelines for all HCWs in 1992. These were revised and re-issued in 1996, 2003, and 2009. Despite these early efforts, the guidelines were never operationalized due to a combination of regulatory capacity and financial factors (18). CPD trainings were mainly classroom-based, which exacerbated the HRH crisis by taking HCWs away from their workplaces. It was common to find HCWs who had not undergone any refresher training in over 5 years. There was also little follow up of HCWs after trainings, and limited efforts to inculcate the culture of lifelong learning during preservice training for all HCWs (48, 49). Partly in response to these weaknesses, the MOHSW is in the process of issuing another iteration of the guidelines (currently in draft three). The Tanzania Nursing and Midwifery Council (TNMC) and the Medical Council of Tanganyika (MCT), supported by provisions in the Medical and Dental Practitioners Bill 2012 and the Nursing and Midwifery Act 2010, have also issued CPD guidelines specific to the needs of the HCWs under their jurisdiction. The requirement of CPD is inscribed in several key national documents including the National Health Policy, the HRH Strategic Plan, and the Health Sector Strategic Plan (18). Details of the CPD requirements for nurses and doctors as well as key CPD stakeholders in Tanzania are summarized in Tables 4 and 5.

Malawi: The Nurses and Midwives Council of Malawi (NMCM) is the statutory body responsible for regulating the practice of nursing and midwifery in Malawi. Discussions to formalize CPD for nurses and midwives started in 2008 with establishment of a CPD Taskforce. With support from Voluntary Services Overseas (VSO), the NMCM launched a mandatory CPD program for all nurses and midwives nation-wide in 2010. The program initially stipulated that nurses and midwives must accrue 30 CPD points per year for re-licensure. This was revised to 50 CPD points per two years after an evaluation of the program by I-TECH and VSO in 2012 found that nurses and midwives, and especially those in rural areas, struggled to meet

the minimum points for re-licensure (50). For medical doctors, the Medical Council of Malawi (MCM) is the statutory body that regulates CPD. A CPD committee comprising multiple stakeholders including representatives from medical training institutions and the private health sector is responsible for managing the MCM CPD portfolio (51). A summary of the CPD guidelines for doctors and nurses and the key CPD stakeholders in Malawi is included in Tables 4 and 5.

OVERVIEW OF CURRENT HIV AND TB CPD PROGRAMS/INTERVENTIONS

In this section, we discuss the motivators and barriers for CPD, various modalities through which CPD interventions can be implemented, and CPD gaps and challenges in the three target countries as well as in other selected countries and regions. We also discuss findings from the 2013 and 2015 evaluations of the national nursing CPD programs in Malawi and South Africa.

CPD motivators and barriers: We identified several studies that explored HCWs' motivations for undertaking CPD, their perspectives on CPD, and the barriers to their access of CPD. Understanding HCW's motivations for participating in CPD is critical for maximizing the effectiveness of CPD. The main motivators for undertaking CPD were HCW desire to acquire new knowledge and skills (e.g. about emerging health conditions), desire to meet their patient needs, financial benefits/per diem, expectation of promotion, improvement of professional image/higher job status, desire to interact and exchange views with colleagues, and the need to take time off routine work (4, 52-61). In his survey of HCWs in Ghana, Aiga reported that HCWs were motivated by intrinsic and extrinsic factors. Intrinsic reasons were "to maintain and improve professional knowledge and skills, to interact and exchange views with colleagues, and to obtain a higher job status". Extrinsic factors were CPD is necessary, financial (per diem) and to gain relief from their routine work (58, 59, 62). Meanwhile, Nsemo and colleagues in their survey of 150 nurses in Nigeria found that job retention was the main motivation, largely due to the requirement that nurses attend at least one continuing education activity in order to renew their licenses every three years. While participants generally perceived CPD as valuable and worthwhile, less than 25% reported that updating knowledge and improving skills were motivating factors (4). Midwives interviewed by Tanaka and colleagues in Dar es Salaam, Tanzania reported desire for lifelong learning, knowledge as a source of respect among peers, and desire to help achieve health goals (e.g. millennium development goals) as their primary motivators for CPD (63). CPD was considered an incentive for retention of HCWs especially in rural areas (52). Aiga and colleagues suggest that the reason for participating in CPD is critical in determining whether new knowledge and skills acquired are applied to a HCW's work. Extrinsic reasons

were found to be negatively correlated with the application of new knowledge and skills to daily work. Aiga and colleagues also found that sometimes managers or supervisors determine who attends CPD activities with no clear reference to learning needs (58, 59, 62). Major barriers to CPD were identified as limited time to be away from workstation, financial constraints (e.g. transport and accommodation costs), limited access to CPD opportunities especially for rural HCWs and those in the private health sector, and expectation of payment/per diem (58, 59, 64, 65). Participants in a 2008 study in Malawi looking at opinions of HCWs towards CPD reported lack of access to computers and unequal access to CPD opportunities (with senior HCWs opting to go to more workshops and seminars than their juniors, and urban-based HCWs having more CPD opportunities) as major barriers (52). Barriers to CPD are particularly severe for HCWs in the private sector. The participation of the private health sector in CPD may be hampered by how they are perceived in the community. In both Tanzania and Malawi, HCWs in the private health sector are perceived to be of poorer training than their public sector counterparts (17, 66).

CPD modalities

Paper-based distance learning*:* Distance learning is a method that supports student learning at home. Missing work to attend training programs in other locations can serve as a barrier to participation in CPD while distance learning provides an effective avenue for overcoming this obstacle. In 1998, the Tanzanian MOHSW created the Centre for Distance Education (CDE) to address the challenge of training new HCW cadres and upgrading the qualifications and skills of the current health workforce (60). A 2008 assessment of distance learning in Tanzania found established models ranging from print-based approaches run by the Tanzania Center for Distance Education and high tech approaches involving video conferencing (e.g. those run by Tanzania Global Development Learning Center). HIV-related distance learning programs included those run by International Weiteribidiung unde Entwicklung gGmb's (InWEnt) Global Campus 21, and WHO's IMAI Computerized Adaptation and Training Tool, Aga Khan University, Harvard University, and I-TECH. Barriers for success include outdated materials and no monitoring and evaluation plans (60, 67, 68).

Technologic and e-learning platforms*:* Technologically advanced CPD platforms that are being implemented in Tanzania include computer-based and internet-based technologies, and mobile technologies such as cell phones and PDAs. Internet-based webinars have been conducted on HIV and AIDS topics by Harvard University's HOPE project, University of Washington's Clinical Management of HIV course, and ITECH's HIV/AIDS Clinical Seminar Series (69, 70). All of these CPD providers use a web conferencing/e-learning platform to broadcast across multiple global sites. Mobile phone technology

appears to offer great potential for the training of HCWs. Presentations at an mHealth workshop, held in Dar es Salaam in August 2008, revealed that at least eight organizations were using mobile phones for: collection of community and clinical health data; delivery of healthcare information to practitioners, researchers, and patients; real-time monitoring of patients; and direct provision of care (telemedicine) (69). In South Africa, inPractice Africa, a public-private partnership grant from USAID, developed an online and offline digital medical education resource for South African doctors and nurses. In cooperation with the Foundation for Professional Development and the University of Witwatersrand, inPractice is providing three discrete curricula in HIV and HIV/TB care as well as a point-of-care reference resource to improve healthcare decision-making. As of September, 2014, the system had registered 1,333 users and issued 3,486 CPD points and 89 curriculum certificates. CPD points are earned for each module completed and a certificate is awarded for each full curriculum completed (15). A study by Pimmer and colleagues asked HCWs in rural South Africa about their use of mobile technology for learning. They found that these HCWs used their mobile phones for problem solving by checking online resources (e.g. Facebook peer groups), sharing clinical experiences with colleagues, and lifelong learning (71). E-learning is an innovative approach for widening access, improving cost effectiveness, and maintaining staff in the workplace while they undergo training (72). The African Medical and Research Foundation (AMREF) began as a pilot project for upgrading nurses in Kenya in 2005 and has since scaled up its program to eight countries across Africa. In Malawi, the AMREF e-learning program aims to upgrade 150 enrolled certificate nurses and midwives to diploma level within 2 years. In Tanzania, AMREF launched its e-learning course in 2013 among nurses from four pilot schools (73). Another example of e-learning in Malawi is provided by the University of Edinburgh in collaboration with the University of Malawi. The project built an online system for recording CPD activity of registered doctors in the College of Medicine and has been accredited by the Medical Council of Malawi. It is in the process of being rolled out to other hospitals and healthcare professionals (74). A further example from Malawi is an e-learning CPD platform (a collaboration between the National Organization of Nurses and Midwives of Malawi, Cordaid, and International Institute for Communication and Development) that was piloted in 2012 at Mchinji District Hospital, Queen Elizabeth Hospital, and St. Andrew Hospital in Kasungu and rolled out to 11 health facilities by 2014. The intervention included trainings on basic information and communications technology (ICT) skills, digitization of the nursing manual, online quizzes, and a device leasing component where internet-enabled devices (smartphones and tablets) were leased out to nurses and midwives to ease access to electronic CPD. In 2013, 430 nurses and midwives obtained CPD points for license renewal through the program (75, 76). A similar e-learning platform with support from GIZ was implemented for medical interns at Kamuzu Central Hospital in 2011

by a team from a university in Germany. The intervention included access to four modules, virtual patient scenarios, and access to online medical libraries (WHO's HINARI and UpToDate). An evaluation of the program found high interest in e-learning but low computer literacy among potential users. There were however, challenges related to access to computers, and sustainability and local ownership (77). Another example of a CPD intervention in Tanzania is implemented by the World Lung Foundation Tanzania Maternal Health Program with support from Bloomberg Philanthropies. The program, which provides emergency obstetric and neonatal care (EmONC) services in three regions, has implemented task shifting of EmONC services to non-physician clinicians. CPD activities implemented by the program include clinical mentoring, regular on-site trainings, regional CPD workshops, weekly conference calls with senior obstetricians, an e-learning platform (Moodle and Poodle with 4 modules), and a standby emergency call system where help can be sought in case of complicated cases (78). The 2009 evaluation of distance learning in Tanzania by I-TECH, however, found that computer and e-learning CPD modalities faced serious constraints. Students had poor computer access and limited computer skills, in addition to Tanzania's varying degrees of electricity coverage, high cost and slow internet speeds (69). In recent years, however, fiber cable projects in the region have brought higher speed internet connectivity to Tanzania making internet-based CPD more feasible than in the past.

Blended learning*:* In Tanzania, the CDE programs incorporate a blended learning approach including mostly print-based materials for the self-study portion, a practicum component overseen by a preceptor, and face-to-face classroom-based sessions that vary in regularity across programs (69). In Tanzania's National HIV Care & Treatment Training Program, blended learning included six days in the classroom followed by three days of practicum in the clinic. In addition to post-training follow-up supervision that varied by training partner, CDE programs included follow-up supervisory visits, monthly continuing medical education (CME) events, weekly case review meetings, and on-site refresher training. The assessment however found an overreliance on didactic training methods. Improvements could be made by incorporating more participatory approaches such as case studies, role plays, and small group work which require a higher-level of engagement, analysis, decision-making, and critical thinking from participants. On the other hand, nearly all participants expressed the utility of supportive supervision provided by follow-up training visits which gave participants an opportunity to receive feedback on their skills and get suggestions for improvement (69).

Clinical mentoring*:* Studies have found clinical mentoring to be feasible, acceptable, and sustainable as a mode of CPD delivery (36, 79-83). The Practical Approach to Lung Health Plus HIV/AIDS in Malawi (PALM-

PLUS) package was a CPD intervention in Malawi implemented by Dignitas International in collaboration with the MOH, MCM and NMCM. The package entailed a set of clinical guidelines and an onsite peer-based training component implemented in 30 health facilities. It targeted clinical officers, medical assistants, and nurses working in HIV, TB, and malaria services. Participants were awarded CPD points upon completion of at least six PALM-PLUS training sessions. Evaluation of the program found that 386 HCWs were trained on the package, and that trained staff reported feeling empowered to provide better health services to patients. Major obstacles to the program's success included staff turnover and staff desire for per diems. PALM-PLUS was adapted from PALSA PLUS, a program for HIV, TB, and other respiratory diseases that was implemented in Free State province, South Africa. Evaluation of the PALSA PLUS program found statistically significant increased detection of TB cases in the intervention sites compared to the control sites (80, 81, 84-86). Similarly, a knowledge translation intervention was implemented for HSAs/CHWs in Zomba district Malawi with the aim to address previously identified learning and knowledge gaps in the provision of TB services. The intervention consisted of a TB clinical tool and a peer-based training component consisting of a minimum of six training sessions conducted on site during regular working hours. Interviews with trained HSAs/CHWs indicated that the intervention led to improved TB and HIV knowledge and clinical skills, and increased confidence in job performance (25, 87). Lastly, the USAID Applying Science to Strengthen and Improve Systems (ASSIST) program, supported continuous quality improvement (CQI) trainings for voluntary medical male circumcision (VMMC) providers in 123 health facilities in seven provinces of South Africa. The trainings were followed by supportive supervision visits, mentoring, and coaching. A post-training assessment found improved compliance with WHO quality standards for VMMC and improved performance in the provision of VMMC services (82, 83). Other examples of effective clinical mentoring interventions include Extending Quality Improvement (EQUIP)-Malawi, a PEPFAR and USAID funded HIV program that utilized peer-based clinical mentorship approach to build the capacity of nurses and clinical officers providing HIV services under Partners in Hope (PIH) in Lilongwe, Malawi (68); the MSF supported mentorship program for nurses in Khayelitsha, Western Cape province, South Africa (41), and the pediatric quality improvement collaborative in 24 facilities across two regions in Tanzania (on-site monthly clinical coaching provided by MOHSW and ICAP) (88). Challenges to use of clinical mentoring as a CPD modality include staff turnover and understaffing (68).

Examples of CPD implementation challenges and gaps

Tanzania: The 2009 evaluation of distance learning programs for HCWs in Tanzania found that curricula were often outdated and that the training materials and modules used by CDE were last updated in 2002 and 2004 (69). The evaluation of Tanzania's HIV Care & Treatment Training Program found that training partners (e.g. Family Health International, Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), Columbia University, and Bugando Medical Center) did not have quality assurance practices in place to support trainers. For example, there were no trainer certification processes, nor a standardized training of trainers' module to ensure trainers met the minimum criteria of clinical knowledge and facilitation skills. A system of regular observation and feedback to monitor and improve facilitators' skills was also lacking. The post-training follow-up visits presented an opportunity to evaluate whether or not transfer of learning was occurring to students, however this was not systematically tracked. More systematic documentation of findings from follow-up supervision could provide valuable information about what components of the training might need additional emphasis, through supplemental reading, training, or refresher courses (69).

Malawi: The evaluation of Malawi's CPD program for nurses and midwives found that mechanisms for assessing the quality of CPD trainings were absent. Additionally, NMCM does not standardize trainings to ensure quality. The availability and credibility of trainers was also an issue (50). A cross-sectional study of nurses, medical assistants, and clinical officers in Blantyre found that only 21% of those interviewed were satisfied with their knowledge on clinical matters. This was despite 95% reported having attended a workshop or seminar in the past 12 months (7). Additionally, a task analysis of nurse-midwife technicians conducted by Jacob and colleagues in collaboration with Kamuzu College of Nursing and NMCM identified gaps in the competency of this cadre to manage HIV (especially in regards to new ART and Option B+ guidelines), obstetric complications, and some family planning methods. HIV was the task category least frequently learned during preservice education (<20%). Specific HIV management gaps include in areas of pediatric care, WHO staging, and treatment of opportunistic infections. The analysis also identified gaps in TB clinical treatment competencies (42%). The preservice syllabi also seemed to have no TB content (89).

South Africa: A study to assess learning needs of 170 public (80) and private sector (90) doctors found that private sector doctors were less aware of national guidelines for TB management. This is likely because TB management is mainly performed in the public health sector (90). Uwimana and colleagues whose study looked at the involvement of CHWs in TB/HIV/PMTCT services at the community level in

KwaZulu Natal reported major gaps in CHW training and supervision (2% trained on ART adherence, 15% on HIV testing, and 12% on TB screening and treatment). Trainings for CHWs were also managed by NGOs and they tended to be specific to each NGO's needs (variable scopes of practice for CHWs) (91).

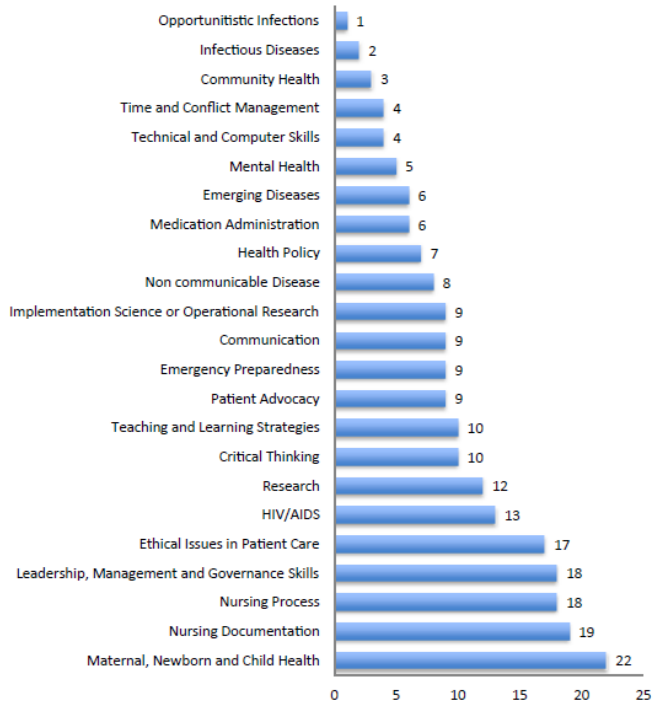
Nigeria: In their study of nurses' perceptions of CPD in Nigeria, Nsemo and colleagues reported the following CPD gaps: fragmented CPD programs with limited coordination among different providers, generic trainings not tailored to the needs and qualifications of the trainees, rigid lecture-based trainings with limited use of other CPD modalities, limited follow-up of trainees post-training, limited scope of CPD trainings (e.g. did not include other topics such as nursing theories), and lack of linkage of trainings to accrual of CPD points (4).

Eastern, Central, and Southern Africa region: As part of their effort to build an online CPD library for nurses and midwives, Hosey and colleagues evaluated the successes and challenges of CPD in the East, Central, and Southern Africa region (ECSA) by administering a questionnaire to 37 nurse leaders from 17 countries. Key CPD implementation challenges highlighted by survey respondents included:

- Lack of understanding of CPD requirements
- Limited resources and financial constraints
- Limited access to CPD modules
- Limited accreditation of CPD providers
- Challenges in linking CPD to licensure renewal
- Limited awareness of CPD requirements
- Issues with fostering buy-in from nurses

Survey participants identified a number of topics of potential interest to nurses and midwives in their countries. These included maternal, newborn, and child health as well as nursing documentation (Graphic 1). While identified as top priorities, nursing documentation and nursing process were topic areas not found in the desk review of available CPD modules for the online CPD library. HIV topics (e.g. PMTCT, ART, pediatric care, and VMMC) were noted as the most relevant for ECSA countries. A total of 46 modules were reviewed (Table 6) and ultimately 11 modules were chosen for the CPD library which was launched in July 2015. The online CPD library, developed by the East, Central, and Southern Africa College of Nursing, with technical assistance from an Afya Bora Fellow, has made expert-reviewed, high-quality CPD content accessible to more than 300,000 African nurses and midwives. The library has a review committee to evaluate the feasibility of modules. Sustainability strategies are needed to financially support the website after funding for the web developer and Afya Bora Fellow runs out (92).

Graphic 1. CPD topics of interest for nurses and midwives[92]



Evaluation of national CPD programs

Malawi: Malawi is the only one of the three target countries that has completed an evaluation of its CDP program for nurses and midwives. After two years of nation-wide implementation, the Malawi program was evaluated (Table 7). The evaluation found that implementation faced resistance from some nurses and midwives who did not understand the utility of CPD or expected financial benefits as part of participation in CPD activities. Others reported concentrating on gaining points rather than improving their knowledge and skills. Some nurses and midwives felt the CPD program was being imposed on them while some recognized the benefits even if they disagreed with the approach (50). Many felt more could be done to make the CPD program feel less punitive and strengthen its relationship with practicing nurses and midwives. The NMCM was found to be understaffed, heavily reliant on technical support from VSO for its CPD regulatory role, and lacking in its capacity to conduct regular supervisory visits. Other gaps identified include limited capacity among some CPD facilitators, unorganized CPD schedules affecting

HCWs ability to plan ahead, limited CPD opportunities for rural nurses, and poor quality of CPD activities (e.g. use of outdated manuals containing erroneous information) (50).

South Africa: Results from the I-TECH evaluation of the pilot of SANC's CPD program found that the majority of participants agreed that CPD improved knowledge, practical skills, had an impact on patient safety, and changed departmental/unit practice. The most commonly reported barriers to completing CPD included staff shortages, lack of time, lack of organizational support or support from supervisor, and timing of CPD activities. Some respondents also listed technological limitations as being a barrier to completing CPD such as lack of access to internet and lack of computer skills. Other findings can be found in Box 1 (93).

Box 1. Preliminary findings from the South Africa Nurse CPD pilot evaluation

1. Participants voiced a desire to improve communication by use of technology (e.g., SMS, WhatsApp, Facebook, email, and telephone).
2. Majority of participants (52%) found it easy to calculate CPD points using the packaging point allocation while some (14%) found it difficult to maintain a CPD logbook.
3. Many participants preferred a technology-based format for submitting CPD point declaration forms, including SMS or mobile phone (23%), e-submission (22%), or a mobile application (6%).
4. Most participants (75%) reported attending CPD activities that were arranged by their employer. Around half still reported attending at least one activity arranged by other organizations (53%) or independently (51%).

Source: I-TECH Draft SANC CPD Pilot Study

Most evaluations of CPD programs and interventions in the countries considered in this desk review were subjective in nature, focusing on the perceptions of HCWs and other CPD stakeholders. The absence of systematic evaluation of the impact of CPD activities on improvements in quality of care and patient outcomes has been identified as a major gap in the literature (94). Recognizing this gap, researchers in Kenya are working to develop a widely accepted instrument to assess the impact of CPD activities on clinical practice. The researchers aim to produce an inventory of instruments using a competence-based model which will be tested on CPD participants to assess reliability and validity of the new tools (94).

"Millions of dollars have been provided in the name of professional development, but the quality of these programs goes virtually unchallenged."
- Gitonga & Murikuki, 2014

LESSONS FROM OTHER SUB-SAHARAN COUNTRIES

In this section, we present examples of innovative CPD interventions that have been implemented in other sub-Saharan African countries other than the ones that were the focus of this desk review. This is not an exhaustive list but a selection of major CPD interventions in the following countries.

Namibia: In order to improve the quality of care in its ART clinics, the Namibian Ministry of Health and Social Services (MOHSS) with support from I-TECH and the CDC, implemented a clinical mentoring program. Starting in 2006, the clinical mentoring program was identified as an approach that could support and enhance the four-day classroom training that accompanied the rollout of Namibia's ART program (95). Clinical mentors were expert HIV physician-trainers who were assigned to one to three regions, each made up of one to four districts. They provided mentoring services to all ART clinics in the district, conducted regular site visits, and distance mentoring via phone and e-mail. In the Ohangwena region, one clinical mentor established a regional CPD forum. The forum, which has been recognized by the Health Professions Councils of Namibia (HPCNA) can award CPD points to participants (95). An evaluation of the program reported that 88% of mentees strongly agreed that clinical mentoring was useful to their work, and 91% looked forward to their mentor's visits (96). Another innovative approach to distance learning and clinical mentorship in Namibia is being piloted by Project ECHO (Extension for Community Healthcare Outcomes). Project ECHO is a collaborative model of medical education and care management that engages clinicians in a continuous learning system and partners them with specialist mentors at an academic medical center or hub. Launched in the United States in 2003, it now covers 22 US states and five countries outside of the US. In November 2015, Project ECHO launched its model in Namibia through the Namibian MOHSS HIV and STI Control program. For this pilot, ten clinical sites have been established throughout the country in areas with high HIV prevalence where health care workers are in need of time efficient training and mentorship. Through videoconferencing technology at each teleECHO clinic, weekly sessions, covering a comprehensive HIV curriculum, promote interdisciplinary case-based learning and enhance extension of clinical mentoring support to remote regions. Participants, including doctors (12%), nurses (54%), and pharmacists, health assistants, laboratorians, and students (34%) may earn up to one hour of CPD point each week. A robust evaluation is part of the pilot and will determine if the ECHO model improves the knowledge and skills of health care providers and teams to provide high quality care in Namibia (97). The lesson learned from these mentoring programs is that a standardized mentorship program is acceptable, feasible, and instrumental in the decentralization of ART services.

Zimbabwe: The nationwide rollout of Option B+ in Zimbabwe necessitated shifting the task of initiating and managing ARVs for HIV positive mothers from doctors to nurses. However, a 2012 survey found that nurses lacked confidence in initiating eligible patients on ART. To remedy this, EGPAF in collaboration with the Ministry of Health and Child Care, started in 2013 a clinical mentoring program to build the capacity and confidence of nurses. The program entailed placement of nurses trained on HIV management for one week with an EGPAF-trained clinical mentor at an ART-providing hospital. The placement was followed by bi-weekly visits for 3-4 months by a team of mentors to the nurse's place of work. Mentors were also available for trained nurses via phone to provide help on complicated cases. Evaluation of the program showed that wait time for ART initiation was reduced from 8 weeks to 2 weeks and uptake of ART among HIV positive women increased from 27% in March 2013 to 67% by December 2013 (98).

Uganda: Nelson and colleagues evaluated the effectiveness of a competency-based training program for non-physician HCWs to carry out early infant male circumcision (EIMC). They found that when compared to physicians, non-physicians (nurses, midwives, and clinical officers) comparably gained knowledge and competency in provision of EIMC using a structured curriculum with over-the shoulder mentoring and timely feedback. They concluded that expanding the performance of EIMC to non-physicians, who are better distributed geographically than physicians, could help increase EIMC in countries like Uganda with high HIV prevalence and low male circumcision prevalence (99). In response to the calls for reform in global health professional education and identified need for approaches that strengthen clinical reasoning skills, the Integrated Infectious Disease Capacity Building Evaluation (IDCAP) project created a training program to support the development of complex reasoning skills among clinicians. The program extended the already existing 3-week HIV/AIDS in-service training for doctors, offered at Makerere University's Infectious Disease Institute, to mid-level practitioners including clinical officers and registered nurses. An evaluation of the program analyzed the additional impact of on-site support (OSS) which was provided to eighteen out of 36 randomly selected health facilities. OSS was implemented over a 9-month period and included monthly two-day visits to each facility by a four-member mobile team (including a medical doctor, clinical officer, registered nurse, and laboratory technologist). Visits included multidisciplinary didactic sessions, discipline-specific break-out sessions, mentoring both clinical and laboratory staff, and CQI activities. The evaluation measured clinical competence by tabulating participating clinicians' scores on written case scenarios. The evaluation found a statistically significant increase in the clinical competence of participants post the 3-week training course. These improvements were maintained through the subsequent 24-week training program. At the facility level, the 3-week training combined with OSS was associated with improved performance in six out of 23 facility indicators (100, 101).

Nigeria: In Nigeria, since 2007 PEPFAR partners have been implementing in-service training (IST) of health workers to improve the quality and coverage of HIV and AIDS services. A USAID evaluation of IST provided by PEPFAR-funded partners between 2007 and 2012 was conducted to assess its efficiency, effectiveness, and sustainability. In total, 39 implementing partners completed the evaluation survey. In-service trainings covered 14 content areas[1] and were targeted to trainers, doctors, nurses, midwives, and community health workers. Although the evaluation found that trainings adhered to national curricula and guidelines, there were several areas in need of improvement. These included the need for more collaboration and coordination among in-service training providers, diverse and cost-effective training modalities, and better linkage between in-service trainings and award of CPD points by a professional council. Coordination between providers of in-service training and professional councils was found to be limited. CPD points were however reportedly awarded for trainings in PMTCT, ART, and leadership (102). Another innovative CPD intervention in Nigeria is the Management for Health Sciences (MSH)-led, USAID-funded, Prevention Organization Systems AIDS Care and Treatment (ProACT) project. Under this project, the Centers for Health Professionals Continuing Education (CHPCE) was established in collaboration with the State Ministry of Health across five supported states (Niger, Kwara, Kebbi, Sokoto, and Zamfara) and endorsed by three professional health councils to award CPD points. The CHPCE provides integrated trainings on HIV and AIDS, TB, and malaria based on national guidelines. Within one year of implementation, the CHPCE has provided trainings to 433 health workers across all cadres and awarded CPD points to 145 health professionals. Awarding nationally-recognized CPD points has served as a motivator for health workers to attend trainings (103).

Kenya: Kenya is one of the first countries in southern and eastern Africa to reach scale in its VMMC program, due to innovations such as task shifting to nurses to increase the number of VMMC providers. When the VMMC program launched, the nursing scope of practice in Kenya did not cover VMMC; only medical doctors and clinical officers were legally authorized to provide the surgery. While doctors and clinical officers were in short supply, a 2008 facility readiness survey found that 85% of facilities had sufficient nurses to provide VMMC services. Since 2009, the MOH has enacted a new policy enabling nurses to provide VMMC surgical services (104).

Other effective CPD interventions implemented in sub-Saharan Africa include the Knowledge, Innovation, Training Shall Overcome (KITSO) program in Botswana which has been adapted in several African

[1] Content areas: PMTCT; behavior change; counseling and testing; infant feeding/nutrition; pediatric HIV/AIDS; care and treatment; OVC; laboratory/blood safety; supply chain; HIV/family planning; HIV/TB; strategic information; leadership, policy, financing; and other

countries including Lesotho and Tanzania (105); the pediatric clinical mentoring program operated by Botswana-Baylor Children's Clinical Centre of Excellence (COE) in 21 health facilities in Botswana since 2008 (106); and the maternal and child health clinical mentorship program implemented by the Jigawa State MOH and the Partnership for Transforming Health Systems Phase 2 project in Nigeria (107).

CONCLUSION AND RECOMMENDATIONS

This desk review was undertaken to assess the current status of health sector CPD systems with an emphasis on HIV and TB in three target countries (Malawi, Tanzania, and South Africa). Our review found that all three countries have put in place CPD programs for nurses and midwives, and doctors. These programs are mandatory for re-licensure for doctors and nurses in Malawi and South Africa but voluntary for doctors in Tanzania. We also identified examples of innovative and effective CPD interventions that have been or are being implemented in the three countries. There were, however, very few reports that evaluated the national CPD program in these countries. Similarly, evaluations assessing the quality and impact of CPD interventions on patient outcomes were practically absent. CPD interventions for HIV and TB were documented but it was difficult to know if these activities were accredited and therefore accrued CPD points for the HCWs involved.

As part of this report, we provide the following recommendations:

- The importance of CPD and expectation of continuing learning/life-long learning is something that might be effectively introduced during pre-service training, so that new graduates have that expectation when entering healthcare practice.
- In order to ensure the success of task shifting, task-shifted staff should undergo CPD to ensure that they have the required skillset to take on their new roles.
- Lack of access to CPD opportunities is affecting the ability of the private health sector in providing key health services such as HIV and TB services. Efforts must be made to invite the private health sector to CPD trainings relevant to their capacity needs.
- While CPD is intended to introduce or enhance knowledge, skills, and attitudes, it cannot be assumed that this is achieved. Systematic evaluation of the impact of CPD on clinical practice and clinical outcomes should be prioritized.

- Given the limited published reports and studies that focused on HIV and TB CPD, it is recommended to incorporate into I-TECH's interview guides and survey questionnaire questions on the availability of HIV and TB-related CPD opportunities in the three countries.
- Lastly, given the lack of formal CPD for unlicensed HCWs, consideration of CPD linked to accrual of points should be considered for these cadres.

APPENDIX: TABLES AND FIGURES

Table 1. HIV and TB burden in Malawi, South Africa, and Tanzania

	Malawi	South Africa	Tanzania
Total population[1]	17.2 million	55 million	53.5 million
People living with HIV[2]	980,000	7 million	1.4 million
HIV prevalence among adults aged 15 to 49 years[2]	9.1%	19.2%	4.7%
TB prevalence (per 100,000 population)[3]	334	696	528
TB case detection rate (CDR)[3]	43%	68%	36%
Estimated ART coverage[4]	67%	66%	40%

[1] World Bank (2015)
[2] UNAIDS, HIV and AIDS estimates (2015)
[3] World Health Organization, Tuberculosis profiles (2014)
[4] Zuber (2014)

Table 2: Examples of licensed and unlicensed HCWS in Malawi, South Africa, and Tanzania

	South Africa[1]	Tanzania[2]	Malawi[3]
Licensed	Doctors Nurses Midwives Clinical assistants Anesthetist's assistants Dieticians	Doctors Nurses Midwives Clinical officers Dentists Pharmacists Laboratory technicians	Doctors Nurses Midwives Dentists Pharmacists
Unlicensed	Community health workers Lay counselors Adherence counselors Home-based care givers Peer educators	Community health workers Biomedical workers Physiotherapists Occupational therapists Social workers Nutrition officers	Community health workers

[1] I-TECH (2016) Evaluation of the National CPD program for Nurses and Midwives in South Africa & Unregulated health workers: a Canadian and global perspective (Canadian Nurses Association)
[2] MOHSW (2016) National CPD framework for health care providers in Tanzania
[3] Smith (2014)

Table 3. NIMART in education and training

Country	NIMART taught in a pre-service educational program	Level of pre-service education where NIMART is taught	NIMART taught in an in-service training program	In-service training for NIMART is standardized nationally	Length in days of in-service training for NIMART	NIMART training is accredited or approved by national nursing council
Malawi	Yes	Diploma, Bachelors	Yes	Yes	10	Yes
South Africa	No	n/a	Yes	Yes	10	No
Tanzania	*NIMART not practiced*					

[1] Zuber (2014)

Table 4. Major CPD providers

South Africa	Malawi	Tanzania
• Foundation for Professional Development (FPD)	• I-TECH	• MUHAS
• University of Stellenbosch	• VSO	• Catholic University of Health and Allied Sciences
• Southern African HIV Clinicians Society	• Dignitas International	• Hubert Kairuki Memorial University
• Medical Practice Consulting	• IICD	• Kilimanjaro Christian Medical College
• ICAP	• ICAP	• University of Dodoma
• I-TECH	• Kamuzu College of Nursing	• Zanzibar College of Health Science
• InPractice Africa	• Malawi College of Health Sciences	• Association of Private Health Facilities in Tanzania
• University of Witwatersrand	• Mzuzu University	• Bugando Medical Center
• University of Western Cape	• Malamulo College of Health Sciences	• Muhimbili National Hospital
• University of Free State	• MSF	• Aga Khan University
	• College of Medicine	• I-TECH
	• Abt Associates (USAID)	• International Institute for Communication and Development
	• Clinton Health Access Initiative	• Open University Tanzania
	• EGPAF	• Ifakara Health Institute
	• IntraHealth International	• Tanzania Education and Research Network
	• JHPIEGO	• Tanzania Global Development Learning Centre
	• Population Services International	
	• Project HOPE (USAID)	
	• John Snow, Inc.	
	• Global AIDS Interfaith Alliance (GAIA)	
	• Management Sciences for Health	
	• National Organization of Nurses and Midwives of Malawi	
	• UNC-Project Malawi (UNC Chapel Hill)	

Table 5. Summary of CPD systems in South Africa, Malawi, and Tanzania

Characteristic	South Africa	Malawi	Tanzania
CPD legislations and acts	• Health Professions Act 1974 • National Health Act 2003 • Nursing Act 2005	• Medical Practitioners and Dentists Act 1987 • Nurses and Midwives Act 1995	• Medical and Dental Practitioners Bill 2012 • The Nursing and Midwifery Act 2010 • Nursing and Midwifery (Practice) Regulations 2010
CPD regulatory bodies	• Health Professions Council of South Africa • Medical and Dental Board • South African Nursing Council • National Department of Health	• Nurses and Midwives Council of Malawi • Medical Council of Malawi • MOH Nursing Directorate	• Tanzania Nursing and Midwifery Council • Medical Council of Tanganyika • Ministry of Health & Social Welfare
CPD framework and guidelines	Yes, for both nurses and midwives and doctors as well as for various other health professionals including pharmacists, therapists, etc.	Yes, for both nurses, midwives and doctors	Yes, for both nurses, midwives and doctors. The MOHSW is developing new CPD guidelines for all HCWs in Tanzania
Number of CPD points required	**Nurses/midwives**: 15 CPD points per year for licensure; **Doctors:** 30 CPD points per year	**Nurses/midwives**: Initially 30 CPD points per year for licensure; following evaluation report by ITECH, revised to 50 CPD points every two years. **Doctors:** 30 CPD points per year	**Nurses/midwives:** At least 10 CPD points for nurses and midwives per year **Doctors:** A minimum of 20 CPD points per year
Documentation of CPD activities	Using CPD portfolio or PoE maintained by the HCW	Using CPD logbooks available for a fee from NMCM	Using CPD logbooks maintained by the nurse/midwife
Mandatory CPD	Yes, CPD is mandatory for license renewal for both nurses and midwives and doctors	Yes, CPD is mandatory for license renewal for both nurses and midwives and doctors	Yes, mandatory for nurses and midwives Not mandatory for doctors although new MOHSW CPD guidelines make CPD mandatory for all HCWs
How compliance is monitored	Using an audit system where 5% of the nurses and midwives or doctors in the registry are sampled and audited either yearly or bi-monthly	Using an audit of 5% of registered nurses and midwives	Regular audits of 5% of registered nurses and midwives and annual inspection visits by TNMC staff. Not applicable currently for doctors since CPD is not mandatory.
Actions against non-compliance	**Doctors**: six-month extension, suspension or removal **Nurses and midwives**: three-month extension, fine, or removal from the register	**Doctors**: Written warning letter with a fine equivalent to the annual license renewal fee **Nurses and midwives**: Not specified	**Doctors:** None (CPD is not mandatory) **Nurses and midwives:** Non-renewal of practicing license
Accreditations processes	SANC and HPCSA delegate the accreditation of CPD activities to providers accredited by the Council;	For doctors, the MCM is the main accreditor of CPD providers For nurses and midwives, NMCM-trained CPD facilitators provide CPD trainings	Currently CPD providers and activities are accredited by TNMC and the Medical Association of Tanzania

Table 6. CPD Module Topic Areas for Online CPD Library[1]

Topic areas included from desk review	Topic areas not found in desk review
• Maternal, newborn, and child health (n=14)	• Nursing documentation
• HIV (n=9)	• Ethical issues in patient care
• Infectious disease (n=5)	• Emergency preparedness
• Leadership, management, and governance skills (n=4)	• Mental health
• Technical and computer skills (n=3)	• Emerging diseases
• Research (n=2)	• Opportunistic infections
• Medication administration (n=2)	• Non-communicable diseases
• Teaching and learning theories (n=1)	• Time and conflict management
• Communication (n=1)	• Patient advocacy
• Implementation science or operational research (n=1)	• Critical thinking
• Health policy (n=1)	
• Other, e.g., blood bank practices, sexual health, workplace violence (n=3)	

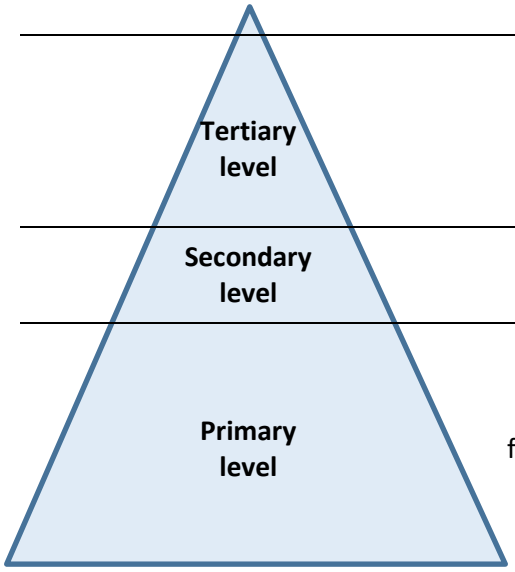
[1] Hosey (2016)

Table 7. Findings and recommendations from the NMCM CPD evaluation report[1]

Findings	Recommendations
1. Insufficient CPD facilitators (CPDFs) presented a challenge, in addition to some of them lacking understanding of the program guidelines. 2. Wide variations and confusion in how assessments and appraisals were done, if done at all, and by whom. 3. Technical difficulties with databases have made it difficult to track CPD at the national level. 4. Difficulty with assessing the impact of the program due to limited monitoring and evaluation. Evaluation participants have cited anecdotal improvements to nursing practice and various stakeholders voiced enthusiasm about the program, describing the benefits resulting from CPD.	1. Lengthening the CPD cycle to two or three years, to enable ease of compliance for all nurses and midwives as well as to integrate new nursing graduates into the program sooner than later. 2. Adding more CPD facilitator trainings would help address knowledge gaps due to frequent turnover in districts. 3. The CPD program needs to explore ways for nurse administrators and nurse managers to access more relevant trainings (e.g., leadership and management, performance management, budgeting). Skills building, in particular, needs greater emphasis in CPD trainings. 4. A mechanism is needed for approving and accrediting trainings and criteria for CPD trainers as well as some kind of post-test assessments to assess participant comprehension. 5. NMCM should provide facilities with lists of nurses and midwives who have successfully registered so that CPD committees know who needs to complete CPD each year.

[1] I-TECH (2016) Evaluation of the National CPD program for Nurses and Midwives in South Africa

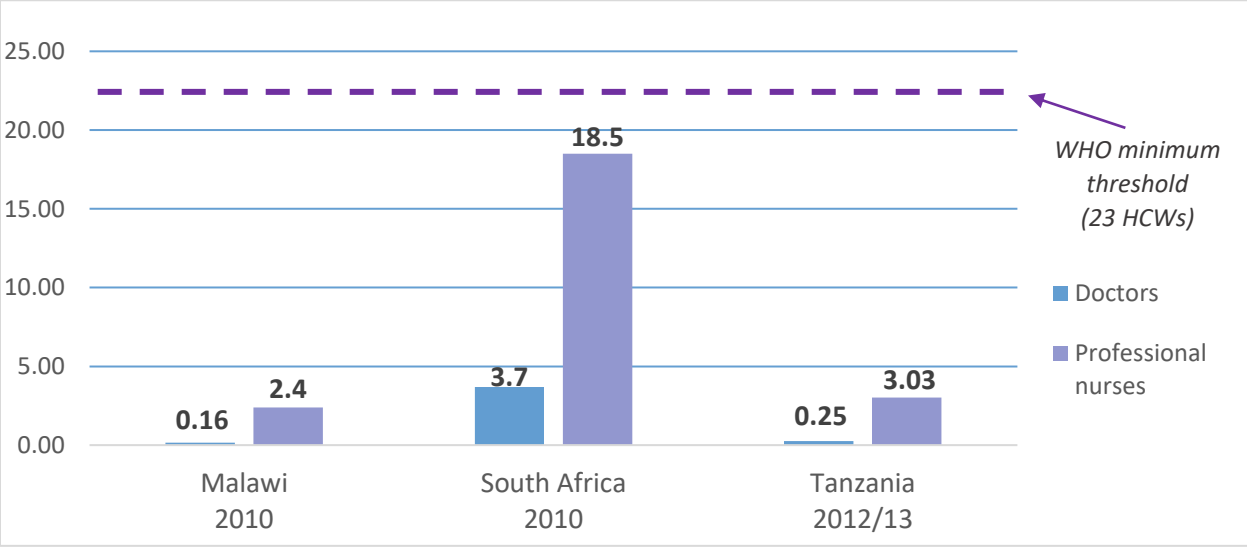
Figure 1. Levels of care in the health system



	Malawi	South Africa	Tanzania
Tertiary level	Central hospitals (n=4)	Central academic hospitals & Tertiary academic hospitals	National / zonal hospitals (n=8) Regional referral hospitals (n=25)
Secondary level	District hospitals	District & regional hospitals	District hospitals (n=219)
Primary level	Health posts, dispensaries, maternity facilities, health centers, community & rural hospitals	Primary healthcare clinics	Health centers (n=711) Dispensaries (n=5,913)
Total public sector health facilities	60%	4,200	60%
Total private sector health facilities	40%	238	40%

Sources: South Africa HRH Strategy for the Health Sector 2012/13-2016/17, SHOPS-Project Tanzania Private Health Sector Assessment 2013, Bisson C. Human Resources for Health Country Commitments: Case Studies of Progress in Three Countries 2014.

Figure 2. Number of doctors and nurses per 10,000 population



Sources: South Africa HRH Strategy for the Health Sector 2012/13-2016/17, SHOPS-Project Tanzania Private Health Sector Assessment 2013, Bisson C. Human Resources for Health Country Commitments: Case Studies of Progress in Three Countries 2014.

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