



## Building capacity for skilled birth attendance: An evaluation of the Maternal and Child Health Aides training programme in Sierra Leone



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### ABSTRACT

**Objective:** Maternal and Child Health Aides (MCH Aide) in Sierra Leone provide the majority of maternity services at primary care level. To formulate recommendations for improving the quality and scale-up of MCH Aides training an evaluation of all schools across Sierra Leone was undertaken.

**Design:** structured, direct observation of two randomly selected teaching sessions per school using pre-tested standardised review forms. Event sampling with random selection of timetabled sessions across all 14 MCH Aide Training Schools.

**Setting:** all MCH Aide training schools across Sierra Leone.

**Participants:** tutors across 14 MCH Aide training schools observed in August 2013.

**Measurements:** assessment of four key elements of teaching and learning: (1) teaching style, (2) use of visual aids, (3) teaching environment and (4) student involvement.

**Findings:** in the majority of teaching schools there was over-crowding (11/14), lack of furniture and inconsistent electricity supply. Ten of 26 tutors used lesson plans and teaching was mostly tutor- rather than student-focused. Majority of tutors use a didactic approach rather than active learning methods. Teaching aides were rarely available (15% of lessons). Tutors were knowledgeable in their subject area and there was evidence of an excellent tutor-student relationship.

**Key conclusions:** training for Maternal and Child health Aides relies on teacher focused didactic methods, which may hinder student learning. Teaching and learning within the schools needs to be enhanced by a combination of tutor development and improvements in the learning environment.

**Implications for practice:** interventions to improve the quality of teaching are urgently needed and should include training on teaching techniques and student assessment for tutors, provision of audio visual equipment and teaching aides such as posters and mannequins. Monitoring and Evaluation of interventions is critical to be able to amend the programmes approach and address further challenges at an early stage.

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### Introduction

Sierra Leone achieved an average annual decrease of 3.3% in the Maternal Mortality Ratio (MMR) between 1990 and 2013.

However, the most recent estimates of MMR, suggest it has risen to 1100/100,000 live births (World Health Organization, 2015) the highest in the world (sub-Saharan average of 510/100,000 live births). The proportion of births attended by skilled healthcare workers in Sierra Leone is 61% (World Health Organization et al., 2014; World Health Organization, 2014).

Even before the advent of the Ebola Virus epidemic, Sierra Leone had a critical shortage of human resources for health with

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only 0.2 physicians and 1.7 and nursing/midwifery staff per 10,000 population. This is well below the average for low income countries (2.6 and 12 physicians and nursing/midwifery staff per 10,000 population respectively) (World Health Organization, 2014). The critical shortage of skilled health personnel is compounded by the fact that the majority of this workforce is in urban areas, with 46% of all healthcare providers based in Freetown. There is also a severe shortage of specialists such as Obstetricians, Anaesthetists and Radiologists (Ministry of Health and Sanitation [Sierra Leone], 2010). As a result of the shortage of skilled maternity healthcare workers, many women do not have access to skilled care during childbirth (Oyerinde et al., 2013). The lack of skilled birth attendants was recognised to be one of the main reasons for the high maternal and newborn mortality rates in Sierra Leone.

The free maternal health initiative introduced in 2010 improved access to reproductive and maternal health services but failed to address the core human resource challenges which include low staff numbers, poor distribution of staff and poor staff retention across all levels of the health system in Sierra Leone (McPake et al., 2013).

Additional mid-level healthcare workers such as Community Health Officers, State Enrolled Community Health Nurses and Maternal and Child Health Aides (MCH Aides) have been trained to increase the number of trained medical staff, especially at the primary care level (Peripheral Health Units) (Ministry of Health and Sanitation [Sierra Leone], 2010; Kargbo, 1992; Adegoke et al., 2012). This is a recognised strategy across many other countries in sub-Saharan Africa aimed to improve the availability of healthcare workers (World Health Organization, 2010). MCH Aides in Sierra Leone provide well over 70% of all services in Peripheral Health Units (PHUs) across the country and attend to 14% of all births (Statistics Sierra Leone (SSL) and ICF International, 2014).

A revision of the MCH Aide curriculum was completed in 2012 with greater emphasis on maternity care including emergency obstetric care. Though MCH Aides are not currently formally recognised as skilled birth attendants they in practice do provide many of the services associated with that role under the supervision of a qualified midwife (Adegoke et al., 2012).

The MCH aides training programme started in the 1980s with the overall goal to improve the quantity and quality of human resources for health in Peripheral Health Units; thereby increasing access to quality maternal and child health services and this was expected to contribute to the achievement of the targets for Millennium Development Goals 4 and 5 in Sierra Leone. It was also anticipated that training the MCH Aides in their district of origin would facilitate staff retention and increase the human resource capacity for the delivery of such services by at least 26% by the end of 2012 (Ministry of Health and Sanitation [Sierra Leone], 2010). In 2011, a rapid assessment of the MCH Aide training schools, conducted by UNICEF, looked at the training environment, quality of training and availability of teaching resources. The assessment demonstrated inadequate classroom space in 50% of schools; 50% of schools lacked water or electricity supplies and a lack of critical learning materials such as libraries and anatomical models (UNICEF, 2011). The report noted that tutors were well qualified as clinical specialists but lacked qualifications in teaching and learning methodologies. In response to the rapid assessment report and as part of the accelerated human resources for health programme, schools in 11 out of 13 districts were rehabilitated and one was newly constructed in Koinadugu district.

However, in 2012, approximately 50% of MCH Aide students failed their final examinations and consequently were unable to take up their posts in the community. This led the Ministry of Health and Sanitation to request for an evaluation of the quality of teaching in the MCH Aide training programme. Successful learning

depends on a positive interaction between the style of teaching employed by the teacher, the subject matter and the learning style of the student (Clark and Latshaw, 2012). With a 50% failure rate it can be assumed that this interaction was not working sufficiently well. In both nursing and midwifery training a diversity of teaching styles is needed to take account of the range and content of the subject areas that students have to learn and the skills they need to acquire to become competent practitioners (Banning, 2005). Currently tutors on the MCH Aide programme in Sierra Leone are recruited from within the District Health Management Team (DHMT), because of their clinical expertise rather than their experience as a tutor. Evidence shows that variables such as age, gender, and qualifications of the teacher have little impact on the success of teaching (Chilemba and Bruce, 2015). Rather it is the styles of teaching employed which affects how much students learn. Compared to didactic teaching methods such as lectures, student focused methods such as group work, discussions and student presentations encourage active, student focused teaching with a positive effect on learning outcomes (Hackathorn et al., 2011).

The aim of this study was to evaluate teaching and learning within the MCH Aide programme in Sierra Leone. In 2013, key stakeholders, including school co-ordinators and district health sisters, attended a two-day workshop to identify the opportunities and challenges faced by the MCH Aide schools. This was used to develop and agree the approach to a comprehensive evaluation of teaching in all 14 MCHA schools across Sierra Leone. We conducted structured observations of teaching to evaluate the teaching styles used, how appropriate these were for the subjects taught, the availability and use of teaching aids and student participation in the lessons.

## Methods

The MCH Aide training consists of a standardised curriculum delivered over two-years in 14 schools spread across all 14 districts of Sierra Leone, each admitting 40–60 students per year. All 14 schools were included in the study. At the end of the programme students are expected to demonstrate competencies based on the International Confederation of Midwives guidelines, to enable them to work independently in remote settings (Adegoke et al., 2013). This includes performing antenatal assessments, skilled care at the time of birth, postnatal care, recognition and initial management of complications that occur in pregnancy, childbirth and the postnatal period, prescribing drugs and family planning advice. Tutors therefore need to facilitate learning for students to apply theory to practice and perform key clinical skills.

One student cohort is trained during the same academic session in each school across the country at any one time. A total of 275 teaching staff are available to all the training schools, but each school has a core teaching staff complement of 10 (140 in total across Sierra Leone), which includes a school co-ordinator and deputy, two District Health Sisters, Clinical Officer, Matron and the District Medical Officer (DMO). The co-ordinators/deputy co-ordinators of the school were both senior midwives and are the only permanent, full time tutors in the schools.

Observation of teaching was conducted in each of the 14 MCH Aide schools. A qualitative approach was used to capture a rich description of the quality of teaching and learning within the schools (Fasse and Kolodner, 2000). Four key elements of good quality teaching and learning: (1) teaching style, (2) use of visual aids, (3) teaching environment and (4) student involvement were observed through a structured, direct observation approach, using a standardised review form (Parahoo, 2006). A structured observation is one where the phenomena to be observed has already

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