

# **The Prospect of Task-Shifting among Community Health Workers for Emergency Management of Pre-eclampsia in Nigeria**

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## Abstract

Task-shifting redistributes responsibilities from highly qualified providers to lower level cadres in an effort to best utilize available human resources. This becomes more appropriate in a country like Nigeria where there is a shortage of qualified health professionals and a huge burden of maternal mortality resulting from obstetric complications like pre-eclampsia and eclampsia. This study examines the prospect for task-shifting among CHEW for emergency management of pre-eclampsia, in Ogun State, Nigeria

This study is part of a larger community-based trial evaluating the acceptability of community treatment for severe pre-eclampsia in Nigeria. Focus group discussions (FGD) and in-depth interviews (IDI) were conducted from 2012-to-2013. Eight focus groups were held with CHEWs (N=64), four with male decision-makers (N=32), five with community leaders (religious and representatives of traditional rulers and political groups) (N=56). In addition, interviews were conducted with the heads of the local government administration (N=4), Medical Officers of Health (N=4), Heads of local government administration (N=4), and Chief Nursing Officers (N=4). Qualitative data were translated into English by local researchers with fluency in Yoruba and English. Data were subsequently analysed using NVivo version 10.0 3 computer software.

The non-availability of personnel, which is a major challenge among all cadres of health care workers has resulted into facility-based practice for CHEWs. As a result, CHEWs often get involved in tasks that are meant for health workers in the senior cadre. This level of involvement has exposed them to some of the basics of obstetric care necessary to safeguard women seeking obstetric care; leading to a kind of informal task-shifting among the health workers. The knowledge and ability of CHEWs to take blood measurement is not in doubt. Nevertheless, there were divergent views across the senior and junior cadres of health practitioners about task-shifting of obstetric care to CHEWs as a result of certain barriers. Similarly, there were concerns by various stakeholders, particularly the CHEWs themselves, on the regulatory restrictions placed on the by the Standing Order.

Generally, the extent to which obstetric task could be shifted to community health workers, will be determined, by and large, by the type of training provided to CHEWs and the extent to which some of the observed barriers are addressed. Of importance is training in obstetric care and the inclusion of certain areas of obstetric care which has not been included in the Standing Order.

**Keywords: Task-shifting; Pre-eclampsia; Community health workers**

## Introduction

Task-shifting has been successfully used to improve access to health care services in low and middle-income countries (LMIC), where there is a shortage of qualified health professionals [3]. This approach redistributes responsibilities from highly qualified providers to lower level cadres in an effort to best utilize available human resources [1, 2]. The scarcity of health care providers is due to the inability of the governments to reform the health system so as to expand the number of trained health care workers, as well as the brain drain phenomenon [4]. In 2006 the World Health Organization (WHO) estimated a global shortage of 4.3 million health workers, with poorer countries in the global south particularly hard-hit [5].

Maternal mortality remains a grave concern globally with 210 maternal deaths per 100,000 live births in 2013 [6, 7]. Nigeria has one of the highest maternal mortality ratios (MMR) at 560 per 100,000 live births [6]. The hypertensive disorders of pregnancy (HDP), including pre-eclampsia, are responsible for a large number of these preventable deaths. Although no cure is available for pre-eclampsia, timely identification and management greatly decreases the likelihood of severe morbidity and death. Prompt identification of pre-eclampsia through reliable blood pressure and proteinuria measurement and emergency treatment with  $\text{MgSO}_4$ , antihypertensives and referral many women and babies can be saved.

In spite of the fact that Nigeria has one of the largest stocks of health workers in Africa, the density of nurses, midwives, doctors, and community health workers are too low to effectively deliver essential health services to the whole population [REF]. There has been a consistent shortage of qualified health workers at all levels and cadres as a result of the inconsistent recruitment government policy and the brain drain phenomenon. This shortage has led to a huge burden in health care delivery services for the few employed health workers. Community Health Extension Workers (CHEW) provide primary health care services in Nigeria, they are mandated to spend 60% of their time on community-based functions and 40% on clinic-based functions. CHEW training is 2-3 years, and the curriculum focuses on community diagnosis and treatment of minor ailments and diseases; assisting mid-level health workers in providing care at facilities; and community outreach services. There is no training dedicated to the hypertensive disorders of



pregnancy; however, a course on reproductive health provides an overview of pregnancy and its complications. Objectives of the reproductive health course are to understand the following: the concept of reproductive health and rights, including family planning, the process of pregnancy formation and development, the management of labour according to acceptable standard, and the care of the mother and child during puerperium. Other courses that could provide a foundation that might be relevant in the management of pregnancy hypertension include clinical skills and supervised clinical experience.

Within this context, it is important to investigate the potential for task-shifting to community health workers with specific reference to the potential provision of screening and emergency management of pre-eclampsia by CHEWs in Nigeria. The aim of this study is to identify the facilitators and barriers to the task-shifting of these services to CHEWs in Nigeria.

### **Description of Study Sites**

This study was conducted in Ogun State, located in the southwest region which is predominantly Yoruba. The study was carried out in four Local Government Areas (LGA) of the State. The health indicators of the state are reflective of the health indicators for Nigeria as a whole, with high levels of poverty, fertility and mortality [8]. (see Figure 1.)

### **Methods**

The study combined both qualitative and desk review methods to collect data from health personnel and health institutions. Through focus group discussions, in-depth interviews and document review, information was gathered regarding CHEW's current level of competency in identifying preventing, and managing cases of pre-eclampsia. These methods were used to evaluate the capacity afforded by pre-service training and how it prepares CHEWs in the recognition of warning symptoms, screening, and treatment for pre-eclampsia. In addition, community members and various stakeholders were engaged to assess their support in the proposed task-shifting activities.

This study is part of a larger community-based trial evaluating the acceptability of community treatment for severe pre-eclampsia in Nigeria [9]. Focus group discussions and in-depth

interviews were conducted from 2011-to-2013. Eight focus groups were held with CHEWs (N=), four with male decision-makers (N=), five with community leaders (religious and representatives of traditional rulers and political groups) (N=56). In addition, interviews were conducted with the heads of the local government administration (N=), Medical Officers of Health (N=), Heads of local government administration (N=), and Chief Nursing Officers (N=). Sampling of all respondents was purposive and premised on their knowledge as supported by their roles within the health institution or community. Interviewers were selected based on their experience in the community, familiarity with the health care system, and with qualitative research experience. Semi-structured interview guides designed for the multi-country study was adopted and translated to fit the local context. Generally, participants were left with the decision to of the location which suits them. Interviews were mostly conducted in the local dialect (Yoruba), to allow deeper exploration of the participants' experiences and feelings. Each focus group and interview was audio-recorded, translated, transcribed, and reviewed for consistency. Focus groups and interviews lasted between 45 minutes and 2 hours. Saturation was satisfactorily met from data derived from all stakeholder groups.

Data were analysed using NVivo version 10.0 3 computer software. The analytical framework and coding structure were developed by the study principal investigators (OO, MV, OA, DA) and data coder (MV); however for consistency, all coding was performed by one individual (MV).

The Health Research and Ethics Committee (HREC) of Olabisi Onabanjo University Teaching Hospital, Sagamu, Nigeria (OOUTH/DA/326/431), and the Clinical Research Ethics Board of the University of British Columbia, Vancouver, Canada (H12-00132), approved the study.



## Results

Demographic characteristics were collected during focus groups discussions on all ..... participants; for details of participants see Tables 2 and 3. Christianity and Islam were the main religion, with few claiming traditional religion. All participants were married; with most having at least one child and some up to 7 children.

### Human Resource Constraints

Discussions with community health workers show that the availability of health personnel is a major concern among all cadres. In most instances, few health professionals are available to man health centres, particularly in rural communities. Community health workers described the danger that CHEWs are exposed to in performing their duties. One of them declared that if they *"have more workers, it would make the work easier than how it is now."* The director of planning described the sorry state of inadequate health personnel in primary health care facilities:

We don't have enough health care workers....for example, maybe they are supposed to have three shifts in a health care facility and for each shift, maybe they are supposed to have a nurse, a CHEW and a health care attendant on duty, so there are supposed to be nine of them available for the three shifts and some others....so let us say twelve....there is no health care facility that one would visit and find twelve health care workers there at any point in time...because even the local government doesn't have the money to pay such salaries they wouldn't have the money to pay their salaries and that is the major problem.

Director of Planning, Yewa South

In almost all the primary health facilities, the minimum number of health care provider at all cadres, were not met. In fact, an in-depth interview with the Chief Nursing Officer in one of the clusters revealed that only 33 CHEWs and 29 nurses/midwives were available for deployment in the entire local government area.

Constraints to human resources among community health workers, as observed, is not a product of scarce trained health workers, but that of the inability of government agencies to recruit health personnel. Annually, scores of health workers are being graduated but they remained unemployed. As an attempt to solving the problem of human resource constraints, one head of local government administrative officer viewed that government *"can co-opt some of them"* even if it is based on contract appointment. However, the recruitment of community health workers was not a direct responsibility of the local government institution which may lack the financial resources to take care of the wages of health personnel even if

tasked to employ them. This invariably has created a set of health workers who serve as private consultants to people in at the community level. As often as the situation demands, they help to provide obstetric health care services which are not within their standing orders. In the same manner, community health workers who are engaged at the primary health care centres often get involved in task which are not prescribed in their standing order. While findings show that most are adapting to these tasks due to their prolonged involvement in obstetric care at the primary health care facilities. This involvement is however informal.

### **Informal Task-Shifting**

Because their current engagement and focus is facility-based, CHEWs often take on tasks meant for senior health workers, such as attending deliveries and basic obstetric care. The narrative below provides insight into their involvement, operations and dilemmas in providing obstetric care:

Sometimes a person can be on duty, the same person would be the one to help the pregnant woman to push the baby out... she would quickly rush down to receive the baby herself... but if they have like two or three workers on duty... even if the woman needs help with pushing the baby, one person would help her push

CHEW, Ogijo

These discussions suggest the existence of an informal task-shifting arrangement between nurses/midwives and community health workers. In most instances, nurses and midwives were not willing to stay in rural communities. Invariably therefore, some of the tasks assigned to nurses and midwives were carried out by CHEWs. During one interview a Chief Nursing Officer alluded to this situations; she disclosed that the lack of personnel has community health workers to focus on facility-based care at the detriment of home-based care.

CHEWs have drawn back to health facilities and so most of these home-based cares have really been low, [...] the problem is that of personnel. A situation in which I don't have anybody to attend to my clients in the health facility...and you want me to release the few there to go and be engaged in home care...it's not that feasible

Medical Officer, Yewa South

The view above shows that while health personnel acknowledged the importance of CHEWs in the community, they admitted that this has been impossible because of the human resource constraints. At any rate, the involvement of CHEWs in some obstetric tasks has given them hands-on experience which gives potential to embrace task-shifting.

### **Task-Shifting for Obstetric Care**



The current informal task-shifting arrangement has exposed CHEWs to some of the basics of obstetric care. However, in spite of informal task-shifting, there were reservations among senior health personnel as to whether CHEWs would be appropriate for delivery of obstetric services. A senior medical doctor viewed that scaling up CHEWs may lead to a demand for their services, especially in private sectors and urban centres, leading to service drift and invariably shortage of CHEWs. According to him:

If you train Extension Workers to a little more high level whereby they can now comfortably handle preventing pre-eclampsia and then handling deliveries very well, how are we sure that what happened to the midwives won't happen to them? Their value can rise and they may no longer be available, because we are not questioning the quality of our midwives, we all feel that midwives can be very useful if they are available but how do we make that person who can help available?

Member of the Society of Obstetricians and Gynaecologists of Nigeria

While the view about service drift resonated with some of the senior health personnel, many expressed their support for task-shifting but hinged on CHEWs acquiring some relevant training.

I think these Extension Workers could be trained, because you see...we don't have enough manpower to put doctors in all the health centres, I think, it is not possible but if these Community Health Extension Workers are trained to be able to check the blood pressure adequately and they are given a value, that any time the blood pressure is above this value, please refer. They would be doing a lot of screening rather than...because they can't treat eclampsia, we mustn't deceive ourselves, they can't. By the time the woman starts convulsing, she's aspirating, what do they know they can do? I think primarily, it is better to let them...even if they don't check the urine, because it is unlikely that there will be proteinuria without hypertension. So even if they are trained to be able to check the blood pressure properly, given certain value at which it is regarded as not normal and refer early, that will go a long way in this community prevention of the pre-eclampsia.

Member of the Society of Obstetricians and Gynaecologists of Nigeria

These views showed some of the expectations of senior health professionals in the area of trainings. While formal training and certification for this is necessary, the data revealed that CHEWs are already deeply engaged in basic obstetric practice utilizing these skills as enumerated below.

### **Blood Pressure and Proteinuria Measurement**

Measurement of blood pressure is central to the diagnosis of pre-eclampsia. The knowledge and ability of CHEWs to perform this assessment did not seem to be in doubt by those interviewed. It was evident through the focus group discussions and interviews that CHEWs are currently



measuring blood pressure during regular antenatal care. It was mentioned in all eight focus groups with CHEWs and all four interviews with Head CHEWs that they are currently measuring blood pressure and taking basic vital signs. CHEWs as well as their supervisors were confident in their ability to take blood pressure. In fact they admitted that *“even the junior CHEW...the least among the rank of CHEWs [...] knows how to measure a patient’s blood pressure accurately.”* Unlike blood pressure, proteinuria assessment was rarely performed during regular antenatal screening by CHEWs. Faced with the challenge of lack of equipment, CHEWs rely heavily on observed symptoms associated with pre-eclampsia to diagnose and manage appropriately.

### **Pre-eclampsia Management**

Although CHEW’s competency in providing minor obstetric care at the community level was acknowledged, there were divergent views across the senior and junior cadres of health practitioners about task-shifting obstetric care to CHEWs. Some senior health personnel expressed concerns about the risks involved in committing such tasks to CHEW. However, some health care providers at the community demonstrated contrary views. Most were of the opinion that CHEWs were capable of providing first aid obstetric care when needed if well trained and equipped to do so. One Administrative Head shared the view that some obstetric tasks could be shifted to CHEWs if they are well trained:

In the first instance we are not having enough of doctors, we are not having enough nurses and definitely it is the CHEWs that we have in relative large number when compared to these other officers. [...] [CHEWs] will need more training on the job in order to assist them to be more relevant and to be more useful in the care of the pregnant women with elevated blood pressure.

Head of the Local Government Area, Imeko-Afon

Interactions with several stakeholders revealed several barriers to task-shifting for community health workers in these communities. Some of these barriers relate to legal issues, the competence of CHEWs, and administrative concerns.

Various stakeholders worried about the barriers caused due to regulatory restrictions. References were frequently made to the fact that they are legally protected only if they adhere to the Standing Order. Although CHEWs are permitted to provide immunizations to children in the homes, they are currently not allowed to give other injections outside the clinic without

supervision. One of the respondents, a head of CHEW, described the legal restrictions outlined in the Standing Order:

if we see that a pregnant woman has a high blood pressure...we would call on our doctor and he/she would go and attend to the pregnant woman...and sometimes if the doctor is not around...we would take our standing order...we would check for how to manage the pregnant woman's condition....and that is what we would do....if the standing order says we should prescribe drugs for the pregnant woman....we would prescribe drugs for the pregnant woman...we would give the pregnant woman the drugs if we have the drugs....and if we don't have the drugs....we would prescribe the drugs for them and ask them to go and buy the drugs.

Head CHEW, Remo North

As part of the clinic functions within the jurisdiction of the Standing Order, CHEWs give injections in the clinics. For pre-eclampsia and eclampsia, the Standing Order's instructions are for intramuscular diazepam prior to referral.

There are some conflicts between health workers regarding turf protection. Some nurses/midwives who generally felt that CHEWs should not be given the authority to treat obstetric cases. Without the support of the nurses and midwives, CHEWs cannot receive the required administrative support even if their skills in obstetric care were scaled-up. The Head Nurse in one of the clusters shared her views:

I will not feel comfortable, because you know the complication that may arise, so you don't feel comfortable. Even nurses are not even capable of handling eclampsia but you know this our work is for the entire health team we have to invite the doctor if there is such a case. We have to put heads together and you do your own nursing care. We don't normally give such work to CHEW.

Head Nurse/Midwife, Imeko-Afon

When magnesium sulphate is used, close observation and monitoring of the patient is required. A large number of respondents were of the view that facilities and equipment required to monitor patients was not available in most health centres. As such, the feasibility of such venture is very deem. A senior health personnel described the infrastructural challenges:

know that the gold standard is magnesium sulphate, but you know the problem associated with that, monitoring level and so on and so forth. But then the diazepam that can be used without much monitoring... but they are not available, so what I am saying is that we lack infrastructure, there are no staff, common drugs; sedatives like diazepam is lacking.

Member of the Society of Obstetricians and Gynaecologists of Nigeria



In addition, there was a great deal of consensus as to the scarcity of common obstetric medications. They described the situation as worrisome and unsupportive of any strategy for task-shifting of obstetric care to community health workers.

Among community members there was a general consensus as to the importance of task-shifting; however, most opinion leaders expressed reservations about male CHEWs providing obstetric care in the home. One male decision-maker shared his view regarding male CHEWs providing home obstetric care:

Her husband might be thinking that the health care worker is trying to play tricks to marry his wife....the health care worker wants to use that avenue to woo his wife...we have seen cases whereby a man would disguise as a woman and would visit a family.....the Ahaji he has gone to visit would greet the woman that came to visit in holy way; not knowing that it was a man that disguised as a woman...the man would go into the room with Ahaji's wife and sleep with her....the Ahaji didn't know that it was a man that disguised as a woman...it was later that he found out about it. This is one of the reasons why a man wouldn't want health care workers to come to his house. The man could be thinking that the health care work has interest in his wife.

Male Decision-Maker

This is generally premised on a distrust for male CHEWs in handling obstetric issues. While this forms the majority of opinions, few expressed their confidence in male CHEWs handling basic obstetric care.

## Discussion

Task-shifting dates back to early 19<sup>th</sup> century when health workers known as *Officiers de Santé* were a official cadre providing non-physician health care worker [10]. Other literature shows that in Africa, China, and other parts of the world, task-shifting has been successfully used to address complex health care delivery. A randomized controlled trial for task-shifting and the control of blood pressure is ongoing in Ghana [11] to investigate the effectiveness of task-shifting service delivery for some obstetric care. The argument for task-shifting of obstetric care to CHEWs is premised on the current gross inadequacy of health personnel to combat high rates of maternal mortality in Nigeria, which is one of the highest in the world [6, 12]. Since, national health indicators are not improving relative to the efforts being deployed, task-shifting could bring added value. There were some genuine concerns about the possibilities of service or personnel

drift among CHEWs once they acquired more complex obstetric skills. This could be counteracted by improving on the welfare package of health workers and making sure, that CHEWs are consistently being trained and used to fill vacancies in health facilities.

Human resource constraints inhibit community health workers from performing their mandated community-based functions [13]. This may have created a gap between the community CHEWs over the years. And at the same time, it provides an avenue for self-employed CHEWs to practice beyond what is approved by the Standing Order. The continuous practice of health care delivery under the supervision of nurses and midwives has led to some degree of skill transfer for CHEWs. This is evident in the type of cases they currently attend to in the facilities they man. It is vital and imperative for these gains to be consolidated by creating an avenue for CHEWs to formalize the skills they have acquired as they focus on facility-based activities. This will enhance their skills and provide the leverage required for them to accept tasks-shifting and practice the skills they have acquired. Of course, this will also require a re-visit of their curriculum ultimately and also an amendment of the Standing Order to address the legal implication of this scale-up. Turf protection can be a concern among occupations with multi-level hierarchies. The potential for turf protection between nurses/midwives and CHEWs is very high as it is between them and medical doctors. If CHEWs undertake tasks currently being handled by nurses/midwives, the prospect for a smooth transition is low [14].

The current training, recruitment and deployment strategy has created a contradiction in the work of community health workers by detaching them systematically from the community. Although, CHEWs are expected to spend 60% of their time in the community and 40% at facility, the current burden of work inhibits them from engaging with the community. This therefore, calls for a re-examination of the recruitment and deployment policy of CHEWs in order to make them more effective in their duty. Annually, scores of CHEWs are being trained but only few are being employed. The non-recruitment which has led to human resource constraint among community health workers may have resulted in private practices by some community health workers at the community level. When health workers are trained and qualified but unemployed, they put their skills to use in a way that will guarantee regular income for them. This could result in community health workers venturing into some aspects of obstetric care that are outside of



their standing order. Apart from this, such community health workers are not likely to have required facilities to operate at the community. As such, women may be exposed to more risk while seeking obstetric care. Invariably, the policy and position by government to restrict employment of community health workers may have some adverse effect on the overall health status of women and the country at large. In other words, when the huge numbers of unemployed, but qualified community health workers are employed, the resultant gains will far outweigh its loss.

### **Conclusion**

A short period of additional training for CHEWs could help them to effectively accept some of the responsibilities and also help to ensure efficient delivery of obstetric care in Nigeria. Generally, the extent to which obstetric task could be shifted to community health workers, will be determined, by the extent to which barriers are addressed. Of importance is the re-training of community health workers to include a more comprehensive approach to obstetric care which has not been included in the Standing Order.

### **Abbreviations:**

low and middle-income countries (LMIC); World Health Organization (WHO); maternal mortality ratio (MMR); hypertensive disorders of pregnancy (HDP); Community Health Extension Worker (CHEW); Local Government Areas (LGA)

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