Acceptability of Task Shifting Primary Care Diabetes Self-Management Education Services to Volunteer Barangay Health Workers in a Philippine City

Reiner Lorenzo J. Tamayo, RN[1] and Katherine Ann V. Reyes, MD, MPP[2,3]

[1]*Department of Health Policy and Administration, College of Public Health, University of the Philippines Manila*
[2]*Alliance for Improving Health Outcomes, Inc., Quezon City, Philippines*
[3]*School of Public Health, Pamantasan ng Lungsod ng Maynila*

ABSTRACT

Objective. The primary objective of this study was to explore the acceptability of task shifting to volunteer barangay health workers (BHWs) in the implementation of community-based Diabetes Self-Management Education (DSME) in the Philippines.

Methods. This study employed a descriptive qualitative study design. Data were collected through semi-structured interviews with twelve stakeholders. The study was conducted in the urban city of Marikina which has a high prevalence of diabetes, and high death rates for diabetes and cerebrovascular disease relative to the regional and national rates. A purposive sampling technique was used in selecting participants.

Results. Task shifting Diabetes Self-Management Education to BHWs is generally acceptable to the participants. Expanding the roles of BHWs should be supported by adequate training, compensation, supervision, and financial and non-financial incentives. Ensuring adequate support and resources to execute BHWs' duties and responsibilities as volunteer health workers can promote the effective implementation of task shifting DSME in primary care.

Conclusion. Findings from this study provide preliminary evidence of the acceptability of task shifting to BHWs in the management of diabetes mellitus. The study highlights the importance of institutionalizing task shifting in the health system to promote acceptance and sustainability.

Keywords: community health workers, diabetes mellitus, primary health care, self- management

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Corresponding author: Reiner Lorenzo J. Tamayo, RN
Department of Health Policy and Administration
College of Public Health
University of the Philippines Manila
625 Pedro Gil St., Ermita, Manila 1000, Philippines
Email: renztamayo@gmail.com
ORCiD: https://orcid.org/0000-0002-5130-4341

INTRODUCTION

Task shifting has been considered by many low- and middle-income countries (LMIC), driven by shortages of physicians, unbalanced distribution of the health workforce, and financial constraints.[1–4] Under this model, certain tasks are shared among health care teams (task sharing) or moved from health workers with higher qualifications to less specialized health workers with shorter training to maximize the contribution of available human resources.[5,6]

The chronic shortage of trained health workers impacts on the provision of preventive primary care services. In countries where non-communicable diseases (NCDs) such as hypertension and diabetes mellitus contribute to top causes of morbidity and mortality, the gap of health workers at the primary care level has immense implications to health outcomes. This is the case in the Philippines[7] where more health care workers with the capacity to provide preventive

education are needed as part of disease control approaches to NCDs.

In countries where diabetes is prevalent and in places where there are limited health workers and resources, community health workers have been tapped as complements to diabetes care.[4,8,9] In the Philippines, in particular, volunteer barangay health workers (BHWs) render primary health care services in the community after having been trained and accredited to function as such.[10]

Under the NCD program of the Philippine Department of Health (DOH), trained BHWs are considered key members of the NCD Community Team. They are expected to identify the population of their catchment areas who are at risk of acquiring the common types of NCDs, such as diabetes mellitus, using the risk assessment form of the Philippine package of Essential Non-communicable Disease Intervention for Primary Care (Phil PEN).[11] Moreover, they are also expected to provide adequate information on lifestyle-related diseases as well as activities and services offered by health facilities for the prevention and control of NCDs.[11,12] Further, they are responsible for encouraging communities to participate in healthy lifestyle activities.[12]

Integrated with the Phil PEN are key strategies in self-management education and support. These include ways to assist patients with chronic health conditions to develop knowledge, skills, and confidence through counseling, monitoring, and follow-up.[13] These strategies aim to increase self-efficacy and improve patient outcomes.[13] Self-management support interventions have led to short-term improvements across a number of health measures, health behaviors, and self-efficacy when compared to usual care.[14] However, no evidence was found regarding their impact on health care utilization.[14]

In the Philippines, it was found that a community-based diabetes self-management education program was effective in improving glycemic control and promoting foot examination.[15] The study was conducted in a rural agricultural setting where volunteer peer educators from the community, including a village health worker, were recruited to implement the Diabetes Self-Management Education (DSME) program. This study has illustrated the potential of delegating DSME to people other than the professional members of the community NCD team.[15]

However, there is limited evidence about the wider acceptability of task shifting DSME to BHWs among stakeholders in a devolved health system such as in the Philippines. In this type of health system, local chief executives have the power to set their health priorities and thus, use local funding to hire human resources for health.[16] Currently, no study has explored the acceptability of task shifting among patients, community health workers, nurses, doctors, and policymakers in the context of diabetes management in primary care in the Philippines, thus this research Findings from this study can inform policies in task shifting or task sharing as a mechanism to address the shortage of higher-skilled health workers and longstanding skill-mix imbalances. This is an important area of study for LMICs seeking to realize Universal Health Care.

MATERIALS AND METHODS

Study Design and Setting

This study is a descriptive qualitative study design. Data was collected through semi-structured in-depth interviews. The study was conducted in the urban city of Marikina, Philippines which has a high incidence of diabetes, and high death rates for diabetes and cerebrovascular disease relative to the regional and national rates.[7] The interviews were conducted through a mix of face-to-face conversation in public health centers and through online platforms to adjust for risk levels due to COVID-19 pandemic.

Population and Sampling Technique

A total of 12 participants were initially invited through purposive sampling considering time and resources. All the invited eligible participants agreed to participate and they included BHWs, doctors, nurses, city government officials, patients, and other health workers (i.e., midwives, barangay nutrition scholars). Participants were selected to maximize the diversity of backgrounds and experience. Individuals who were more than 60 years of age or in an immunocompromised state were not included. After ten interviews, no new information was generated from the respondents.

Instruments

Interview schedules were developed to include open-ended questions to determine stakeholders' perceptions regarding task shifting as a model of service delivery, and regarding the shifting of specific diabetes management-related tasks to BHWs. The participants were also asked about their perceived barriers and facilitators to the implementation of task shifting DSME to BHWs given their local context and resources. Recommendations for the strengthening of BHW services in primary care were also elicited from the participants. The interview questions were tested for understandability and contextual appropriateness in a group of three individuals with similar characteristics as the target participants. The tools, including the informed consent forms, have English and Filipino versions. An information sheet was used to gather written demographic data directly from the participants.

Data Collection and Processing

Each participant was interviewed individually by one researcher (RLT). All interviews, whether face-to-face or online, were audio recorded. Consent for audio recording was sought prior to the interviews. The interviews were conducted in conjunction with the interviewees' working hours, when applicable. Interviews were conducted in Filipino and lasted from 15 minutes to 30 minutes.

Audio recordings were transcribed verbatim in Filipino to ensure that transcriptions were accurate. One of the inves-

tigators (RLT) listened to the taped interview while doing the cross-check to ensure the accuracy of the transcribed data. An initial list of notations, terms, and acronyms was developed and included in a codebook to guide the investigators in coding the interviews.

Transcripts were anonymized by removing all personal identifiers. Each participant was assigned a unique code. All participants were referred to in the study using unique codes. All study documents, including the signed informed consent forms, were stored in a locked cabinet that was accessible only to the investigator. All digital copies of audio recordings, transcripts, and notes were stored in a secure, encrypted, and password-protected laptop.

Data Analysis and Rigor

Verbatim transcriptions were analyzed using MAXQDA version 20.4.1. A codebook indicating the various categories used to code the data was developed. Qualitative content analysis was performed to identify major themes and patterns among the themes in the analysis of the content of narrative data derived from the interviews. Data was broken down into smaller units and coded according to the content they represent.

Following the Coding Manual for Qualitative Researchers by Saldaña, the methods of data analysis were divided into two cycles.[17] The first cycle involved descriptive coding, process coding, and sub-coding. The second cycle of coding involved reorganizing and reanalyzing the data coded through the first cycle methods. The first cycle codes were clustered based on similarities to analyze the data on different levels of abstraction. The process resulted in a smaller list of broader categories or themes.

The final interpretation of the results included a comparison of the findings with information from existing literature with consideration of the investigator's own biases and preconceptions to ensure validity. Major themes and their supporting statements were extracted from interview transcripts and translated to English. Finally, the manuscript was sent to the participants for the validation of the results to ensure trustworthiness.

Ethical Considerations

This study received ethical approval from the Research Ethics Board of the University of the Philippines Manila (UPMREB CODE 2021-083-01). All participants gave informed consent before the conduct of the interviews. Participants were informed of their right to withdraw their participation at any point in the study.

RESULTS

All 12 invited participants consented to participate in the study. There were three BHWs, two public health nurses, one public health physician, one barangay nutrition scholar, one midwife, one city councilor, one program manager, and two persons diagnosed with diabetes mellitus. Almost all the participants were women (n = 10), with only two men. Their ages ranged from 35 to 60 while their lengths of service were between 1 to 18 years. The educational background of the participants ranged from primary school to undergraduate and medical degrees.

The results were presented using the major themes that were identified during the thematic analysis.

Roles and Responsibilities of BHWs

All the respondents (n=12) agreed that BHWs assist patients and health care workers in the clinic or health center. They help in screening, taking vital signs and anthropometric measurements, and filing and organizing patient records. BHWs also play a huge role in ensuring that patients do not miss their treatment through regular home visits and taking every opportunity to remind them of upcoming follow-up appointments. More importantly, they assist health care workers in contact tracing and in the dissemination of information at the household level.

BHWs also help in educating community members and mobilizing them to visit the health center as needed. They assist health workers, especially nurses, in conducting public health surveillance, following up on patient treatment, and surveying health conditions that are prevalent in the community. For diabetes, however, BHWs have limited roles and responsibilities. This was mentioned by a city government official:

> *"Their involvement in the community regarding the management of diabetes includes providing basic information [such as] safe and effective precautions on how to avoid or control getting diabetes." (CD)*

BHWs are seen as essential members of the health care team as they are the first and direct contact of the community members. Patients usually approach BHWs first before they even contact the health workers at the health center, demonstrating the high level of trust placed on BHWs among community members. They are usually the first to respond to the inquiries of patients and they know well how to reach patients, especially those that are lost to follow-up. Their knowledge of the community and their position, being respected by community members, prove to be useful assets in their role as volunteer health workers. They can identify the health needs of community members and assist them in availing of the available health services.

Perceptions about Task Shifting

Almost all respondents (n=10) view task shifting as a way to improve access to diabetes services, particularly the transfer of knowledge and skill for diabetes self-management. Despite the absence of a clear policy or guideline, the acceptability of task shifting to BHWs was generally high among respondents. Task shifting is perceived as a promising system to reduce the workload of overworked health workers.

It is thought that task shifting can capitalize on the good relationship of BHWs with the community. Notably, one of the BHWs believes that task shifting is acceptable and part of their duty as volunteer health workers:

> *"It is okay with me as long as we can do it. We know that this is our work. It is our duty to assist our patients. This is one of our responsibilities as barangay health workers." (CBH)*

However, two of the respondents believe otherwise. Both believe that BHWs lack the knowledge and experience to take on other roles aside from those that were already assigned to them.

Tasks that may be Shifted

When asked about the tasks that may be shifted to BHW, almost all respondents (n=10) agree that health education is one aspect of diabetes care that may be delegated to BHWs. This is supported by the fact that most BHWs have undergone training on conducting health education for patients. This training, however, was limited to topics including mental health, maternal and child health, tuberculosis, and the expanded program on immunization. As of writing, BHWs have not received any training on diabetes care.

All respondents agreed that some aspects of diabetes self-management education may be taught by BHWs. Many of the respondents (n=10) are comfortable with allowing BHWs to teach patients about nutrition. Conversely, some respondents (n=4) were certain that BHWs cannot be allowed to teach patients about diabetes medications. One of the nurses also believes the same but clarified that health education on diabetes medications may be shifted to BHWs with training and experience. This is further supported by a statement of a BHW who believes that she can teach insulin administration to patients because of her own experience as she administers insulin daily herself.

Potential Barriers and Challenges

One challenge to the implementation of task shifting that was mentioned during the interviews was the age of BHWs, who were most often older women. Another concern raised by the respondents is the lack of adequate compensation for BHWs. BHWs are considered part-time, volunteer health workers. Thus, they do not receive a regular salary, unlike government employees. Currently, BHWs in the City of Marikina are given honoraria and allowances by the city government and councils of barangays (villages) where these volunteer workers are stationed.

Facilitators of Task Shifting

To facilitate the implementation of shifting some aspects of DSME to BHWs, all respondents believe that more training is needed to capacitate BHWs. One of the health workers emphasized this saying:

> *"We cannot just pass these tasks to them. Maybe if they attended training or seminars, we could ask for help from them. But if they will not undergo training, it would be hard on them since they do not have the necessary knowledge." (MMW)*

All respondents also believe that proper training and attendance to seminars on diabetes increases not only the knowledge of BHWs but also improves their self-confidence in providing DSME services. Aside from training, all respondents also believe that equipment for the implementation of DSME at the community level should be ready and available. Some respondents (n=3) suggested developing a brochure and teaching guide or manual that would assist BHWs in the performance of their duties for DSME.

All respondents also see the need for consistent supervision, especially in the conduct of DSME. Supportive supervision by a doctor or nurse is necessary when BHWs are teaching patients about diabetes self-management, like what is being implemented for maternal-child care and tuberculosis programs in the community.

Monetary and non-monetary incentives and the number of BHWs per barangay are limited and usually depend on the financial capacity of the local government to provide allowances. All respondents agree that BHWs should receive additional incentives to commensurate with their expanding duties and responsibilities. Additionally, another government official emphasized the need to increase the number of available BHWs that will assist in the implementation of health programs, particularly for diabetes, in their city.

DISCUSSION

This study explored the acceptability of delegating DSME to BHWs in the City of Marikina, Philippines. While a community-based DSME program is effective in improving glycemic control and promoting foot examination, there is a lack of evidence on whether task shifting DSME to BHWs is acceptable or not in the context of a devolved health system where local chief executives have great control over public health programs including hiring of health personnel.[15]

This study found that task shifting DSME to BHWs was highly acceptable to stakeholders as in other studies on task shifting in mental health services, HIV testing and counseling, and other preventive and promotive care.[18–20] However, more training, supervision, and regulation of tasks are needed before allowing task shifting to BHWs, especially in DSME.[18–20]

It was noted that only certain aspects of DSME were acceptable to be shifted to BHWs. In particular, the idea of BHWs teaching about diabetes medications did not sit well with some of the respondents. This may be due to the absence of a legal basis for such practice aside from the lack of adequate training among BHWs.

In several countries, some tasks are governed by legal frameworks such that they cannot be shared or shifted to lower cadres of health workers. However, because of the urgent need to address the health workforce shortage, governments continue to work their way around their political systems to advance the task shifting strategy. The Governments of Ethiopia and Malawi, for example, have already lifted their legal restrictions on non-physicians prescribing antiretroviral therapy. In other countries, however, tasks are shifted outside the legal framework. This may be due to the absence of laws governing these tasks and those allowed to perform them, or because the practice is happening outside the formal public health structure.[5]

In the Philippines, laws regulating the practice of professions provide a basis for what can be considered feasible in the implementation of task shifting. Republic Act No. 7883 or the Barangay Health Workers' Benefits and Incentives Act of 1995 provides the broad scope of practice of BHWs which is to render primary health care services in the community after having been accredited to function as such by their local health board following the guidelines promulgated by the DOH.[10] Ideally, a law expanding the scope of BHWs will be the appropriate legal framework to regulate task shifting in the Philippines. However, at present, the law serves as a barrier to the development and implementation of a comprehensive policy on task shifting.

The findings of this study also suggest that adequate staffing, availability of medications and equipment, training, support, and incentives for BHWs are important facilitators of task shifting DSME in primary care similar to previous studies.[1,21] This study also builds upon previous studies highlighting health system issues, including compensation, training, and supervision, that impede the successful implementation of health service delivery mechanisms such as task shifting.[21–24]

The voluntary nature of BHW's work also impedes their full integration into the health care system. Despite the recognition of the essential work that BHWs do, the law codifies their role as merely 'voluntary.' By law, BHWs are only entitled to benefits and incentives including hazard allowance and subsistence allowance. However, stakeholders perceive that these benefits and incentives remain incommensurate with the services the BHWs provide their communities. These benefits and incentives vary and highly depend on the resources of the government unit to which the BHW is attached.[25] This is an offshoot of a decentralized health system where the amount of budget allocated to health depends largely on the priorities of decision-makers, mostly elected officials, which varies almost after every election season. This affects BHW's scope of work, training, supervision, incentives, and allowances which impact their performance and the effectiveness of the interventions assigned to them.[25]

It is almost four decades since BHWs have been instituted in the Philippine health system. Their scope of work has since expanded from primary care to mental health, immunization, maternal and child health, and tuberculosis.[25] The study's findings support existing evidence suggesting that, with training, supervision, compensation, logistical and material support, task shifting to BHWs may be a feasible model to help alleviate health workforce shortages and skill mix imbalances, whether these are needs-based or economic demand-based.[4,21,24]

Despite the high acceptability of task shifting DSME to BHWs among stakeholders, it should not be used as a stopgap measure to the long-term shortage of health professionals and in reducing the workload of other health workers without the necessary prerequisites for a successful task shifting program. Attention must be given to BHWs' training, supervision, and compensation when broadening their responsibilities to include DSME services.[25] These impressions resonate clearly with the perceptions of the respondents in this study.

Task shifting has the potential to help sustain the health workforce and may be employed to improve the quality of care. To guarantee care quality and patient safety, however, task shifting must be planned and implemented with the participation of all system levels and key stakeholders under the framework of healthcare quality improvement. As the link between work input and health performance is better understood, it will provide a pathway to make task shifting fair and safe.

Finally, in the advent of the Philippine Supreme Court's Mandanas Ruling, local government units will enjoy more financial resources which can strengthen decentralization to improve the delivery of social and health services in the Philippines. It is essential, therefore, that the ongoing efforts to achieve universal health care in light of the Mandanas Ruling include provisions for improving BHWs' capacity and resources to deliver additional tasks related to diabetes care.

Limitations

The study was set in an urban setting. As such, the results of this study held only to the setting where it took place. However, this study has the potential to provide an explanatory direction to certain settings with the same context.

CONCLUSION

This study found that stakeholders generally approved of task shifting DSME to BHWs. The expansion of BHWs' roles should be supported by adequate supervision, compensation, training, and financial and non-financial incentives.

Some forms of task shifting have been adopted informally as a response to the shortage of health workers in public health centers whereby patient education is often delegated to BHWs after formal training, and with adequate supervision. This serves as a good precedent for the possibility of instituting a task shifting policy that would delegate DSME to BHWs.

Currently, BHWs complement other health workers based on their limited training and experience. Banking on

their immense social capital, BHWs need to be recognized as more than "volunteers" but as health workers that can help enhance the delivery of health services at the community level. These findings provide preliminary evidence of the acceptability of task shifting to BHWs in the management of diabetes mellitus. The study highlights the importance of institutionalizing task shifting in the health system to promote acceptance and sustainability.

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Statement of Authorship

RLJT contributed in the conceptualization and design, data collection, analysis, and interpretation, and drafting of manuscript; KAVR contributed in the conceptualization and design, critical revision of the manuscript, and review of data analysis and interpretation.

Author Disclosure

Both authors declared no conflicts of interest.

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