

POLICY BRIEF

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Community Drug Distributors in Kaduna

Motivation and Incentive Preferences of Community Drug Distributors and Teachers for Mass Administration of Medicines for Neglected Tropical Diseases in Nigeria: Discrete Choice Experiments



Background

Neglected Tropical Disease (NTD) control programmes use community-based drug distributors (CDDs) and teachers for the implementation of Mass Administration of Medicines (MAM) targeting populations living in endemic areas. Volunteers are essential for the mass administration of medicines to tackle neglected tropical diseases; however, programme coverage is adversely affected by poor motivation and retention of volunteers. Health systems in low and middle-income countries where the burden of neglected tropical diseases is the highest, can ill-afford increased health worker salary costs, requiring identification of lower cost alternatives to improve volunteer motivation and retention, and improve the coverage and impact of mass administration of medicines (MAM).

There has been very little research on the preferences of teachers and CDDs when carrying out MAM activities in Nigeria. Having adequate knowledge of these preferences is crucial for the development of future evidence-based policies regarding the planning and implementation of MAM, in relation to the motivation and retention of its volunteers.

This study explored motivation and retention of two cadres of MAM-volunteers, teachers and CDDs, with the goal of identifying opportunities to improve MAM coverage rates.

Discussion

MAM-volunteer motivation and programme impact could be improved by provision of allowances; increased community awareness about MAM; participatory training methods; recognising CDDs' commitment and workload constraints; and, effective supportive supervision from the health sector. Motivational packages need to be contextualised reflecting the demographics of each cadre, which can be replicated in other low- and middle-income countries and enable the achievement of the NTD elimination goals for 2030.



CDD in Kaduna

Study Design

We used discrete choice experiments (DCE) to estimate preferences of teachers and CDDs in two states in Nigeria, namely Kaduna and Ogun. We studied the main effects by cadre (teacher and CDD) and state, using mixed logit models. We also used latent class model (LCM) to determine inherent choices per demographic characteristics.

This study is the first to have a quantitative look at the preferences of such volunteers within the MAM programme in Nigeria, using DCEs.

Results

Results of the mixed logit models pointed to the importance of allowances of N3000 (US\$8.26) for teachers (0.302*** and 0.456***) and for CDDs (0.115** and 0.366***) in Kaduna and Ogun respectively, during MAM. Extensive information during community sensitisation and acceptance was important for teachers in both states (0.186* and 0.416***) while community recognition and respect was important for CDDs in both states (0.086* and 0.393***). The LCM results brought out three latent classes for both teachers and CDDs whose preferences were significantly determined by demographics such as education, ethnicity and household income.

Opportunities for systems strengthening

The role of community volunteers in achieving MAM coverage and the control and elimination NTDs cannot be overemphasised. It is therefore imperative that the motivational factors of these volunteers be properly understood. This study looked at the preferences of two types of community volunteers across two states in Nigeria using DCEs. The results revealed multiple factors which contribute to volunteer motivation which can be used, with complementary qualitative research e.g. [1], to inform the selection, prioritisation and targeting of programme adaptations to improve motivation and retention with the goal of improving MAM programme coverage. To our knowledge it is the first study to use DCEs to measure the motivational factors for both teachers and CDD MAM volunteers in a low-and-middle-income country context.

Allowances

We found that teachers and CDDs in both states had strong preferences for relatively modest changes in allowances. The preferred allowance package of N3000 is not very different from what Ogun CDDs received during the 2015 MAM implementation but an improvement for those in Kaduna[2]. These payments are reported to come in late for both states [2], and thus prompt payments should be added to the allowance attribute. This contributes to the body of evidence which suggests that allowances are a key motivating factor for volunteers and should be given high priority [3] and emphasises the importance of the timing allowance payments made to the CDDs to cover travel expenses and opportunity costs[4].

Training

Preferences related to duration, content, notice and timing of training were important to both cadres of volunteers in both States and considered a priority for motivation.

Workload

In terms of workload, the DCE preferences reveal that CDDs in both States preferred more CDDs per village, over a short MAM period, which is aligned with the qualitative findings [1]. For the LCA, female CDDs were more likely to be in the class which preferred having more female CDDs in the field. This is an improvement from the current workload which was having 4 CDDs for a population of 2000 (Kaduna) and 1 CDD per village over a 1-week period (Ogun) [2]. It is therefore imperative that the distribution strategy strikes a balance between number of households (children) per volunteer and the duration of the drug administration.

Both cadres preferred participatory training in the local language, as it encourages more involvement, participation and confidence. Adequate training avoids perceived or actual incompetence and mistrust of volunteers by the community [5, 6]. Our results indicate that improved training, tailored to the preferences of trainees, would improve volunteer motivation and retention [1], volunteer knowledge, communication skills and confidence [5] improve performance and progression lead to a successful MAM implementation [5], and NTD eradication.

Sensitisation and Community Acceptance

Sensitisation and community acceptance was found to have a strong influence on teacher preferences, especially female in Ogun. During the qualitative phase of this research several teachers reported facing unpleasant experiences during MAM implementation.[1] which likely influenced the preferences for sensitisation that encompassed inclusion of a wider range of stakeholders. The need for sensitisation and community acceptance ties in with studies conducted in low-income countries such as Uganda [11] Kenya [6] and Ethiopia [10].

Supervision and feedback

Regular supervision from the health system, especially from a problem-solving angle, enhances performance of MAM volunteers [5]. However, DCE results showed supervision and feedback did not have significant effect in motivating teachers in both States which is in line with other studies [7].

The LCA results in Ogun, showed that supervision remains important for CDDs, who wanted to have regular scheduled meetings with supervisors as it boosted their confidence and community acceptance. Female CDDs, CDDs with higher income and more educated teachers were more likely to be in the group which appreciates supervision [7].

Respect and Recognition

For the CDDs from both states, the DCE results indicated that recognition and respect were particularly important. Current practice is that branded items were not generally distributed to CDDs in Ogun [1]. This makes it particularly difficult for identification, compounding the issue of community trust and acceptance. Teachers and CDDs want to be associated with the health system to gain community corporation and hence the need for official identification with health system logos on them [1] which is similar to other studies [7][11]. Health volunteers being more recognised and respected by the health system and the community enhances their performance and motivation [7].

Supplies

Adequate supplies of medicines and distribution materials is essential to an easier and effective medicine distribution, and thus increase volunteer motivation [6]. According to the DCE, Ogun teachers greatly preferred having adequate resources to ease medicine distribution, unlike teachers in Kaduna. CDDs are less motivated by the lack of supplies as it results in their inability to conduct their roles and slowdown of activities [7] [6]. Having adequate supply of affordable, quality assured medicines is a step towards meeting the access and logistics goals for NTDs between 2021 and 2030.



Conclusion

This study provided a quantitative analysis of the preferences of different groups of volunteers carrying out MAM activities. Highly valued preferences such as better community sensitisation and acceptance, adequate supplies, allowance packages, more female CDDs and other non-financial incentives are important and should be at the forefront of decision making, to motivate and retain these volunteers, improve coverage of MAM and reduce the burden of NTDs

Key recommendations

- Community health volunteers are a very important part of the NTD MAM programme and for the programme to be successful, it is important to understand the factors that would motivate them and what their preferences are in terms of work conditions.
- Volunteers preferred factors that were seen as important and include, (in order of importance); allowances, sensitisation and community acceptance, the timing and the style of training received, respect and recognition, supervision, workload and supplies.
- Gender, education, and other demographics affect volunteer motivation, thus programs should be supported with a set of probing questions to help district- and local-level implementers consider better, balanced and contextual motivational packages for these volunteers. This is an effective strategy for higher motivation and performance of MAM volunteers in Nigeria which can be replicated in other low- and middle-income countries and enable the achievement of the NTD elimination goals for 2030.

References



1. Oluwole, A., Dean, L., Lar, L., Salami, K., Okoko, O., Isiyaku, S., Dixon, R., Elhassan, E., Schmidt, E., Thomson, R. and Theobald, S., 2019. Optimising the performance of frontline implementers engaged in the NTD programme in Nigeria: lessons for strengthening community health systems for universal health coverage. *Human resources for health*, 17(1), pp.1-16.
2. Federal Ministry of Health, 2015. National Tropical Diseases: Nigeria Multi-Year Master Plan (2015-2020), s.l.: *Federal Ministry of Health, Nigeria*.
3. Chikaphupha, K.R., Kok, M.C., Nyirenda, L., Namakhoma, I. and Theobald, S., 2016. Motivation of health surveillance assistants in Malawi: a qualitative study. *Malawi medical journal*, 7(2), pp.37-42.
4. Fleming, F. M., Matovu, F., Hansen, K. S. & Webster, J. P., 2016. A Mixed Methods Approach to Evaluating Community Drug Distributor Performance in the Control of Neglected Tropical Diseases. *Parasites and Vectors*, 9, p. 345.
5. Silumbwe, A., Zulu, J.M., Halwindi, H., Jacobs, C., Zgambo, J., Dambe, R., Chola, M., Chongwe, G. and Michelo, C., 2017. A systematic review of factors that shape implementation of mass drug administration for lymphatic filariasis in sub-Saharan Africa. *BMC public health*, 17(1), pp.1-15.
6. Njomo, D.W., Amuyunzu-Nyamongo, M., Magambo, J.K., Ngure, P.K. and Njenga, S.M., 2012. Factors associated with the motivation of community drug distributors in the Lymphatic Filariasis Elimination Programme in Kenya. *Southern African Journal of Epidemiology and Infection*, 27(2), pp.66-70..
7. Kok, M.C., Dieleman, M., Taegtmeier, M., Broerse, J.E., Kane, S.S., Ormel, H., Tijm, M.M. and De Koning, K.A., 2015. Which intervention design factors influence performance of community health workers in low-and middle-income countries? A systematic review. *Health policy and planning*, 30(9), pp.1207-1227.
8. Omer K, Mhatre S, Ansari N, Laucirica J, Andersson N. 2008. Evidence-based training of frontline health workers for door-to-door health promotion: a pilot randomized controlled cluster trial with Lady Health Workers in Sindh Province, Pakistan, *Patient Education and Counseling* , 72 pp. 178-85.
9. Sodahlon, Y.K., et al., A success story: Togo is moving toward becoming the first sub-Saharan African nation to eliminate lymphatic filariasis through mass drug administration and countrywide morbidity alleviation. *PLoS neglected tropical diseases*, 2013. 7(4): p. e2080.
10. Yirga, D., Deribe, K., Woldemichael, K., Wondafraash, M. and Kassahun, W., 2010. Factors associated with compliance with community directed treatment with ivermectin for onchocerciasis control in Southwestern Ethiopia. *Parasites & vectors*, 3(1), pp.1-10.
11. Kalyango, J.N., Rutebemberwa, E., Alfven, T., Ssali, S., Peterson, S. and Karamagi, C., 2012. Performance of community health workers under integrated community case management of childhood illnesses in eastern Uganda. *Malaria Journal*, 11(1), pp.1-13.

COUNTDOWN

Calling time on Neglected Tropical Diseases

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