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Reaching the Unreachable: Leveraging lessons learned from malaria service delivery programs to expand integrated community case management in remote areas of Papua New Guinea

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BACKGROUND

In Papua New Guinea, access and use of primary health care services is a challenge: 85% of the population live in rural area, 30-40% of aidposts are closed and outpatient visits to public health facilities have declined by 30% in a three-year period. The Home-based Management of Malaria (HMM) program managed by Population Services International (PSI) attempted to bridge the malaria service gap in three high burden provinces (East Sepik, East New Britain and Sandaun) using a network of volunteer community-based distributors (CBD). PSI selected provinces based on malaria incidence, access to other health facilities and level of support by the Provincial Health Administration (PHA). The HMM program covered an estimated population of 616,559 with 1,000 active CBDs trained by PSI.

METHODS

PSI conducted a household survey in three locations in East Sepik, East New Britain and Sandaun, one of the first of its kind in rural PNG, to compare treatment seeking for fever among HMM and non-HMM communities.

The study also assessed caregiver knowledge, attitudes and treatment seeking practices for diarrhoea and pneumonia to help generate evidence to expand HMM services to include all three integrated community case management diseases.

The sample size was powered to estimate the proportion of caregivers that have used HMM at least once when a child had a fever with 90% confidence and a margin of error of 6%, assuming a true population value of 50% and a design effect of 1.5. An estimated 450 respondents were required from each province and HMM-status.

RESULTS

Under the HMM program CBDs are currently only given training and commodities to treat suspected cases of malaria. Survey results show high knowledge and use of CBDs for testing and treatment of febrile illness (**Table 1** and **Fig. 1**). Although diarrhea and pneumonia were outside the CBDs' remit, CBDs were the source of care for these illnesses in around 10% of cases in East Sepik and Sandaun provinces, possibly substituting for hospital visits for diarrhea in non-HMM areas of East Sepik (**Fig. 2** and **Fig. 3**). Knowledge of CBDs' functions and preferred usage was lower in East New Britain than the other two locations (higher use of health centres and hospital and less use of CBDs, compared to other locations) (**Fig. 1**, **Fig. 2**, and **Fig. 3**).

TABLE. 1 – Caregiver reported knowledge of CBDs and of CBD tasks at HMM sites

	East New Britain	East Sepik	Sandaun	All sites
Number of cases	N=491	N=440	N=434	N=1,365
Proportion of caregivers who know of CBDs in the community	57.2%	95.9%	94.0%	81.4%
Proportion of caregivers who accurately reported name of local CBD	45.4%	91.4%	91.0%	74.7%
Tasks performed by CBDs				
Number of cases	N=223	N=402	N=395	N=1,020
Treat fever	55.6%	61.0%	51.9%	56.3%
Treat malaria	68.2%	65.9%	60.0%	64.1%
Provide medicine	64.1%	83.1%	68.1%	73.1%
Provide antimalarials	37.7%	28.4%	33.2%	32.3%
Provide diagnostic tests for malaria (RDT)	69.1%	69.7%	84.6%	75.3%
Provide referrals	51.6%	48.8%	53.2%	51.1%
Provide advice	37.7%	26.4%	15.2%	24.5%
Conduct health education sessions	13.9%	4.7%	6.1%	7.3%
Home visits	12.1%	6.7%	2.8%	6.4%
Other	2.7%	8.7%	4.6%	5.8%
Don't know	2.20%	8.2%	7.9%	6.8%

FIG. 1 - Fever care seeking behaviour: any external source to seek care

For the most recent suspected pneumonia episode among children five and under for whom advice or treatment was sought outside the home, percentage for whom advice or treatment was sought at a given outlet type, by background characteristics.

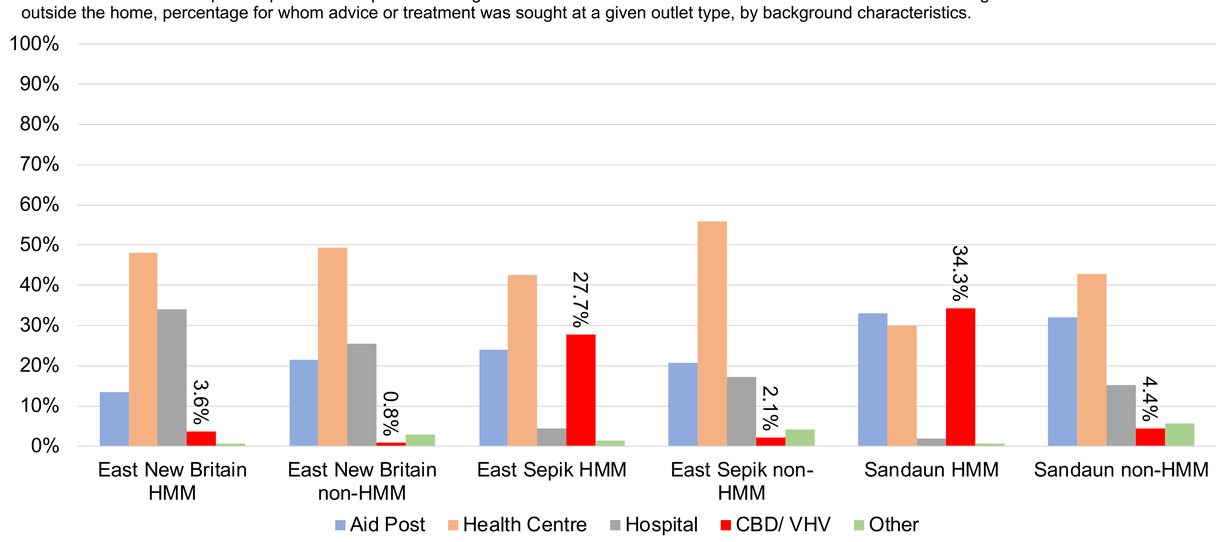


FIG. 2 - Diarrhea care seeking behaviour: any external source to seek care (non CBD function)

For the most recent diarrhea episode among children five and under for whom advice or treatment was sought outside the home, percentage for whom advice or treatment was sought at a given outlet type, by background characteristics.

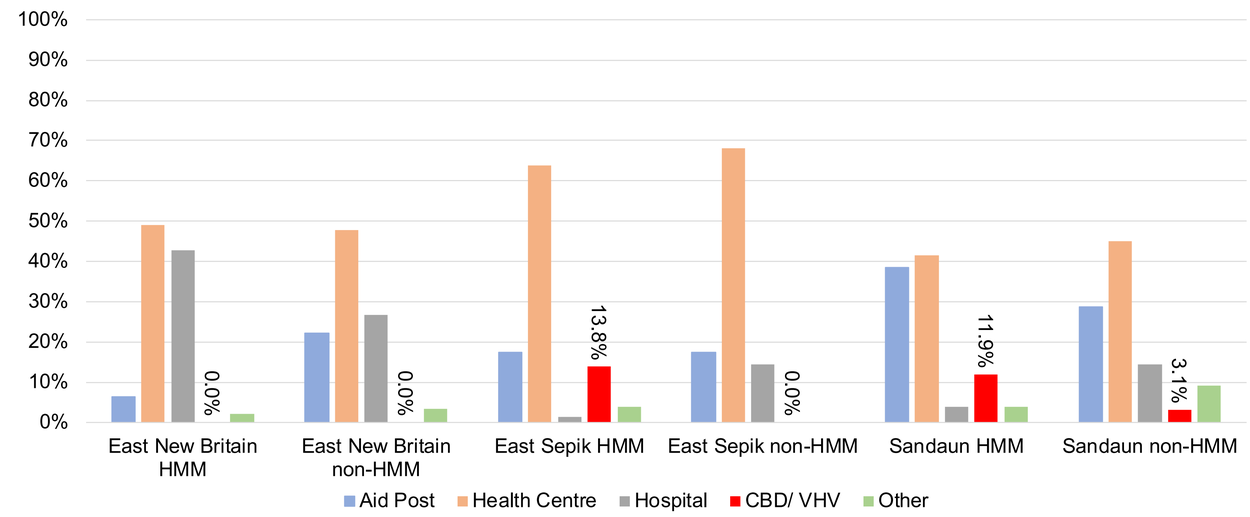
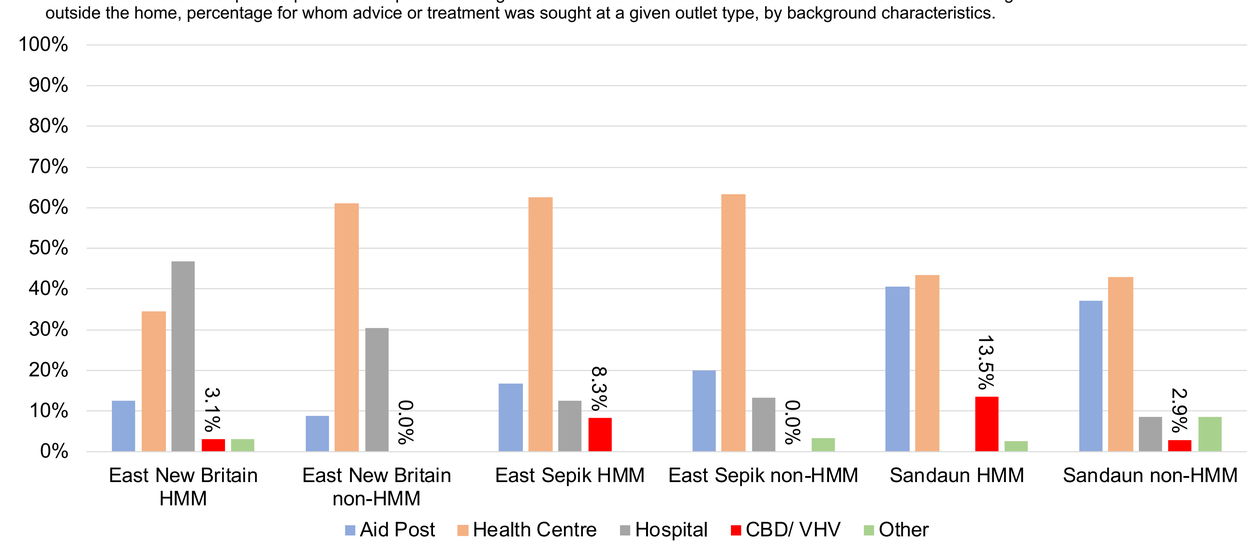


FIG. 3 - Pneumonia care seeking behaviour: any external source to seek care (non CBD function)

For the most recent suspected pneumonia episode among children five and under for whom advice or treatment was sought outside the home, percentage for whom advice or treatment was sought at a given outlet type, by background characteristics.



CONCLUSION

The primary finding of this research is that the HMM intervention has achieved many of its desired goals – primarily that caregivers in HMM intervention areas are much more likely to: (1) know about the CBD in their area, (2) know that CBDs can treat malaria, (3) select a CBD for the treatment of fever over other choices. One finding of note is that the HMM intervention appears to have been less successful in East New Britain compared to East Sepik and Sandaun areas. Likewise there is low knowledge of CBDs' role in conducting health education sessions, and home visits. The findings also indicate that there is substantial room to expand the clinical services provided by CBDs to include the additional iCCM diseases, pneumonia and diarrhea. By expanding the role of these CBDs to assist in the care of all iCCM diseases it is likely that more children will receive prompt and appropriate treatment and ultimately save more lives.