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Research

Improving access for the vulnerable: a mixed-methods feasibility study of a pop-up model of care in south-eastern Melbourne, Australia

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Abstract. Access to appropriate health and social care is challenging for vulnerable populations. We used a 'pop-up' delivery model to bring community-based services in contact with communities with poor access to health and social care. Our aim was to examine whether pop-up events improve access to essential health and social support services for selected vulnerable communities and increase collaboration between community-based health and social services. Set in south-eastern Melbourne, two pop-up events were held, one with people at risk of homelessness attending a community lunch and the other with South Sudanese women helping at-risk youth. Providers represented 20 dental, housing, justice, employment and mental health services. We made structured observations of each event and held semi-structured interviews with consumers and providers. Pre-post surveys of managers assessed acceptability and perceived impact. We reached 100 community participants who had multiple needs, particularly for dentistry. Following the events, participants reported increased knowledge of services and access pathways, community members spoke of increased trust and partnerships between service providers were fostered. The pop-up model can increase provider collaboration and provide new options for vulnerable populations to access needed services. 'Bringing the service to the person' is a compelling alternative to asking consumers to negotiate complex access pathways.

Keywords: community health: services, delivery of health care: integrated, health services: accessibility, primary health care.

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Introduction

Problem description

The Australian healthcare system struggles to provide equitable access to primary care services, resulting in unmet care needs, delayed treatment and perpetuation of health and social disparity (Corscadden *et al.* 2018). Groups within the community (in particular low-income, homeless, culturally and linguistically diverse and First Nations communities) have demographic, geographic, economic and/or cultural characteristics that impede their access to high-quality care (Waisel 2013). There are ongoing calls for innovative models of health care delivery to improve links between services and the people who need them most (National Health and Hospitals Reform Commission 2009).

Mobile service clinics are an emerging model characterised by flexibility and movability, facilitating the delivery of services offsite from brick-and-mortar institutions (Carmack *et al.* 2017). This approach has improved access to care for vulnerable populations in various settings (Anderson *et al.* 2015). In Victoria, Australia, the approach has been used to help rural communities following natural disasters and, more recently, in accessing mental health care (Department of Health and Human Services 2020).

Available knowledge

Our intervention emerged from Innovative Models Promoting Access-to-Care Transformation (IMPACT), a 5-year Canadian–Australian research initiative. IMPACT was built on a network of Local Innovation Partnerships (LIPs) that brought primary healthcare researchers together with decision makers, clinicians and members of vulnerable communities in six regions with the aim of identifying, implementing and trialling best-practice interventions to improve access to primary health care for vulnerable populations (Russell *et al.* 2019).

The IMPACT LIP in Alberta, Canada, developed and implemented a pop-up model of health care delivery. The pop-up model is underpinned by the concept of 'meeting people where they are', rather than expecting vulnerable communities to identify, reach and access services within complex healthcare systems. Seven pop-up health and social support events were delivered in Alberta to a rural population with long-term access problems (Russell *et al.* 2019). The present study was coordinated by the South-Eastern Melbourne (SEM) IMPACT LIP to explore whether the pop-up model was applicable within an Australian setting[a].

Rationale and study aim

The intervention design was informed by the Access to Care Framework of Levesque *et al.* (2013) and by a program logic model (Supplementary Fig. S1). The aim of the study was to examine whether a pop-up service model could: (1) improve access to essential health and social support services for selected vulnerable communities; and (2) increase collaboration between community-based health and social services.

Methods

Ethics approval

This study was approved by Monash Health (RES-19-0000-155L) and Monash University (20323) ethics committees.

Context

SEM has a high proportion of refugees, migrants and Aboriginal and Torres Strait Islander people; communities who experience barriers to accessing primary health care in this area. Compared with the rest of Victoria, the region has significant social and economic disadvantage, including lower household income, less use of private health insurance, greater food insecurity and a higher percentage of people who forgo medical care due to cost (South Eastern Melbourne Primary Health Network 2019).

Intervention

The aim of the pop-up project was to improve access to health and social services for underserved and vulnerable communities in SEM. A 'pop-up' in the context of the present study is a single event where a collection of service providers gathers at a convenient location to provide advice, health checks and service links for communities. Providers and consumers gather at a community location that is easily accessible and, ideally, often frequented by the consumer community. The pop-up model encourages providers to present a relaxed and conversational manner of service to increase approachability. These strategies aim to improve accessibility for populations who have difficulty reaching services through traditional methods.

To translate the pop-up model in the context of SEM, we conducted a deliberative process informed by the IMPACT project, regional health needs assessments and the knowledge of the project steering group. We held a deliberative forum (MacNeil 2002) to inform the focus, content and delivery of the pop-up events.

Two pop-up events were conducted in November and December 2019. Table 1 lists the attributes of the pop-up events, Fig. S2 provides a visual representation of the pop-up room set-up and further details are provided in the Template for Intervention Description and Replication (TIDieR) checklist in Table S1.

Study of the intervention

Design

Our mixed-methods evaluation was based on a pragmatic adaption of the Reach, Effectiveness, Adoption, Implementation, Maintenance (RE-AIM) framework (Glasgow and Estabrooks 2018). Its documentation here follows criteria included within Standards for QUality Improvement Reporting Excellence (SQUIRE) 2.0 (Ogrinc *et al.* 2016) and COnsolidated criteria for REporting Qualitative research (COREQ) Checklist (Tong *et al.* 2007; Table S2).

[a]This project was designed and delivered before the COVID-19 pandemic.

Table 1. Key attributes of the pop-up events

	Pop-up 1	Pop-up 2
Summary	The first pop-up event was held on Thursday 7 November 2019 at a church hall for members of a community meals program. Many members of this program experience financial hardship, community isolation and barriers in accessing services. The pop-up event was staffed by service providers from five health and social support organisations. Services provided guests with service details, contact information and made follow-up appointments where appropriate. At this pop-up event, five organisations had 84 interactions with attendees, providing services related to dental care, mental health, Centrelink services, housing, education and employment	The second pop-up event was held at a migrant and refugee centre in Dandenong, on Tuesday 10 December 2019. Attendees were a South Sudanese community group that provides support and guidance to vulnerable young people within their community. The Daughters of Jerusalem and the youth they support struggle to make connections with trusted service providers due to language, cultural and other barriers. To facilitate meaningful interactions, four interpreters were used during interactions between attendees and service providers. At this pop-up event, 16 organisations had 91 interactions with attendees, providing services related to dental care, mental health, refugee health, youth support, housing, education and employment
Participants	Attendees of a community luncheon for people experiencing hardship, homelessness or loneliness	A South Sudanese community group, The Daughters of Jerusalem, that provides support and service links to vulnerable youth in its community
Services represented	Community health service: General and disability support Drug and alcohol counselling Mental health services Dental services Health promotion Social security services Community housing support service Education, training and employment service	Local health network: Youth and family health services Community refugee health services Dental services Migrant and refugee support service Integrated women's service for family violence and housing support Education, training and employment services Legal advice and support services Community disability health service Youth mental health service Local council youth and family services Learning and education services Alcohol and drug support services Youth education and crime prevention Suicide prevention Community police
Timing	1000–1400 hours alongside a community luncheon	1800–2100 hours
Venue	Community church hall	A migrant and refugee community support centre
Associated events	An add-on to a weekly free community meals program	Nil (a stand-alone event)
Interpreters	N/A	Four present, providing language services for Nuer, Dinka and South Sudanese Arabic

Setting

The intervention was set in SEM and delivered at two separate locations: a local church hall adjacent to a community lunch venue and at a migrant and refugee centre.

Participants

There were three main participant groups: the steering committee, community members and health and social support providers. The project's steering group included managers and providers from a large health service's community program, a community health centre, a primary care partnership and the regional office of Victoria's Department of Health. Community members were drawn from two communities in SEM: people at risk of homelessness attending a community lunch and South Sudanese women who were members of an organisation helping at-risk youth in their community. Finally, health and social support providers needed to be active in the SEM region and providing services deemed by the steering group to be relevant to the needs of each target community. Relevant providers were identified in the months before each pop-up event, some as a result of the discussions in the deliberative forum and others by nomination from the steering group.

Recruitment

Community members were informed of the pop-up event using posters and flyers distributed at the pop-up venue (Pop-up 1) and through word of mouth from community leaders (Pop-up 2). Researchers approached community members attending the pop-up events for data collection. Following the pop-up events, researchers telephoned English-speaking community members to invite those who had consented to be interviewed to take part in the study. Community members who completed a survey and/or completed an interview received an A$10 shopping voucher.

Health and community service managers, providers and steering members participating in the pop-up events were recruited by direct telephone or email contact from the research team. Managers of several participating organisations

nominated attendees from their services thought to be appropriate to the needs of each pop-up event.

Measures and data collection

Community participant survey

A 16-item paper survey was administered by research assistants to pop-up participants on their arrival to each event. The survey contained questions on access to and the utilisation of health and social support services, general health status, demographics and social vulnerability.

Manager survey

Managers of participating organisations completed online surveys before (16 questions) and after (18 questions) the pop-up events that explored organisational attributes, as well as the effects and experiences of the pop-up events. Both surveys were modified from IMPACT's data collection instruments (Russell *et al.* 2019; Appendices S1, S2).

Interviews

Research officers (AF, SC) conducted 30- to 45-min semi-structured telephone interviews with attendees, providers, managers and steering group members within 1–3 months of each pop-up event. Participants were asked to reflect on their experiences at the pop-up event and on the impact, limitations and strengths of the pop-up model. Interview guides were aligned to the Levesque framework (Levesque *et al.* 2013). Interviewees were assigned a participant identification code, the third symbol of which indicates the pop-up event attended (e.g. PU1-X-XX attended Pop-up 1). Identification codes beginning with 'PII' indicate that the interviewee was involved with both pop-up events.

Pop-up event structure and function

We modified the Using Learning Teams for Reflective Adaptation (ULTRA) tool (Balasubramanian *et al.* 2010) to document the contextual, organisational and physical characteristics of each pop-up event (Appendix S3). The research team and participating providers participated in an after action review to assess experiences, acceptability and suggestions for improvement (Baird *et al.* 1999) either immediately after each pop-up event or via email (Appendix S4).

Service utilisation

Service providers documented community contacts and the types of information and resources provided at each pop-up event in provider interaction logs. Dental service utilisation data were tracked by dental clinics and collected 3-months after the pop-up event.

Data management and analysis

Deidentified interview transcripts were imported into NVivo ver. 12 (QSR International; https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home).

Qualitative data were analysed by three authors (SW, GR, ES), who coded interview transcripts using inductive methods to derive codes directly from the data (Thomas 2006). Developing themes and interpretations were discussed within the research team and steering group at regular intervals. Two of the authors (ES, GR) are GPs with extensive experience in qualitative research and the other author (SW) is a medical student and research officer.

Quantitative data were analysed in SPSS ver. 26 (IBM Corp.; https://www.ibm.com/au-en/analytics/spss-statistics-software). Two authors (AF, SC) ran descriptive analyses and summarised the categorical and binary data using counts and percentages. Given the small sample size, it was inappropriate to conduct exploratory quantitative analysis. We mixed data using a results-based convergent synthesis design (Noyes *et al.* 2019) in which qualitative and quantitative data were analysed individually and then integrated to respond to components of the RE-AIM framework (Glasgow and Estabrooks 2018).

Table 2. Number of study participants completing each instrument

Instrument	Pop-up 1	Pop-up 2	Total
Provider interaction logs	8	9	17
After action review	7	7	14
Community participant survey	14	8	22
Manager survey			
Before	5	10	15
After	5	9	14
Community member interviews	5	4	9
Provider interviews	4	5	9
Dental service use follow-up	12	7	19

Results

The pop-up events brought together providers from 21 separate provider organisations (five to the first pop-up event and 16 to the second). Approximately 80 community members attended Pop-up 1 and 20 attended Pop-up 2. Provider interaction logs recorded 175 service interactions between providers and community members across the two pop-up events, with 10–11 service interactions per organisation. Table 2 provides the number of study participants for each measurement tool. Findings are arranged to reflect the RE-AIM framework (Glasgow and Estabrooks 2018).

Reach: who did the program reach?

The community participant surveys showed that the first pop-up event was comprised mostly of Australian-born, English-speaking older adults (mean age 61 years; range 27–81 years), whereas the second involved migrant or refugee women (mean age 45 years; range: 23–61 years), all of whom were born in South Sudan (full details in Table S3).

In the community participant survey, participants from both pop-up events were most interested in dentistry services, followed by social security services, doctor and nursing services. Neither of the latter two services were provided. Pop-up 2 community members seemed less aware of local service organisations than Pop-up 1 attendees:

> Community members reaching out for assistance learnt that support and care is available and abundant within the community. This appeared to be a bit of a shock for some that were feeling alone and unsupported [PU2-P-14, After Action Review, provider].

Table 3. Manager survey of the effect of the pop-up events on organisational processes

	No. (%) managers responding 'Yes'		
	Pop-up 1 ($n = 5$)	Pop-up 2 ($n = 8$)	Total ($n = 13$)
Has the pop-up assisted your organisation in this area:			
Quality of communication (formal and informal) between organisations/service providers	4 (80)	6 (75)	10 (77)
Quality of working relationships between organisations/service providers, including the ability to sort out problems between organisations	4 (80)	7 (88)	11 (85)
Your organisation's capacity to measure unmet need for services	3 (60)	5 (63)	8 (62)
Your organisation's capacity to address unmet need for services	3 (60)	6 (75)	9 (69)
Appropriateness of referrals received from other organisations	3 (60)	5 (63)	8 (62)
Staff understanding of the local primary healthcare system	5 (100)	7 (88)	12 (92)
Staff understanding of intake, assessment and referral processes of other organisations/service providers	4 (80)	6 (75)	10 (77)

Providers felt that the pop-up events created an opportunity for interaction with community members who they often find challenging to reach:

> …almost all of the people I spoke to were people who would probably not normally contact [our organisation] and did not have access to the…advice I was providing [PU1-P-11, After Action Review, provider].

Effectiveness: was the program effective, what were the outcomes and are these results meaningful?

Community members left with increased knowledge of health and social support organisations:

> It helped me, by knowing that they're there, when I didn't know some of those services existed…[it] helped me act at some of the dental things that I wouldn't have been able to access on my own [PU1-C-001, community member].

> [The pop-up] directed me to where I can go to get the help. 'Cause I wasn't sure…now I know where I can go and get help if I need it [PU2-C-064, community member].

Contacts made at the pop-up event helped one community member find temporary employment. One homeless participant managed to secure accommodation. Others kept in contact with participating organisations:

> She came into the office at least one or two times after…It wasn't just on the night. We actually opened up a support period for her and she became a supported client of our organisation…one of the people [providers] who attended the pop-up became the case worker for her [PU2-P-05, provider].

A prominent theme in provider and community member interviews was the importance of following-up interactions at the pop-up events. Of the 19 community members who consented to have their dental use data collected, three accessed dental services within 3 months of the pop-up event. However, several providers found it difficult to reach community members:

> Of the five people that requested services from us…Only one we were ever able to get back to. So we made multiple, multiple calls and were not able to get people back in… [PU2-P-03, provider].

The results of the post-pop-up event manager survey are provided in Table 3. Overall, participation in the pop-up events was felt to have improved cross-organisational relationships, communication and understanding between providers and service organisations: 100% of staff from Pop-up 1 and 88% of staff from Pop-up 2 agreed that the pop-up event had improved staff understanding of the local primary healthcare system. Triangulation with data from the ULTRA observation tools showed consistency of theme:

> The atmosphere between the providers was excellent. I saw many greeting each other and talking [OB02, Pop-Up 1].

Adoption: which organisations adopted the program and why?

The gathering of numerous providers at one time and place was valued by the coordinator of the community luncheon that hosted Pop-up 1, as '…we don't have so much manpower as to be constantly planning individual events', but at the Pop-up, '…everyone [local providers] could attend on the one day…' [PII-M-03, manager]. Pop-up 2 was requested by and organised with direct input from the participating community members, who played a dual role as both recipients and conduits to service access for their South Sudanese community.

Health and social support service managers felt that the principles of the pop-up model aligned with their organisational ethos:

> It aligned with our community strategy…the concept of wellness on wheels or taking services to the community rather than us expecting people to come to bricks and mortar buildings…It was about making health accessible, and well-being accessible [PII-M-05, manager].

Implementation: how and why was the program implemented or modified? Why did the results come about?

Steering group interviewees identified important components in the planning of the pop-up events. They saw strong commitment and buy-in from partner organisations, as well as a

diverse steering group, as essential to successful implementation. The pre-pop-up rehearsal further improved provider engagement:

> All of us coming from very different domains, different parts of the sector from academia through to planning, through to operations on the ground. The diversity of thought, but with a common goal has been I think a benefit to the project but also to community members more broadly [PII-C-01, steering group member].

The pop-up events provided an informal setting for community members to interact with providers, which was felt to support the development of trust between providers and community members. Providers described the pop-up events as satisfying and worthwhile, whereas community members described them as useful and enjoyable:

> I found it very useful, and I felt very positive that they were there to help [PU1-C-001, community member].

> …for me as one of the participants, I think the program did satisfy, it satisfied me as a person who was there. I think that was really a big relevance for it [PII-M-04, manager].

There was a clear focus on community need. A community member at the second event suggested that:

> I found it really valuable that it seemed like a place where…what the community members were saying they needed seemed to be the priority…a very different level of willingness to engage with their community [PU2-C-066, community member].

Apart from a reduction in research documentation and the tailoring to different communities, the overall structure varied little between the first and second events. Our intended third pop-up event did not proceed due to short project time frames and financial constraints.

Implementation faced a range of challenges. Some providers felt that some interactions with community members were superficial, particularly at Pop-up 1. Given the three preferred language preferences at Pop-up 2, communication presented a challenge. For providers, the lack of privacy in an open venue was a concern during sensitive conversations, and some community members had sensory disabilities that impaired their ability to interact with providers. Many services could only provide information about their service and could not deliver clinical care. As a manager suggested:

> …the principle and model are both good, however, there needs to be greater emphasis on point-of-contact care delivery [PU1-M-01, manager].

Although it was not possible to conduct a cost analysis, providers (most of whom sent two staff members to the events) reported significant staffing costs. Larger services were concerned that their outcome-based funding model was not wholly compatible with the pop-up model. Planning was also time consuming; the lead agencies involved in coordinating a pop-up event estimated spending approximately 100 hours on the project in liaison, planning and delivery.

Maintenance: will the impact of the program be maintained?

Community members indicated that the knowledge gained at the pop-up event will inform them in times of future need:

> I know now if I need any of that, I've got the relevant information [PU1-C-067, community member].

Interviewees revealed that there was contact between service providers after the pop-up event, suggesting that participation opened the door to inter-organisation collaboration:

> …As a result of the Pop-Up, we've successfully been able to maintain relationships with different service providers …it's opened up the networking… [PU2-P-09, provider].

Providers gained some new insights into access barriers faced by vulnerable populations. Several hoped to be more proactive in future engagement:

> I think it does…make one more keen to try…and find out the strategies to try and engage more fully with people who wouldn't necessarily have the capacity to be proactive to engage with you in the first place… [PU1-P-011, provider].

As a direct consequence of participation, the lead organisation for Pop-up 1 has implemented an outreach community nurse role whose activities will include regular visits to the community lunch events. Other emerging initiatives include organisational partnerships, co-run workshops and support service information sessions. All managers surveyed after the pop-up event ($n = 13$) were interested in joining future pop-up events.

Discussion

Communities with the greatest need for services often have difficulty accessing them due to systemic barriers, including poverty, a non-English-speaking background and complex chronic mental and physical illness. Services may be difficult to reach and engage with due to inaccessible locations, language and literacy barriers and cultural insensitivity (Corscadden *et al.* 2018). The pop-up model shows promise in improving service access for vulnerable communities. The pop-up events brought key components of a complex health and social support service network together with two diverse communities. Consumers learned about local services and felt they could access services at a time of future need. The pop-up events also provided a platform for providers to build important inter-organisational links.

Bringing the services to the community

Our findings support the growing body of evidence for mobile and outreach services improving access to health care for hard-to-reach and vulnerable communities (Anderson *et al.* 2015). The model bypasses the traditional expectation that vulnerable people seek and navigate complex healthcare services themselves. The versatility of the pop-Up model enabled the events to be modified to fulfil specific community needs, allowing for tailoring of location, format, timing, provider mix and cultural appropriateness.

A key strength of the pop-up model is its foundation of community collaboration. Luque and Castañeda (2013) found

that partnership and collaboration can support the sustainability and effectiveness of mobile clinics, with benefits of consolidated costs, reduced duplication of services and the sharing of risks and rewards between partners. Anderson *et al.* (2015) reported that interventions run by community coalitions can connect service providers with communities in ways that improve care delivery and increase impacts on health outcomes and behaviours. Collaboration with our project partners and diverse steering group, combined with the relationships and ideas generated at the deliberative forum and pop-up rehearsals, helped gain participant buy-in. The resulting model was flexible and had a sense of community ownership.

Better integration of health and social support services leads to improved quality and accessibility (Gröne *et al.* 2001). The pop-up events provided opportunities for providers, managers and steering group members to meet and network at multiple time points, improving communication, working relationships and understanding of the local primary healthcare system.

Follow-up and meeting expectations

Reaching vulnerable groups is a challenge in health research and delivery (Corscadden *et al.* 2018). Providers encountered difficulties in following-up community members after the events and translating interactions into ongoing relationships and better community care. A lack of follow-up risks not meeting expectations raised through the pop-up events and may degrade trust between providers and community members to the detriment of future engagement. Hence, future iterations of the pop-up model require comprehensive and collaboratively developed post-event engagement strategies.

Implementation and scale-up challenges

The pop-up model needs to overcome several challenges relating to program sustainability. As reported in similar studies of mobile and outreach interventions (Chung *et al.* 2014), maintaining momentum following the withdrawal of research personnel and financial support is challenging. Despite each participant group showing great enthusiasm for ongoing pop-up events, the lack of a dedicated organisational leader and secure, recurring funding presents significant barriers to the model's continuation in SEM. The financing of pop-up events requires attention before widespread implementation, because the model is at odds with the reimbursement strategies of some organisations, particularly those with a fee-for-service structure. With increasing interest in being able to address the health and wellbeing of communities, we propose local health services and primary health networks would be well placed to foster, coordinate and enact future pop-up events.

Limitations

This feasibility study was limited by its 12-month timeline, reducing the ability to evaluate long-term impacts. Despite case examples of service access, more extensive evaluation is required to see whether participation in the pop-up model translates into improvements in individual and system outcomes. We suggest that future pop-up events have prospective and ongoing cost collection processes. Only English-speaking community members were interviewed; however, a member of the South Sudanese community was a member of the steering group and clarified the trustworthiness of our findings for Pop-up 2. Our quantitative data collection measures and subsequent analyses were limited by small sample sizes. Future pop-up events may require design modifications to comply with infection control standards associated with the COVID-19 pandemic.

Conclusion

The pop-up service delivery model could provide an entry point to the healthcare system for vulnerable people and may be particularly beneficial for those with low health literacy. The model allows pop-up events to be tailored to the needs and expectations of the target group. The participation of multiple service organisations encourages health network integration and may support ongoing productive relationships. Larger-scale evaluation is required to ascertain the extent of improvement in health and social support service access.

Contributions

C. Scott led the initial work around the Canadian pop-up model of care. G. Russell was the Australian lead for the IMPACT study and conceptualised the present study with support from E. Sturgiss, M. Kunin, S. Clifford and A. Fragkoudi. G. Russell, E. Sturgiss, S. Clifford, C. Scott, M. Kunin, R. Macindoe, J. Walsh and D. Stuart are members of the project steering group and contributed significantly to data interpretation and refinement. A. Fragkoudi, S. Clifford, S. Westbury and other research volunteers administered the surveys. G. Russell and E. Sturgiss completed structured observations. S. Clifford and A. Fragkoudi conducted the interviews and analysed quantitative data. S. Westbury and G. Russell analysed qualitative data, with regular discussion of interpretation from E. Sturgiss, S. Clifford and A. Fragkoudi. The manuscript was written by S. Westbury and G. Russell, and all authors contributed to editing.

Data availability

The data that support this study cannot be publicly shared due to ethical or privacy reasons and may be shared upon reasonable request to the corresponding author, if appropriate.

Conflicts of interest

E. Sturgiss is an editor for *Australian Journal of Primary Health* but did not at any stage have editor-level access to this manuscript while in peer review, as is the standard practice when handling manuscripts submitted by an editor to this Journal. *Australian Journal of Primary Health* encourages its editors to publish in the Journal and they are kept totally separate from the decision-making processes for their manuscripts. The authors have no further conflicts of interest to declare.

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