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Understanding and Addressing Barriers to Latent Tuberculosis Infection Testing and Treatment Among High-Risk Communities in Victoria

Tuberculosis elimination can only be realised by preventing reactivation of latent infection in those at risk. Engagement with strategies to increase testing and treatment of latent TB requires community-centred evidence-informed initiatives. This project used a mixed-methods approach to examined tuberculosis knowledge, perceptions of testing and treatment, and enablers and barriers to testing and treatment amongst Victoria’s high-risk communities.
SUSTAINABLE DEVELOPMENT GOAL
“ENSURE HEALTHY LIVES AND

3.3 BY 2030, END THE EPIDEMICS OF AIDS, TUBERCULOSIS, MALARIA AND NEGLECTED TROPICAL DISEASES AND COMBAT HEPATITIS, WATER-BORNE DISEASES AND OTHER COMMUNICABLE DISEASES”

(TRANSFORMING OUR WORLD: THE 2030 AGENDA FOR
Acknowledgements

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Ethics Statement
This project received approval from the Melbourne Health Human Research and Ethics Committee (reference number HREC/16/MH/173) and operated with Melbourne Health governance authorisation (SSA reference number SSA/16/MH/186). The Melbourne Health site reference number for the project is 2016.147. The project operated within RMH MH18 Research Policy and MH 03 Consumer, Carer and Community Participation policies and their subsidiary procedures on confidentiality and privacy. Project activities including community visits, vehicle use and the like were subject to applicable aspects of the Royal Melbourne Hospital (RMH) policy to maximise participant and researcher safety. Participants requesting TB testing as a result of participation were offered this in accordance with the Victorian Department of Health and Human Services’, Management, control and prevention of tuberculosis: guidelines for health care providers and in accordance with standard care. Results management was considered in accordance with these same guidelines. Consistent with best practice principles efforts were made to engage with community and knowledge users across all stages of the project.

Conflicts of Interest
Qiagen Pty Ltd provided financial support for this project, including investigator salary support. Qiagen did not play a role in project design or analysis.
EXECUTIVE SUMMARY

Existing clinical and public health strategies are effective for controlling active TB disease but do not detect most individuals with latent TB infection (LTBI), who are at risk for future disease. As the considerable majority of TB cases in Victoria occur as a result of reactivation of LTBI, identification and treatment of those affected is of central importance. Tuberculosis elimination can only be realised by preventing reactivation of latent infection in those at risk.

Recent epidemiological data demonstrate a wide range of people at risk of TB in the Victorian community. Those most at risk of reactivation of TB are migrants. Victorian residents of Vietnamese and Greater Horn of Africa (GHoA) heritage have a disproportionate burden of TB. Rates of TB also vary by local government area, with geographic variation in TB risk closely related to settlement patterns, particularly of the Vietnamese and GHoA cohorts.

Experiences in health promotion and disease reduction demonstrate that evidence-informed community-centred approaches provide for the most effective and sustainable outcomes. This project concentrated on exploring barriers and enablers to testing and treatment in a low tuberculosis prevalence, high-income country. The knowledge and views of community members who have not had direct experience with tuberculosis testing or treatment were of particular importance. Members of the Vietnamese and GHoA community groups and those who provide health care for them were invited to participate.

Community participants largely recognised tuberculosis as infectious, commonly associating it with a cough and as affecting the lungs. Vietnamese participants generally had better overall tuberculosis health literacy than those from the GHoA. Gaps in knowledge were apparent with regard to LTBI, testing and treatment, and disease progression with 38% of participants believing that they would know if they were infected with TB from the time of infection.

Participants identified potential reasons for differences in knowledge of and access to testing for tuberculosis. Vietnamese communities are well established in Victoria, are geosocially stable and often access same language general practitioners, and are linked with long-standing social groups and same language resources. Older Vietnamese participants spoke to the value of community radio and established print media in disseminating health information.

In contrast, the GHoA communities are newer to Victoria than the Vietnamese, although are often not contemporary refugees (defined as those individuals arriving in Australia in the past 12 months). This has contributed to mobile and geographically dispersed subgroups. Same language health care providers are less prevalent and, as experienced in the recruitment of GHoA community members, subgroups are forming and reforming as the community establishes in Victoria making engagement more challenging.
Both community groups described a need for own language communications and reported difficulty accessing these materials from trusted sources. Oral communication was often preferred over written communication.

Beyond knowledge of TB/LTBI, participants identified a range of barriers to diagnosis and treatment of LTBI. The cost of testing for latent tuberculosis was consistently identified as a significant barrier to testing. A specific concern across all participants was the cost of Interferon Gamma Release Assay (IGRA) and to the indirect costs of testing including loss of income for casual workers. Indirect costs were often compounded by poverty, socio-legal issues associated with visa status and eligibility for service, and social capital.

The challenges of reducing LTBI reservoirs within Victorian populations were linked to migration in two distinct ways. Contemporary refuges are often faced with issues of settlement that trump LTBI treatment. The gearing of health and welfare systems to contemporary refuges results in a drop in health access and system guidance for migrants 12 months post arrival.

Doctors were identified by community participants as the number one source of trusted healthcare information. Yet education sessions and healthcare worker participants revealed a concern about the capacity of general practice to provide testing and treatment. Significant concerns were raised with regard to general practitioners feeling confident in their science knowledge with regard to testing for tuberculosis and treating LTBI. The business needs of small general practices to respond to test outcomes and provide LTBI treatment were raised as a barrier to treatment. It also became apparent that the most confident of health care providers had been able to engage with the art of medicine using narratives to communicate the intricacies of the difference between LTBI and active tuberculosis and subsequent treatment options.

This report highlights the limitations to community knowledge about LTBI and identifies key barriers to increasing diagnosis and treatment of LTBI. These barriers include awareness, cost of accessing testing services and ensuring access to knowledgeable healthcare practitioners in the local context. Optimal strategies to improve testing and treatment in Victoria should support health promotion and education materials for community members, professional development and decision making tools for healthcare workers. To prevent reactivation of TB it is necessary to ensure timely and free access to services, particularly diagnostic tests, and primary healthcare providers need to be supported with regard to capacity development and the business, science, and art of tuberculosis medicine.