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RHD elimination: action needed beyond secondary prophylaxis

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Australian Health Ministers recently committed to working to end rheumatic heart disease (RHD).¹ RHD – permanent damage to cardiac valves – is caused by severe or repeated episodes of acute rheumatic fever (ARF). ARF is caused by an abnormal immune reaction to Group A streptococcal (GAS) infections; these are classically related to sore throats but increasing evidence also implicates GAS skin infections.²

RHD contributes to the gap in quality of life and life expectancy between Indigenous and non-Indigenous Australians and is the leading cause of cardiovascular inequality nationally. Severe RHD can require valve repair or replacement surgery.

The Australian Government's Rheumatic Fever Strategy (RFS) funds RHD Control Programs and Registers in the Northern Territory (NT), Queensland, Western Australia and South Australia to operationalise this approach. New South Wales Health has recently established its own RHD Register. The RFS also funds six Aboriginal Medical Services and the Telethon Kids Institute to provide preventive health activities in communities with high rates of ARF and RHD.

The highest rates and numbers of people living with ARF and/or RHD are in the NT.² The NT Register currently records 3,333 patients alive with a diagnosis of ARF and/or RHD, of whom 2015 are prescribed secondary prophylaxis.

Secondary prophylaxis with regular long-term intramuscular benzathine penicillin G (BPG) is the only RHD control strategy shown to be both clinically effective and cost effective at community and population levels. If ARF is diagnosed prior to the development of permanent valve damage, then secondary prophylaxis can be implemented to prevent the onset of RHD. The secondary prophylaxis

regimen usually comprises BPG every 28 days for at least five to ten years.³

To determine what proportion of individuals with RHD currently included in the NT Register could have had their RHD prevented through secondary prophylaxis, we reviewed publicly available data from the NT Register on the proportion of people with RHD who had a prior ARF diagnosis.

We found that, in the NT, 76% of people diagnosed with RHD between 2014 and 2018 had no previous ARF diagnosis recorded and therefore had no opportunity for secondary prophylaxis to prevent progression to RHD (Figure 1).

There are potential explanations for this finding at the health system level: failure to provide accessible or acceptable primary healthcare; failure to educate communities about the symptoms of ARF; and failure to accurately diagnose ARF.

While primary healthcare services must be adequately resourced to support the growing number of patients prescribed BPG, RHD elimination will not be achieved by relying on secondary prophylaxis.

To prevent RHD, we must move beyond secondary prophylaxis as a mainstay to also focus resources on primary prevention, which includes adequately training and resourcing primary healthcare staff to assess and treat GAS infections. Community education to ensure widespread knowledge of the importance of early treatment of GAS infections for all members of a community to reduce transmission is critical.⁴

Additionally, there needs to be strategic, coordinated and sustained action on the social and environmental determinants

of GAS infections. Reducing household crowding, improving repair and maintenance programs for household health hardware and support for community-led responses to maintain healthy living practices⁵ will all contribute to reducing GAS infections.

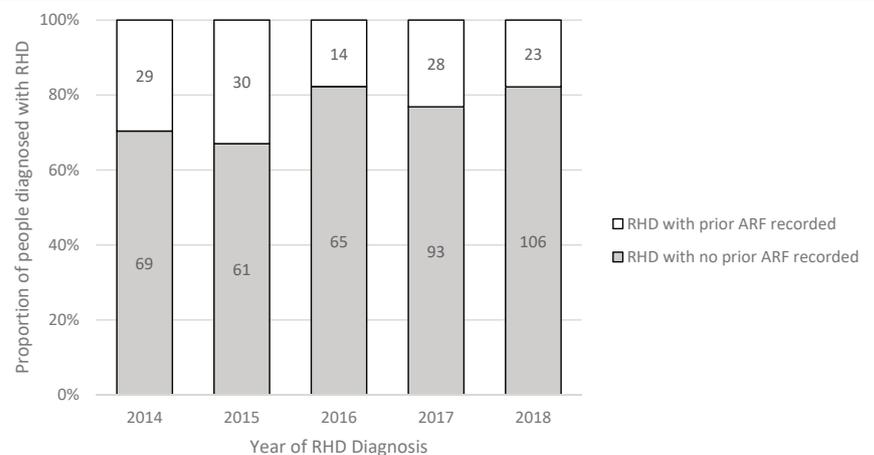
All levels of government need to strengthen cross-sectoral approaches to address the social and environmental determinants of health. This will contribute to RHD elimination and will also reduce other disease burden associated with environmental factors such as preventable hearing loss and trachoma.

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Figure 1: ARF history for NT residents diagnosed with RHD.



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