

## Technological innovations in ARF/RHD: are we ready?

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RHD Australia has recently developed two innovative, technology based resources designed to provide education and support for patients affected by Acute Rheumatic Fever (ARF) and Rheumatic Heart Disease (RHD), and for the health professionals who care for them.

ARF is an autoimmune sequelae of group A streptococcal infection mostly affecting children 5-14 years of age. Recurrent episodes of ARF lead to cumulative heart valve damage and the development of RHD. RHD is a chronic, often fatal, disease. Australia has one of the highest rates of ARF in the world affecting primarily Aboriginal and Torres Strait Islander people, many living in rural and remote areas.

A timely diagnosis of an initial ARF episode and subsequent use of antibiotic secondary prophylaxis is the best method of preventing RHD. The newly developed resources target two key issues contributing to the recurrences of ARF and the continued risk of children developing RHD:

- the difficulties in the early and accurate diagnosis of ARF
- the low adherence rates to secondary prophylaxis among Indigenous youth.

The new ARF Diagnosis Calculator (an update to the existing ARF/RHD Guideline app) will provide clinicians with the knowledge, information and a simplified tool to navigate the complexities of diagnosing ARF. The Diagnosis Calculator provides a text and visual reference at each stage of the diagnosis. While diagnosis remains a clinical decision, the Calculator provides accurate, instant information to minimise error and inconsistency with diagnosis, referral and management of ARF.

The ARF/RHD Facebook application is an interactive reminder service for young Indigenous people on secondary prophylaxis. The tool is designed to appeal to the 13 to 25 age group through customisable design features and attempts to address the massive challenge of engaging a patient over a treatment period of at least 10 years with injections at least every 28 days. While Facebook is widely used in health promotion and there are a plethora of smart phone health apps this is a unique use of a Facebook application as a treatment reminder tool.

These resources have only been recently launched and are exciting and innovative. However, only time and rigorous evaluation will demonstrate their worth. There is increasing interest and investment in the e-health field but so far limited evidence of the effectiveness of technology based health interventions. Whether the clinicians and patients we are trying to reach are ready or able to engage with the new and shiny tools remains to be seen.

**Disclosure of interest:** The RHDA National Fever Strategy is a Commonwealth funding initiative housed at Menzies School of Health Research in Darwin.