An analysis of the impact of COVID-19 Pandemic on adherence of secondary prevention of rheumatic fever and rheumatic heart disease at Aboriginal Community Controlled Health Services in the Northern Territory

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Aboriginal and Torres Strait Islander populations are at higher risk of acute rheumatic fever (ARF) and rheumatic heart disease (RHD).

Incidence of RHD: 61 times higher than non-Indigenous Australians,

incidences of ARF: 120 times higher.

The Northern Territory accounts for over 40% of cases of RHD in Aboriginal people in Australia.

#### NT ACCHS Report from 01 July 2021 to 30 June 2022

- Adherence rate (greater than 80% of monthly prescribed BPG) has <u>decreased</u> by 8% (from 37% in 2020/2021 to 29% in 2021/2022).
- Proportion was reduced by 11% for clients residing in remote communities (from 46% in 2020/2021 to 35% in 2021/2022).



## Aims and Objectives

What was the impact of the COVID-19 Pandemic on adherence of secondary prevention of rheumatic fever and rheumatic heart disease in Aboriginal Community Controlled Health Services in the Northern Territory?

What are the key barriers and enablers to RHD secondary prophylaxis from the perspective of staff working in community-controlled health services?

## Methods

After ethical approval, interviews were conducted with ACCHSs staff.

Participants included Indigenous and non-Indigenous clinicians from both urban and remote settings.

# Factors affect secondary prophylaxis

## Health Service Factors:

- Effective Recall/Reminder Systems and outreach
- Staff Turnover and Shortages
- Cultural Competence
- Training and education
- Patient Factors:
  - Mobility of the Patient Population
  - Painfulness of Injection



# Health Service Factors

- Effective recall/reminder systems:
  - LAB injection regarded as a high priority clinical task.
- Outreach system: deliver penicillin injections at patients' homes (including in homelands) on a regular basis based on recall lists and outreach rosters.
  - A setting where patients felt comfortable (i.e., their home).
  - Help mobile populations.

## Health Service Factors





### Staff Turnover and Shortages

Most participants raised concerns about high staff turnover rates:

"Some of our staff have been here for seven or eight years... there's a lot of trust with our organization which we found with them we had a really good adherence".

## Training and education

Lack of ARF/RHD specific education.

Face to face team interactive sessions have been identified as a preferred delivery method for staff training noting online modules were available.

# **Health Service Factors**

#### Cultural Competence

- Cultural competence was built from years of clinical practice and this competence helped with engaging clients with ARF/RHD.
- Acknowledged the importance of promoting leadership of local Aboriginal clinicians: Aboriginal health professionals can support non-Indigenous colleagues to provide culturally appropriate care.
- Actively involve Indigenous leaders in the decisionmaking process.

## **Patient Factor**

## Mobility of the Patient Population

 Aboriginal staff have deep understandings of the local tradition and language, and their close ties to local community can facilitate the process of rapport-building and improve or deepen the relationship between clinic and patients.

## Painfulness of Injection

- The importance of listening to patients about their preferred way of receiving the penicillin:
  - Empower patients to choose their own way(s) of receiving the injection.
- Consider both psychological (i.e., recreational videos) and/or pharmaceutical (i.e., adding lignocaine) interventions.



# COVID-19 Pandemic related factors

- Temporary shortage of staff at the early stage of the pandemic: border closures/biosecurity, quarantine requirement for interstate staff.
- Mixed views about the pandemic:
  - Some viewed as a major contributor.
  - Some commented that pandemic probably just exacerbated existing issues that were already impacting rates such as staff turnover.

# Limitations

- Interviews took place with a limited number of staff members from ACCHS:
  - to minimize the disruption of service delivery and avoid overburdening clinic staff.
- Clients with ARF/RHD were not interviewed.
  - b due to this project's limited timeframe and scope.
- Further research is warranted to explore the views and experiences of patients' perspectives with RHD/ARF including longitudinal research.

# Conclusion

- 1. Managing patients' injection pain experience with targeted strategies.
- 2. Ensuring there are pro-active reminder / recall systems.
- 3. Promoting effective communication between communities.
- 4. Providing outreach prophylaxis in culturally appropriate environments (i.e., school, homes.)

# Conclusion

- 5. Complement existing educational resources on RHD with local face to face / interactive education including education targeting Aboriginal clinicians.
- 6. Promoting the leadership of local Aboriginal clinicians.
- 7. Building the capacity and resilience of the local Aboriginal workforce, including prevention and management of RHD.
- 8. Additional research is needed to explore the views and experiences of the patients' perspectives with RHD/ARF including longitudinal studies.

# References

- Ralph, A.P., De Dassel, J.L., Kirby, A., Read, C., Mitchell, A.G., Maguire, G.P., Currie, B.J., Bailie, R.S., Johnston, V. and Carapetis, J.R., 2018. Improving delivery of secondary prophylaxis for rheumatic heart disease in a high-burden setting: outcome of a stepped-wedge, community, randomized trial. Journal of the American Heart Association, 7(14), p.e009308.
- Ralph, A.P., Noonan, S., Wade, V. and Currie, B.J., 2021. The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease. Medical Journal of Australia, 214(5), pp.220-227.
- Seckeler, M.D. and Hoke, T.R., 2011. The worldwide epidemiology of acute rheumatic fever and rheumatic heart disease. Clinical epidemiology, 3, p.67.
- Sivak, L., O'Brien, M., Paolucci, O., Wade, V., Lizama, C., Halkon, C., Enkel, S., Noonan, K. and Wyber, R., 2021. Improving the well-being for young people living with rheumatic heart disease: A peer support pilot program through Danila Dilba Health Service. Health Promotion Journal of Australia.
- Smith, M.T., Zurynski, Y., Lester-Smith, D., Elliott, E. and Carapetis, J., 2012. Rheumatic fever: Identification, management and secondary prevention. Australian family physician, 41(1/2), pp.31-35.
- Watkins, D.A., Beaton, A.Z., Carapetis, J.R., Karthikeyan, G., Mayosi, B.M., Wyber, R., Yacoub, M.H. and Zühlke, L.J., 2018. Rheumatic heart disease worldwide: JACC scientific expert panel. Journal of the American College of Cardiology, 72(12), pp.1397-1416.
- Wyber, R., Noonan, K., Halkon, C., Enkel, S., Cannon, J., Haynes, E., Mitchell, A.G., Bessarab, D.C., Katzenellenbogen, J.M., Bond-Smith, D. and Seth, R., 2020. Ending rheumatic heart disease in Australia: the evidence for a new approach. Medical Journal of Australia, 213, pp.S3-S31.
- Wyber, R., Wade, V., Anderson, A., Schreiber, Y., Saginur, R., Brown, A. and Carapetis, J., 2021. Rheumatic heart disease in Indigenous young peoples. The Lancet Child & Adolescent Health, 5(6), pp.437-446.
- Katzenellenbogen, J.M., Bond-Smith, D., Seth, R.J., Dempsey, K., Cannon, J., Stacey, I., Wade, V., de Klerk, N., Greenland, M., Sanfilippo, F.M. and Brown, A., 2020. Contemporary incidence and prevalence of rheumatic fever and rheumatic heart disease in Australia using linked data: the case for policy change. Journal of the American Heart Association, 9(19), p.e016851.
- Haynes, E., Katzenellenbogen, J.M., Noonan, S., Stacey, I., Mitchell, A.G., Wade, V. and Bessarab, D., 2022. Is the Australian primary healthcare system ready for the Rheumatic Heart Disease Endgame strategy? Data synthesis and recommendations. Australian and New Zealand Journal of Public Health.
- Haynes, E., Walker, R., Mitchell, A.G., Katzenellenbogen, J., D'Antoine, H. and Bessarab, D., 2021. Decolonizing Indigenous health: Generating a productive dialogue to eliminate rheumatic heart disease in Australia. Social Science & Medicine, 277, p.113829.
- Mitchell, A.G., Belton, S., Johnston, V., Gondarra, W. and Ralph, A.P., 2019. "That heart sickness": young Aboriginal People's understanding of rheumatic fever. Medical anthropology, 38(1), pp.1-14.
- Matthews, V., Bailie, J., Laycock, A., Nagel, T. and Bailie, R., 2016. Priority evidence-practice gaps in Aboriginal and Torres Strait Islander mental health and wellbeing care.
- Read, C., Mitchell, A.G., de Dassel, J.L., Scrine, C., Hendrickx, D., Bailie, R.S., Johnston, V., Maguire, G.P., Schultz, R., Carapetis, J.R. and Ralph, A.P., 2018. Qualitative evaluation of a complex intervention to improve rheumatic heart disease secondary prophylaxis. Journal of the American Heart Association, 7(14), p.e009376.

## References

- Kidd, M.R., 2020. Five principles for pandemic preparedness: lessons from the Australian COVID-19 primary care response. British Journal of General Practice, 70(696), pp.316-317.
- Fitzpatrick, K., Sehgal, A., Montesanti, S., Pianarosa, E., Barnabe, C., Heyd, A., Kleissen, T. and Crowshoe, L., 2022. Examining the role of Indigenous primary healthcare across the globe in supporting populations during public health crises. Global Public Health, pp.1-29.
- Clark, T.C., Best, O., Bourque Bearskin, M.L., Wilson, D., Power, T., Phillips-Beck, W., Graham, H., Nelson, K., Wilkie, M., Lowe, J. and Wiapo, C., 2021. COVID-19 among Indigenous communities: Case studies on Indigenous nursing responses in Australia, Canada, New Zealand, and the United States. Nursing Praxis in Aotearoa New Zealand, 37(3).
- Ardebili, M.E., Naserbakht, M., Bernstein, C., Alazmani-Noodeh, F., Hakimi, H. and Ranjbar, H., 2021. Healthcare providers experience of working during the COVID-19 pandemic: a qualitative study. American journal of infection control, 49(5), pp.547-554.
- Beaton, A., Zühlke, L., Mwangi, J. and Taubert, K.A., 2020. Rheumatic heart disease and COVID-19.
- Carapetis, J.R., Brown, A., Wilson, N.J. and Edwards, K.N., 2007. An Australian guideline for rheumatic fever and rheumatic heart disease: an abridged outline. Medical journal of Australia, 186(11), pp.581-586.
- Clarke, V., Braun, V. and Hayfield, N., 2015. Thematic analysis. Qualitative psychology: A practical guide to research methods, 222(2015), p.248.
- de Dassel, J.L., de Klerk, N., Carapetis, J.R. and Ralph, A.P., 2018. How many doses make a difference? An analysis of secondary prevention of rheumatic fever and rheumatic heart disease. Journal of the American Heart Association, 7(24), p.e010223.
- De Dassel, J.L., Ralph, A.P. and Cass, A., 2017. A systematic review of adherence in Indigenous Australians: an opportunity to improve chronic condition management. BMC health services research, 17(1), pp.1-13.
- Harrington, Z., Thomas, D.P., Currie, B.J. and Bulkanhawuy, J., 2006. Challenging perceptions of non-compliance with rheumatic fever prophylaxis in a remote Aboriginal community. Medical Journal of Australia, 184(10), pp.514-517.
- Kerrigan, V., Kelly, A., Lee, A.M., Mungatopi, V., Mitchell, A.G., Wyber, R. and Ralph, A.P., 2021. A community-based program to reduce acute rheumatic fever and rheumatic heart disease in northern Australia. BMC Health Services Research, 21(1), pp.1-15.
- Kiger, M.E. and Varpio, L., 2020. Thematic analysis of qualitative data: AMEE Guide No. 131. Medical teacher, 42(8), pp.846-854.
- Lawrence, J.G., Carapetis, J.R., Griffiths, K., Edwards, K. and Condon, J.R., 2013. Acute rheumatic fever and rheumatic heart disease: incidence and progression in the Northern Territory of Australia, 1997 to 2010. Circulation, 128(5), pp.492-501.
- Maguire, G.P., Carapetis, J.R., Walsh, W.F. and Brown, A.D., 2012. The future of acute rheumatic fever and rheumatic heart disease in Australia. Med J Aust, 197(3), pp.133-4.
- Maguire, M. and Delahunt, B., 2017. Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. All Ireland Journal of Higher Education, 9(3).
- Moynihan, R., Sanders, S., Michaleff, Z.A., Scott, A.M., Clark, J., To, E.J., Jones, M., Kitchener, E., Fox, M., Johansson, M. and Lang, E., 2021. Impact of COVID-19 pandemic on utilisation of healthcare services: a systematic review. BMJ open, 11(3), p.e045343.