



**CHILD & FAMILY
PERSPECTIVES OF SCHOOL-BASED
RHEUMATIC FEVER INTERVENTIONS**

A SCOPING REVIEW OF GLOBAL RESEARCH



REPORT BY KIM ARROWSMITH
& MONLEIGH MULIAUMASEALII

2025
HRC: 24/1042

Contents

Acknowledgements	3
Executive summary	4
Recommendations	4
Introduction	6
Methods	8
Aim	8
Research questions	8
Context	8
Terminology	8
Positionality	9
Design	9
Search Methods	10
Data abstraction	12
Data synthesis	12
Results	13
Perceived Success	16
Provision for child agency	17
Experience of Caring	17
Health Consciousness	18
Discussion	20
Limitations	23
Conclusion	23
References	25
Appendix 1: JBI Critical Appraisal Checklist for Qualitative Research	27
Appendix 2: CONSideR Framework	28

Table of figures

Figure 1: Methods process for scoping review	10
Figure 2: PRISMA flow diagram of study selection	13

Table of tables

Table 1: Studies included in this review	14
--	----

Acknowledgements

*“Ko te ahurei o te tamaiti arahia o tatou mahi,
Let the uniqueness of the child guide our work.”*

Report date: August 2025

Child and family perspectives of school-based rheumatic fever interventions: A scoping review was prepared by National Hauora Coalition.

Primary authors include:

- Kim Arrowsmith, RN MPhil
- Monleigh Ikiua Muliaumasealii, MHLthLd

We would like to mihi and acknowledge Associate Professor Anneka Anderson, Dr. Mythily Meher, Dr. Ainsleigh Cribb-Su'a and Tira Phillipson-Puna for their valuable input throughout this report. We would like to thank the National Hauora Coalition for their contributions to this report.

Funding: This review was supported by a grant from the Health Research Council (24/1042)

Citation: Arrowsmith, K., Muliaumasealii, M., Cribb-Su'a, A., Anderson, A. 2025. *Child and family perspectives of school-based rheumatic fever interventions: A scoping review*.

Executive summary

This scoping review gathered and analysed evidence available globally of child perspectives of school-based health clinics (SBHC) for group A streptococcus (GAS), acute rheumatic fever (ARF) and its sequelae rheumatic heart disease (RHD). This review sought to understand from a children's perspective the perceived quality and efficacy of the school clinics children regularly attend for GAS, ARF and RHD. Researchers applied the CONSIDER framework to inform the criteria for the scoping review protocol (Huria et al., 2019). Databases used for the search were: Scopus, Medline (OVID), Medline (PubMed), Clinical Key, Science Direct, ProQuest Research Library, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Emcare, Google Scholar, and the UOA Library Catalogue. Only four articles from Aotearoa, New Zealand (AoNZ) and Australia met the criteria for extraction, synthesis and analysis. After analysis of these articles four themes emerged: 1) perceived success, 2) provision of child agency, 3) experience of caring and 4) health consciousness. The small number of eligible studies suggests that child perspectives are rarely considered when researching school-based health clinics for GAS, ARF and RHD. Most of the research produced only quantitatively measured the effectiveness of screening tools such as mobile ECGs rather than the efficacy of ongoing primary healthcare that children with ARF and RHD require after diagnosis. This finding represents a gap in the research and emphasises the importance of analysing children's perspectives with school-based health clinics for GAS, ARF and RHD for the purpose of improving these services.

Recommendations

1. Continue to invest in school-based health clinics (SBHC) for group A streptococcus (GAS), acute rheumatic fever (ARF) and its sequelae rheumatic heart disease (RHD). It is clear from this review that SBHCs improve access to quality care from children's perspectives.
2. Conduct further research and evaluation into children's perspective of SBHC for GAS, ARF and RHD. Findings from this review suggest that worldwide there is limited original research and therefore understanding of SBHC for GAS, ARF and RHD from a child's perspective. We align with the 'United Nations Convention on the Rights of the Child' which advocates for children's participation and meaningful engagement in matters that concern them.
3. Tailor existing programmes to different age groups. This review highlights that children's preferences in SBHC vary by age and individual contexts, these differences should be considered in the operation of SBHC.
4. Clarify the role and processes of SBHC for GAS, ARF and RHD. Our analysis determined that guidance on the roles and processes involved in using a SBHC

may assist in reducing the fear and anxiety some children experience when seeking or receiving treatment for GAS, ARF and RHD in a SBHC.

Introduction

Acute rheumatic fever (ARF) and its sequelae rheumatic heart disease (RHD) are serious and preventable conditions (WHO, 2025). ARF is an autoimmune response to a group A streptococcus (GAS) infection developed from pharyngitis and/or a skin infection (Baker et al., 2022). Children aged between 5-14 are mainly affected, however the impact of ARF can last well beyond childhood. If a GAS infection is left untreated, the inflammatory response from ARF can damage the structures of the heart resulting in RHD. Children may require surgical valvular repairs to their heart and have their life expectancy reduced by 15 years on average (Bennett, Rentta, et al., 2021).

ARF and RHD as health outcomes are influenced by both social and health determinants. ARF and RHD are known as diseases of poverty occurring largely in low to middle income countries where poor housing, nutrition and healthcare are more prevalent (Baker et al., 2022; Bennett, Rentta, et al., 2021; OPMCSA, 2021). Aotearoa New Zealand is an anomaly because despite being a high-income country it has one of the highest rates of ARF and RHD in the world. Māori, the Indigenous people of Aotearoa, and Pacific children most commonly living in socio-economically deprived areas inequitably experience this disease (OPMCSA, 2021). Between 2017-2018 rates of initial ARF hospitalisation for children aged between 5-14 was 25/100,000 for Māori children and 81/100,000 for Pacific children (Bennett, Zhang, et al., 2021). Baker et al (2022) reported that the rates seen in Māori and Pacific children are similar to those observed in the first half of the 20th century in Aotearoa among the non-Indigenous, New Zealand European population. The difference in impact is indicative of significant disparities in opportunity for the populations affected. Addressing health inequities with preventative strategies has been a particular focus for governments across the world facing high levels of ARF and RHD. Improving factors such as socio-economic and living conditions a key aspect of prevention, however access to better socio-economic and housing opportunities, as with access to better healthcare, have well known and documented barriers in the form of systemic racism and social status. (OPMCSA, 2021). As such, removing barriers to primordial, primary, and secondary prevention of GAS from developing into ARF is essential. As stated by WHO (2025), this means:

- *“Expanding access to screening and appropriate care for people with suspected or confirmed streptococcal infections and RF/RHD and treatment of RHD complications with medications”, and*
- *“Ensuring a consistent supply of quality-assured antibiotics for primary and secondary prevention”*

In 2011, the NZ Ministry of Health in Aotearoa aligned itself with international advice and instituted the Rheumatic Fever Prevention Programme (RFPP) with the goal of reducing the incidence of first episodes of ARF (Bennett, Rentta, et al., 2021). This

programme included the ManaKidz management program that coordinated primordial, primary and secondary prophylaxis delivery through nursing services in schools including housing interventions, throat swabbing for GAS and secondary prophylaxis delivery (Wirth et al., 2022).

School Based Health Clinics (SBHC) are one aspect of rheumatic fever control programmes frequently seen across the world, especially in developing countries (Wirth et al., 2022). SBHC for rheumatic fever interventions are an important bridge to healthcare access for tamariki (children) with ARF or RHD. Compliance and outcomes can be improved with proximity to a RHD nurse-led school clinic (Nascimento et al., 2018). Adherence to monthly bicillin treatment supported by SBHC are frequently correlated with reduced rheumatic fever symptoms and hospitalisations (Thomas et al., 2022).

While there is extensive research describing the effectiveness of school-based interventions such as mobile ECG screening in the detection of asymptomatic ARF, there is less enquiry into how children and their families experience these clinics at a research level. Evaluating the success of those clinics from the child and family perspective is a key part of evaluation and monitoring of rheumatic fever control programmes (Regmi, 2016). There is however minimal evidence broadly analysing child perspectives of SBHC for GAS, ARF and RHD from around the world. Addressing the gap in knowledge around child perspectives on SBHC for GAS, ARF and RHD would build on our understanding of how we can best serve a chronically underserved community. This research supports the UN Convention for the Rights of the Child (UNCRC), and the researchers believe that children should have a say in the care they receive (MSD, 2025). This is especially important considering the known racism that is both individually and systemically experienced by children and shapes their access to healthcare. As evidenced by Spray and Hunleth (2020) it is vital that we hear their perspectives rather than rely on adults' assumptions or filters which may colonize children with adult agendas (Spray & Hunleth, 2020).

Methods

Aim

This review aimed to identify global school-based ARF/RHD interventions and understand the experiences of those involved. It did this through four distinct and related objectives:

- a. To understand the design of the interventions, and strategies Aotearoa and other countries have used to define their SBHC,
- b. To understand the factors that supported or hindered the impact of the clinic as an intervention in Aotearoa and other countries,
- c. To analyse child and whānau voice through the semi-structured and structured interviews in the qualitative data.
- d. To assess the gaps in the literature around school-based rheumatic fever interventions globally

Research questions

The research questions for this scoping review were as follows:

How effective is SBHC worldwide at managing group A streptococcal infections, acute rheumatic fever and rheumatic heart disease in children aged 5-12 years according to children, and their families?¹

- a. *What are the interventions used in programs across the world to manage GAS infections, acute rheumatic fever and rheumatic heart disease in children aged 5-12 years?*
- b. *What are perceptions of children and families using these SBHC?*

Context

The study's authors reside in Aotearoa, New Zealand and work for the National Hauora Coalition (NHC). The NHC is Aotearoa's largest Māori-led Primary Health Organisation, delivering care and services that are whānau informed, outcomes focused and closely connected with primary health and community organisations.

Terminology

The researchers have chosen experiences of SBHC for children living with either GAS, ARF or RHD as the phenomena of interest. The way SBHC's are described varies from country to country however this intervention falls under the umbrella term 'RHD Control Programs' (Feretti et al, 2022). Nursing services clinic for GAS, ARF or RHD belong to this group of programs.

¹ Our original question included the perceptions of healthcare professionals however we decided to narrow our search and specifically focus on the perceptions children and perceptions of children through their families

Positionality

The authors have taken the stance of information seeking and understanding the experience of school-based interventions for ARF/RHD. KA is a registered nurse and a researcher of NZ European descent, her master's thesis examined child voice in public health policy. MI is a researcher of Niuean descent. Both have prior research experience on ARF/RHD through other projects and neither have lived experience of rheumatic fever or experience working in school-based programmes. This study was supported by Associate Professor Anneka Anderson, a senior researcher, well-published in the field of rheumatic fever, who has published alongside Julie Spray, one of the authors included in this review. Both researchers work for the National Hauora Coalition (NHC), a Primary Health Organisation in Auckland, New Zealand. NHC runs a school-based nursing service called ManaKidz that is in 88 primary and intermediate schools in the Counties Manukau Health region to address ARF/RHD.

Design

Originally, the design of the study was as a systematic review as per the grant application. It was at the time, an appropriate choice for an international review of the literature. However, due to the small number of studies eligible that emerged for this systematic review, as well as the small geographical location of the research (Aotearoa and Australia), the researchers decided to reframe this research as a *scoping review* (Munn et al., 2018). This decision was decided early on before the screening had finished. This scoping review was used to identify and examine characteristics or factors related to a particular concept, '*the effectiveness of school-based clinics managing GAS infections, acute rheumatic fever and rheumatic heart disease in children aged 5-12 years according to children, and their families*' (Munn et al., 2018).

The development of the scoping review protocol was overseen by senior Māori and Pacific leaders in the research team. This is important because the outcomes could have implications for Māori and Pacific children who reside in Tāmaki Makaurau (Auckland) in Aotearoa. The scoping review followed a prewritten protocol based off PICOT that includes the criteria designed for this study (Riva et al., 2012). Using the CONSIDER statement, which is a set of criteria that improves health research for indigenous people enhanced the quality of our review and its contributions to the advancement of Indigenous health outcomes (Huria et al., 2019). The CONSolidated critERTia (CONSIDER) statement will work alongside COVIDENCE and serve as a checklist ensuring that the methods and findings are transparent, culturally responsive, and respectful of Indigenous knowledge and perspectives. Please refer to **Appendix 2** for the full results of the CONSIDER statement.

The scoping review search and quality appraisal drew from the Joanna Briggs Institute (JBI) scoping review methodology (Aromataris & Munn, 2017), the seven-step meta-ethnography (Noblit & Hare, 1988) (Malterud, 2019), and were reported according to the framework of Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ; Tong et al., 2012). This JBI methodology included the TIDieR (Template for Intervention Description and Replication) Checklist (Figure 1).

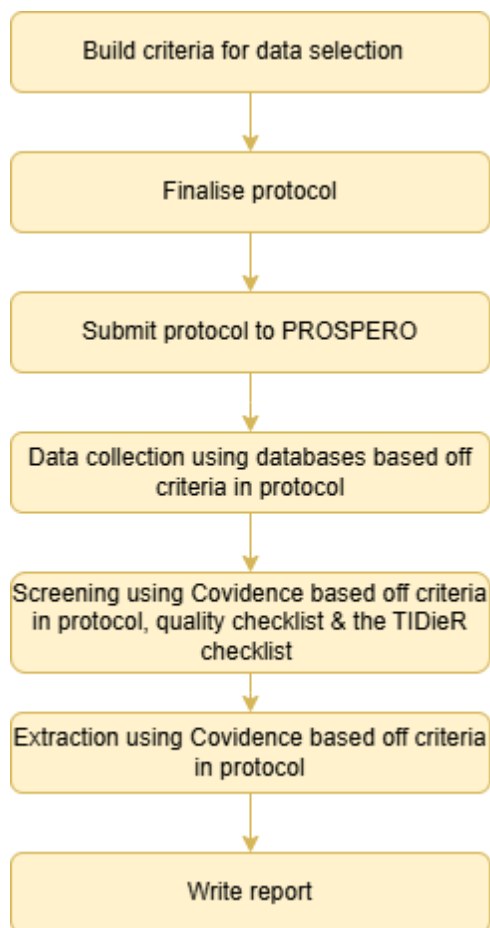


Figure 1: Methods process for scoping review

Search Methods

Search strategy: We sought primary research studies. First, we ran a preliminary search through Scopus, Medline (OVID), Medline (PubMed), Clinical Key, Science Direct, ProQuest Research Library, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Emcare, Google Scholar, and the UOA Library Catalogue. This was done to identify relevant terminology and key words to include in the search strategy (phase one). The text words contained in the titles, abstracts, and key words were used to develop the full search strategy for all databases. Phase two adapted and implemented the full strategy. Finally, the reference lists of articles selected for data extraction were searched for additional studies.

Inclusion criteria:

- Original qualitative research
- Human participants
- Interview questions focused on school-based intervention for GAS, ARF or RHD, uses school-based GAS, ARF or RHD services
- Semi-structured/structured interviews utilised for data collection
- Original quantitative research where child voice is evident
- English Language

- Full text available.
- Research published between 2014-2024
- Their target population were children aged 5-12 years old, and/or family members of children attending SBHC for GAS, ARF or RHD.

Exclusion criteria:

- Non-original research studies (i.e. systematic reviews)
- Reviews such as systematic reviews and/or meta-analyses
- Did not use a school-based intervention for ARF/RHD.
- Did not interview children over the age 5, or family of children attending a clinic (adults)
- Published prior to 2014
- Non-English language
- No full text available
- No animal studies
- No video or audio media

Phenomena of interest: Studies were included if they reported a SBHC for GAS, ARF or RHD and they reported the experiences of the children and their family of that clinic. Databases searched were PubMed, CINAHL, MEDLINE, Emcare, Scopus, and Google Scholar.

Context: We considered all school-based clinics. We included all human patient populations who use rheumatic fever clinic intervention in all geographical areas. These settings were limited to SBHC for GAS, ARF and RHD.

Study designs: Types of publications included peer reviewed journal articles and primary qualitative research studies inclusive of mixed-method studies reporting quotes from children and adults with regards to their experience of school-based rheumatic fever clinics. Studies published between 2014-2024 using qualitative and/or quantitative methodologies were included. The studies must have been presented in English or had a translation available.

Step 1. Study selection: All records identified from the search were uploaded into EndNote (version; ref) and duplicates removed. Two independent reviewers (KA, MI) screened the title and abstract of potentially eligible studies against the inclusion and exclusion criteria for the review. Full text of potentially relevant papers was retrieved, and their citation details were imported into the Covidence systematic review software. The full texts of eligible citations were screened in detail against the inclusion criteria by all reviewers. Reasons for exclusion were reported. Disagreements arising between the reviewers at any stage were resolved through discussion. Search results are presented in a Preferred Reporting Items for Systematic Reviews and meta-analyses (PRISMA) flow diagram (Moher et al., 2009).

Extraction: KA and MI used the TIDieR Checklist to define the phenomenon with consistency (Hoffmann et al., 2014).

Step 2. Quality appraisal: Studies that were shortlisted for inclusion were assessed for bias by (KA, MI) using standardised critical appraisal instrument from the JBI – Checklist for Qualitative Research (JBI, 2017). Reviewer conflicts were resolved through discussion. All studies were put forward for synthesis irrespective of quality due to the various ontological and epistemological stances on systematic reviews.

Data abstraction

Step 3. Reading and localising the studies.

The final included studies were read by two researchers to gain an overview of themes and the experiences of children and adults reported.

Data synthesis

Step 4. Determining the relationships between studies.

A stepwise approach informed by Noblit and Hare (1988), Malterud (2019) and Sattar et al., (2021) were used to guide extraction of the themes and metaphors of child and family experience to Microsoft Excel™ (Malterud, 2019; Noblit & Hare, 1988; Sattar et al., 2021). As a starting point we identified a rich index study. When studies contained child and family quotes, the themes of the authors, were read and reported and were put forward for analysis in this study.

Step 5. Translating studies into one another, and

Step 6. synthesizing translations.

In the context of the themes and metaphors identified in step four, quotations from children and family were analysed by KA and MI independently. To maintain an alignment between the primary studies themes and to ensure that child and family voices were represented, we included these alongside themes in a matrix. After our initial reading and independent analysis, the team then met and discussed excerpts of primary studies taking an iterative interpretive approach. We considered how the content of the matrix might be interpreted, facilitating the analysis to be expressed as new themes. Quotes from children and family were organised into similar themes and experiences constructing themes across studies as a new understanding of children and family experiences of SBHC for GAS, ARF and RHD. Cross checking of the final synthesis was undertaken by two researchers (authors KA and MI) by reviewing the quotes in categories and names of the themes.

Results

Figure 2 shows the flow diagram of the study selection process. 876 records were identified through 5 databases with 1 identified through an alternate source. After removing duplicates and screening titles and abstracts, 53 full-text articles were reviewed. Of these 49 were excluded for the following reasons: incorrect dates (n=7); incorrect setting (n=5); incorrect outcomes (n=1); incorrect study design (n=35) and incorrect patient population (n=1). The remaining 4 studies were included in this review. All studies were published in peer-reviewed journals.

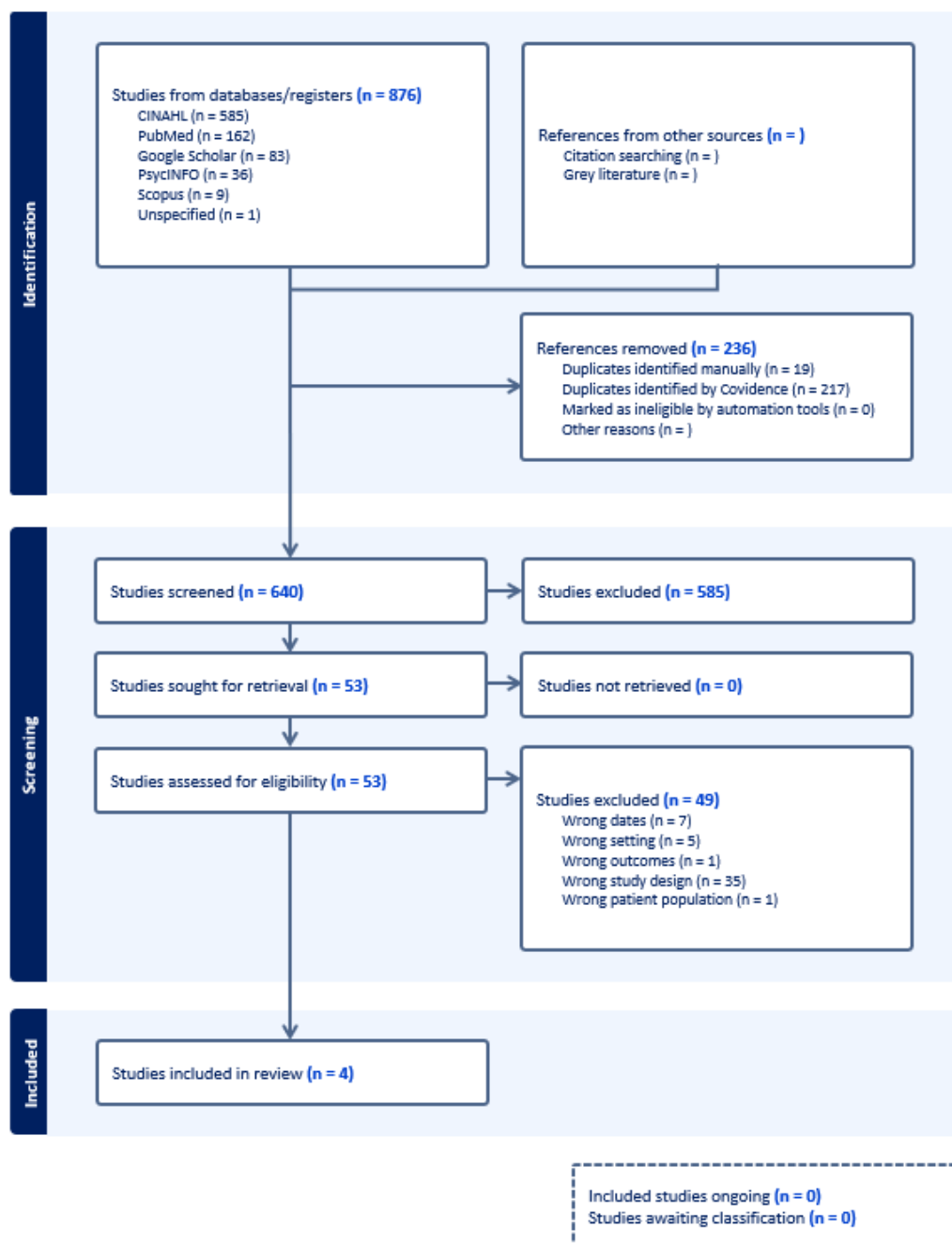


Figure 2: PRISMA flow diagram of study selection

Table 1 outlines the characteristics of the included studies. Three studies were based in AoNZ, two of these focused on the Mana Kidz programme and the third based on echocardiography screening (Anderson et al., 2016; Spray, 2020) the last study was carried out in Victoria, Australia. Three studies centred on prevention programmes such as sore throat management and echocardiographic screening with the final study focusing on treatment for rheumatic fever in the form of secondary prophylaxis (Chamberlain-Salaun et al., 2016).

Table 1: Studies included in this review

Title	Family acceptability of school-based echocardiographic screening for rheumatic heart disease in a high-risk population in AoNZ	Sharing success– understanding barriers and enablers to secondary prophylaxis delivery for rheumatic fever and rheumatic heart disease	Nurse-led school-based clinics for rheumatic fever prevention and skin infection management: evaluation of Mana Kidz programme in Counties Manukau	Towards a child-centred public health: Lessons from rheumatic fever prevention in Aotearoa New Zealand
Author	Perelini F, Blair N, Wilson N, Farrell A, Aitken A., 2015	Chamberlain-Salaun J, Mills J, Kevat PM, Rémond MG, Maguire GP., 2016	Anderson P, King J, Moss M, Light P, McKee T, Farrell E, Stewart J, Lennon D. 2016	Spray J. 2020
Location	AoNZ	Victoria, Australia	AoNZ	AoNZ
Participants	114 children aged 11-13 yrs and their family's	11 carers and patients aged 13-17 and 11 health practitioners	457 students aged 7-13 yrs, 439 parents, 36 stakeholders (staff, providers and MK staff) and 6 whānau	82 children, 7 staff, 6 caregivers
Methods	Quantitative survey study	Qualitative descriptive methods	Mixed methods evaluation (quantitative/ qualitative)	Ethnographic, qualitative
Intervention	Echocardiographic screening in schools	Long-acting intramuscular benzathine penicillin (LAB) injections in schools	Mana Kidz: Throat swabs and treatment in schools	Mana Kidz: Throat swabs and treatment in schools
Reported outcomes in the study	Reported changes in attitudes and beliefs about SBHC for ARF as users	Reported changes in attitudes and beliefs about SBHC for rheumatic fever as users	Improved understanding of SBHC for rheumatic fever through children's perspectives, improved understanding of the child	Improved understanding of SBHC for ARF through children's perspectives, improved understanding of the child perspectives while

			perspectives while using SBHC for ARF and reported changes in attitudes and beliefs about SBHC for ARF as users	using SBHC for rheumatic fever and reported changes in attitudes and beliefs about SBHC for ARF as users
--	--	--	---	--

Quality and Bias

While scoping reviews do not necessarily require an assessment bias, an assessment bias was still completed by our researchers. All studies were reviewed for bias using the JBI Critical Appraisal Checklist for Qualitative Studies JBI (JBI, 2017). The risk of bias was overall low-medium. The most concerning areas of bias across all studies were seen in usually because there was minimal or no information provided:

- Research methodology and interpretation
- Statement locating the researcher
- Influence of the researcher on the research

CONSolidated critERtia for strengthening the reporting of health research involving Indigenous Peoples (CONSIDER) statement

While this study only had four articles, we honoured the CONSIDER statement step in our protocol to support strong research practices that improve health outcomes for Indigenous peoples, recognising that GAS, ARF and RHD disproportionately affects Indigenous populations across the world (Huria et al., 2019; WHO, 2025).

Child voice assessment during analysis

For the thematic analysis, a child-centric approach was undertaken, and we therefore prioritised studies that explicitly sought child voice or child voice through their family. When analysing ‘child voice’ in all four studies, researchers took care to represent child perspectives as accurately as possible. Julie Spray’s (2020) study included many direct quotes from children and represents children’s perspectives most clearly. Anderson et al (2016) and Chamberlain-Salaun et al (2016) used focus groups that included children and their families and while there is a mixture of quotes from children, the findings are generalised across the participants. The study by Perelini (2015) held only one survey question ‘*Was your child okay with the heart scan?*’ which was directed at children. This study was the least representative of child voice but was included anyway as an example of ‘child voice through their family’. Researchers acknowledge that there are definite limitations when a family member speaks for and sometimes over a child. This represents ‘whānau voice’ more than child voice however it still provides valuable insight as children are a part of the family unit.

Four key themes emerged from this analysis, 1) Perceived success; 2) Provision for child agency; 3) Experience of caring; 4) Health consciousness. Evidence supporting the themes are supplemented below.

Perceived Success

Perceived success refers to the value of SBHC to children and families'. Children and families reflected positively on their engagement with a school-based health service. As outlined in the survey and groups findings of the Mana Kidz programme:

'Feedback from parents/whānau, school staff and Mana Kidz teams consistently indicates that Mana Kidz is an important and effective programme that is making a substantial contribution to health outcomes for vulnerable children.' (Anderson et al., 2016)

This is also outlined with school-based echocardiographic screening, particularly highlighting the preventative value of these procedures:

'The families involved showed unanimous support for ongoing school-based echocardiographic screening by a community with high ARF prevalence.' (Perelini et al., 2015)

There was however a time lag on how clinics were perceived as it took time for children to get used to painful injections, get to know staff and understand the overall benefit. Acceptance was interpreted as compliance and participation in their own health. As seen in this quote below from a student who was able to instruct her health professional where she would like the injection:

'She'll know what to do. She'll get on the bed and lay there [...] She knows, when they ask her, which side she last had. She says, "Yes, I'll have it on this side.'" (Chamberlain-Salaun et al., 2016)

Access to a school-based health service also connected children and their families to a form of social support and social services that could further support their health and prevent other illnesses:

'Focus group feedback also suggested that the programme had increased access to social support services, as nurses refer family/whānau for further assistance (e.g., home insulation, nutrition, immunisation, mental health and other needs).' (Anderson et al., 2016)

Access to a school-based health service also supported with identifying unmet health concerns:

‘Key stakeholders reported that there was an increase in unmet needs being identified in school clinics (e.g. cellulitis, scabies, notifications of abuse, oral health, head lice, housing needs, nutrition, mental health and other needs).’ (Anderson et al., 2016)

Provision for child agency

Provision for child agency refers to the ways in which SBHC support children to participate in decisions that affect their health. Embedding healthcare services within schools increases child agency, with children able to access healthcare where cost, transport and parental availability might limit it. Children had a greater ability to advocate for their own health concerns as illustrated by the quotes below:

‘Focus groups and key stakeholder interviews found that Mana Kidz provided an opportunity for children to engage with primary health care during school hours, which they may not otherwise have had.’ (Anderson et al., 2016)

‘Sometimes we overlook that children can’t access primary care... it has to be with an adult. This way we are accessing the children that aren’t accessing healthcare.’ (Spray, 2020)

Experience of Caring

The experience of caring theme reflects how children and families feel regarding their interactions in a school-based health service. Children and families reflected positively on the trust that was built when describing their interactions with health staff:

‘Based on survey and focus group findings, families ... teams were reported to be culturally competent, have positive, trusting relationships with children, families and schools, and effective in engaging with children, parents/whānau.’ (Anderson et al., 2016)

‘I observed most children have a warm and affective experience of care.’ (Spray, 2020)

‘I like it when [...] gives it [Bicillin]. She’s friendly and she does it gently.’ (Chamberlain-Salaun et al., 2016)

Furthermore, the positive health interactions children had with these health professionals, created space for children to share their personal challenges:

‘Cases of children disclosing abuse to Mana Kidz staff have reportedly been high (numbers were not available). Feedback suggests that the daily presence of

Mana Kidz staff in the schools, and the regular contact that children have with them, means that strong and trusting relationships develop.’ (Anderson et al., 2016)

These clinics also provided opportunities for peers to interact outside of the class:

‘All, or subsets of the six girls would often go to the clinic together ‘to get out of work’ and after being checked, each girl would wait for the others before returning to the classroom. ‘I like waiting,’ Ruby told me, and while I didn't see the children do very much in the 10 min or so, it seemed like social connections were solidified in the small talk and mundane moments of being there together (Spray, 2020)

The difference in how care was preferred between different age groups is apparent, with younger age groups requiring strong relationships to be built when care is received and older age groups requiring more privacy with clinical procedures.

‘...another adult patient explained that it “doesn’t matter” for him which health professional administers his LAB injection. These participants’ comments suggest that establishing health professional-patient relationships is more important when the patient is a child.’(Chamberlain-Salaun et al., 2016)

‘...Children were examined in a group, making public their receiving of care. Second, children were weighed in order to determine the dose of antibiotics. While younger children reasoned that this was done ‘to see how much I’ve grown,’ and interpreted the weighing as a form of adult care and monitoring of their development... older children, already self-conscious about their changing bodies, felt embarrassed and vulnerable by the public nature of this process’ (Spray, 2020)!

Health Consciousness

Health consciousness captures children’s understanding and subsequent response to school-based health services. Access to a school-based health service offered opportunities to understand ARF, RHD and healthcare:

‘Health literacy of children and parents/ whānau was found to be improving in Mana Kidz schools on the basis of repeated survey results. The percentage of parents who had heard of ARF or RHD increased from 71% in 2013 to 89% in 2014.’ (Anderson et al., 2016)

‘Free-text responses predominantly mentioned learning that sore throats can lead to ARF and the seriousness of this (55% of those who indicated they had learned anything new).’ (Anderson et al., 2016)

Understanding ARF was seen by caregivers as important in influencing their child's behaviour and in their own health seeking behaviours

'Focus groups also indicated that parents are now more likely to present to a GP or school health team, where appropriate, for sore throats and skin infections. (Anderson et al., 2016)'

However, not all the information received had high engagement:

'Can't really remember information booklet but did receive it.' (Perelini et al., 2015)

'Given full information but don't think I actually read it!' (Perelini et al., 2015)

There also seems to be varied understanding of the processes occurring in the clinic:

'Do you have a sore throat?' Allison would ask them, and when they assented, she would circle 'sore throat' on their form to record the reported symptom, along with any other symptoms she had observed. However, from the children's perspectives, Allison's circling of 'sore throat' after this suite of procedures functioned to verify their diagnosis of 'sore throat'. (Spray, 2020)

Nine-year-old Amberlee told me, 'And every time I come here, she [Allison] puts me down as... a redness and swollen... 'cause I watch her, and when she does that it actually kind of freaks me out.' She is frightened, she told me, because 'I might have strep throat like the boy [in the campaign poster]', because 'maybe you can die.' (Spray, 2020)'

An unintended response to the care provided in school-based health services was hypervigilance and anxious awareness:

Nine-year-old Jordyn told me how she thought she was going to die when she forgot to take her antibiotic 1 day. 'So I went to go take it again and again,' she explained. In an unpredictable world, going to the clinic or taking extra antibiotics are things children can do to cope with feelings of vulnerability (Spray, 2020)'

'It would be good to have more reassurance and information at this stage as the fact that the appointment was just in a few days made me think the situation was very serious. I did not like the waiting period between the initial phone call and hospital appointment.' (Perelini et al., 2015)

Discussion

From the analysis of the four articles included in this scoping review, children regarded SBHC for ARF as acceptable. The SBHC service was described by children in all studies as at least 'positive' and was developed into the theme – '*perceived success*'. Other themes developed from children's perspectives were '*health consciousness*', the '*experience of caring*' and '*provision for child agency*'. These themes are all discussed in the context of the literature below.

Perceived success

In our study, SBHC's for GAS, ARF and RHD treatment were considered successful by the child participants. Care received in SBHCs was described as 'worthwhile', 'valuable', 'important', and 'effective'. The reasons for this perspective were that the clinic had increased access to support for GAS/ARF/RHD and broadened accessibility to other healthcare or even social services. In other studies, about non-specific SBHCs, children and adolescence have also emphasised and appreciated the accessibility, confidentiality, compassion and coordination of SBHCs (Albright et al., 2016; Lee et al., 2017; Moriarty Daley et al., 2023). However, our review also demonstrated the importance of relationship-building time in order to reach this perception, as it took a while for children to trust, know and understand staff. This was especially if they needed a painful injection. It was made apparent that healthcare professionals investing time into community engagement helps overcome this barrier to access for children. In a study by Lee (2017) community engagement with students and school administrators helped incorporate the clinic into the school thus improving its acceptance (Lee et al., 2017).

The quality of relationships between children and health professionals influenced their perception and acceptance of the SBHC. Barriers identified in our review to relationship building for children were pain, fear, embarrassment, and mistrust experienced during their appointments. All studies in this review remarked on some form of communication issue regarding health promotion, management or treatment. These issues lead to confusion and fear of the clinic and therefore, rheumatic fever. As such, while the clinics were seen as positive, they were also seen as a work in progress. Daley et al (2019) found that adolescents must feel 'comfortable' and have 'trusted relationships' (Daley et al., 2019). Daley remarked that healthcare professionals needed to be aware of their ability to shape relationships with patients because it facilitates engagement with the SBHC (Daley et al., 2019). Adolescents emphasised across several studies about the importance of consistency, confidentiality, privacy and non-judgemental treatment (Albright et al., 2016; Daley et al., 2019; Gruber et al., 2023). From a Māori perspective, whakawhanaungatanga is the

process of making and maintaining relationships and is essential in establishing the trust needed for ongoing engagement with healthcare professionals and services (Komene et al., 2024).

Health consciousness

The presence of SBHC for preventing and managing ARF in schools gave children a heightened sense of ‘health consciousness’, to mixed ends. Children at schools with SBHCs knew about ARF, discussed it with each other and were conscious of the symptoms of a sore throat as well as treatment. In Spray’s study, this led to students diligently and sometimes anxiously presenting at the clinic when they felt they had a sore throat (Spray, 2020). While this behaviour may seem like *health literacy*, it was determined during the analysis that researchers could not describe the kind of health literacy you see in adults. Children are still learning about themselves and their understanding of healthcare is still evolving (Abrams et al., 2009). Therefore, we termed this finding as ‘health consciousness’ as opposed to health literacy. There was evidence also of genuine confusion between the diagnosis of a sore throat and rheumatic fever highlighting the importance of effective health communication, so patients are better informed.

Experience of caring

Children valued and gravitated towards the ‘experience of caring’ they experienced from staff in SBHC for the prevention and management of ARF. Children reported that they enjoyed the conversations and treatment from specific healthcare professionals and some findings indicated that SBHC staff stood in the place of parental care. This perception is consistent with other studies about SBHCs. Albright et al (2016) reported that children and parents in the US described their SBHCs as providing family-centred, compassionate care and were also regarded as culturally effective (Albright et al., 2016). However, Gruber offered a more balanced approach from students where some students had good relationships with staff, while others struggled with a lack of rapport which was seen as a barrier (Gruber et al., 2023). In the context of rheumatic fever prevention, high-trust relationships with health professionals were critical to treatment adherence and even positive health outcomes (Anderson et al., 2016; Chamberlain-Salaun et al., 2016; Spray, 2020).

The theme of ‘Experience of caring’ also extended to providing children with social support. In a literal sense, the clinic became a ‘hangout’ spot at school for children seeking ARF/RHD care. However, time with health professionals was frequently used to discuss sensitive issues such as abuse at home as evidenced by the study by

Anderson et al (2016). This reinforces the idea that for many children SBHC have become safe spaces to navigate health and social concerns. For authors Charette et al (2019), adolescents valued the privacy and safety granted by SBHCs over all other qualities,

“The most important factors underlying ease of use were assurance of confidentiality and a positive client-provider relationship that made teens feel safe and comfortable.” (Charette et al., 2019)

In this sense, the reported nature of SBHCs overcame an important barrier to care - shame or feeling ‘whakamā’ while feeling vulnerable (Lee et al., 2017).

Provision for child agency and child invisibility

Evidence showed that SBHC provides a provision for child agency in healthcare, where typical primary healthcare for children cannot address. Children were able to present at a clinic when they felt they needed to and discuss sensitive social issues with a trusted health professional. Due to these findings, it seemed like SBHC provided a better service to children than primary healthcare services like the GP. While there is no study comparing these experiences there are studies with adolescent participants that show that there are barriers to accessing GP clinics such as issues with communication, privacy and a perceived lack of confidentiality (Lawrence et al., 2025). This finding was consistent with other studies about child perspectives of non-specific SBHC’s enabling better opportunity for access, health coordination, and comprehensiveness (Albright et al., 2016; Gruber et al., 2023).

Conversely and ironically to findings of child agency, children appeared to be rarely asked about their opinions of SBHCs in relevant research contexts. With only four eligible studies, three of which were Aotearoa-based and one in Australia, this scoping review found that children’s voices are poorly represented in research about SBHC's for GAS, ARF and RHD. Aotearoa has contributed the most research about SBHC and the articles that were included, were of a high-quality regarding child voice. The research completed in AoNZ is due to ARF and RHD disproportionately affecting Māori and Pacific children at higher rates compared to other high economic countries. What is interesting about the lack of research around child perspectives of SBHC’s, is that children are the sole consumers of this service. The distinction of SBHC from other forms of primary healthcare means that SBHCs are a notable place where children can advocate for their own health concerns, or as we termed it ‘provision for child agency’. Reasons for the lack of child voice on this topic could related to adult-centric views in health and adult

issues of power toward children as well as researcher apprehension about working effectively with children (Bradbury-Jones & Taylor, 2015; Spray & Hunleth, 2020).

At the time of writing this report, there was no large study in the form of a systematic review or similar assessing the effectiveness of these SBHC. Through our scoping review, there was minimal evidence of child or whānau voice regarding SBHC in global research. Of note also, three of our four eligible studies were based in Aotearoa with ManaKidz services. This could be due to limited SBHC in NZ and limited resources for research and evaluation. However, at this stage SBHCs are designed by adults with minimal input or feedback from their main users which are children. The absence of this research led the researchers to understand that the approach to children's perspectives in SBHC research was inequitable. Although children can access SBHC, limited opportunities to contribute their perspectives represent an important research gap for supporting effective healthcare delivery.

Impact

This research extends the body of health-related knowledge around children's perspectives of school-based clinics where ARF interventions are delivered. We discovered that children feel positively about school-based clinics; however, the research is scarce currently on this topic. The absence of this research led the researchers to understand that the approach to children's perspectives in SBHC research is inequitable and unfairly privileges adult voices. This research highlights the importance of children's perspectives in shaping SBHC services to ensure that they are accessible, effective and as impactful as possible for the children who use these services.

Limitations

The study did have some limitations. The review was limited to studies published in English, which restricted the number of reviews included in this global analysis. The ongoing impacts of colonisation on Māori and Pacific communities are not fully captured in the reviewed literature as evidenced by the CONSIDER statement. It is also worth noting that all our studies were completed and published prior to COVID-19, an event that changed healthcare worldwide.

Conclusion

This scoping review gathered all available evidence regarding child perspectives of SBHC's for GAS, ARF and RHD globally. This study sought to understand more about the

perceived quality and efficacy of the school clinics children regularly attend for GAS, ARF and RHD prevention and management. Researchers used the CONSIDER framework to inform the criteria for the protocol and conducted a search across a range of databases. Four articles were eligible for extraction, synthesis and analysis. We identified four key themes from our analysis, perceived success, provision of child agency, experience of caring and health consciousness. Due to the small number of studies, it was concluded that child perspectives are rarely considered when researching school-based health clinics for GAS, ARF and RHD prevention and management. The majority of research produced only quantitatively measured outcomes such as the effectiveness of screening tools including mobile ECGs rather than the efficacy of ongoing primary healthcare for children. This finding represents a gap in the research and further study of children's perspectives could strengthen the delivery and impact of SBHC's in preventing and managing GAS, ARF and RHD for children.

References

- Abrams, M. A., Klass, P., & Dreyer, B. P. (2009). Health literacy and children: Introduction. *Pediatrics*, *124*(SUPPL. 3), S262-264.
- Albright, K., Barnard, J., O'Leary, S., Federico, S., Saville, A., Lockhart, S., Lee, M., Eblovi, D., Dickinson, M., & Kile, D. (2016). School-based health centers as medical homes: Parents' and adolescents' perspectives. *Academic Pediatrics*, *16*(4), 381-386.
- Anderson, P., King, J., Moss, M., Light, P., McKee, T., Farrell, E., Stewart, J., & Lennon, D. (2016). Nurse-led school-based clinics for rheumatic fever prevention and skin infection management: evaluation of Mana Kidz programme in Counties Manukau. *The New Zealand Medical Journal (Online)*, *129*(1428), 37.
- Baker, M. G., Gurney, J., Moreland, N. J., Bennett, J., Oliver, J., Williamson, D. A., Pierse, N., Wilson, N., Merriman, T. R., & Percival, T. (2022). Risk factors for acute rheumatic fever: A case-control study. *The Lancet Regional Health–Western Pacific*, *26*.
- Bennett, J., Rentta, N., Leung, W., Anderson, A., Oliver, J., Wyber, R., Harwod, M., Webb, R., Malcom, J., & Baker, M. G. (2021). Structured review of primary interventions to reduce group A streptococcal infections, acute rheumatic fever and rheumatic heart disease. *Journal of paediatrics and child health*, *57*(6), 797-802.
- Chamberlain-Salaun, J., Mills, J., Kevat, P. M., Rémond, M. G. W., & Maguire, G. P. (2016). Sharing success – understanding barriers and enablers to secondary prophylaxis delivery for rheumatic fever and rheumatic heart disease. *BMC Cardiovascular Disorders*, *16*(1), 166.
- Charette, C., Metge, C., Struthers, A., Enns, J. E., Nickel, N. C., Chartier, M., Chateau, D., Burland, E., Katz, A., & Brownell, M. (2019). Teens' Perspectives on Barriers and Facilitators to Accessing School-based Clinics. *Health Behavior & Policy Review*, *6*(6), 605-618.
- Daley, A. M., Polifroni, E. C., & Sadler, L. S. (2019). The essential elements of adolescent-friendly care in school-based health centers: A mixed methods study of the perspectives of nurse practitioners and adolescents. *Journal of pediatric nursing*, *47*, 7-17.
- Gruber, J. A., Nordquist, E. A., & Acevedo-Polakovich, I. D. (2023). Student and Teacher Perspectives of Service Utilization at Their School-based Health Center. *The Journal of school nursing*, *39*(5), 368-376.
- Hoffmann, T. C., Glasziou, P. P., Boutron, I., Milne, R., Perera, R., Moher, D., Altman, D. G., Barbour, V., Macdonald, H., & Johnston, M. (2014). Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ*, *348*.
- Huria, T., Palmer, S. C., Pitama, S., Beckert, L., Lacey, C., Ewen, S., & Smith, L. T. (2019). Consolidated criteria for strengthening reporting of health research involving indigenous peoples: the CONSIDER statement. *BMC Medical Research Methodology*, *19*(1), 173.
- JB. (2017). *JB Critical Appraisal Checklist for Qualitative Research* Joanna Briggs Institute.

- Lee, J. B., DeFrank, G., Gaipa, J., & Arden, M. (2017). Applying a global perspective to school-based health centers in New York City. *Annals of global health*, 83(5-6), 803-807.
- Malterud, K. (2019). The Impact of Evidence-Based Medicine on Qualitative Metasynthesis: Benefits to be Harvested and Warnings to be Given. *Qualitative Health Research*, 29(1), 7-17.
- Moriarty Daley, A., Polifroni, E. C., & Sadler, L. S. (2023). "Here I Don't Feel Like a Stranger": Adolescents' Perspectives on School-Based Health Centers. *The Journal of school nursing*, 39(3), 238-247.
- MSD. (2025). *United Nations Convention on the Rights of the Child (UNCRC)*. NZ Ministry of Social Development
- Munn, Z., Peters, M. D. J., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, 18(1), 143.
- Nascimento, B. R., Sable, C., Nunes, M. C. P., Diamantino, A. C., Oliveira, K. K. B., Oliveira, C. M., Meira, Z. M. A., Castilho, S. R. T., Santos, J. P. A., Rabelo, L. M. M., Lauriano, K. C. A., Carmo, G. A. L., Tompsett, A., Ribeiro, A. L. P., Beaton, A. Z., & Investigators, P. (2018). Comparison Between Different Strategies of Rheumatic Heart Disease Echocardiographic Screening in Brazil: Data From the PROVAR (Rheumatic Valve Disease Screening Program) Study. *J Am Heart Assoc*, 7(4).
- Noblit, G., & Hare, R. (1988). *Meta-Ethnography*. SAGE Publications, Inc.
- OPMCSA. (2021). *Group A Streptococcus and acute rheumatic fever in Aotearoa New Zealand: A summary of current knowledge in Aotearoa New Zealand*. Office of the Prime Minister's Chief Science Advisor Retrieved from
- Perelini, F., Blair, N., Wilson, N., Farrell, A., & Aitken, A. (2015). Family acceptability of school-based echocardiographic screening for rheumatic heart disease in a high-risk population in New Zealand. *Journal of paediatrics and child health*, 51(7), 682-688.
- Regmi, P. R. (2016). Comprehensive approach to rheumatic fever and rheumatic heart disease prevention and control: the Nepalese model. *Nepalese Heart Journal*, 13(2), 3-10.
- Sattar, R., Lawton, R., Panagioti, M., & Johnson, J. (2021). Meta-ethnography in healthcare research: a guide to using a meta-ethnographic approach for literature synthesis. *BMC Health Services Research*, 21(1), 50.
- Spray, J. (2020). Towards a child-centred public health: Lessons from rheumatic fever prevention in Aotearoa New Zealand. *Children & Society*, 34(6), 552-566.
- Thomas, N., Kaur, S., & Saxena, A. (2022). Evaluation of a nurse-led intervention to improve adherence to secondary prevention of rheumatic heart disease. *British Journal of Cardiac Nursing*, 17(2), 1-9.
- WHO. (2025, January 2025). *Rheumatic heart disease*. World Health Organisation.
- Wirth, S., Sika-Paotonu, D., Beaton, A., Raghu, A., Steer, A., & Carapetis, J. (2022). *Streptococcus pyogenes: Basic Biology to Clinical Manifestations* (S. D. Ferretti JJ, Fischetti VA, Ed. 2nd ed.). University of Oklahoma: Health Sciences Center.

Appendix 1: JBI Critical Appraisal Checklist for Qualitative Research

Study ID	Philosophical perspective	Research methodology and research question	Research methodology to collect data	Research methodology and analysis	Research methodology and interpretation	Statement locating the researcher	Influence of the researcher on the research	Voices	Ethical Approval	Conclusions
	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>	<i>Judgement</i>
Perelini, 2015	Unclear	High	Low	Low	Unclear	Unclear	Unclear	High	Low	Low
Spray, 2020	Low	Low	Low	Unclear	Low	Unclear	Unclear	Low	Low	Low
Chamberlain-Salaun, 2016	Low	Low	Low	Low	Low	Unclear	Unclear	Low	Low	Low
Anderson, 2016	Low	Low	Low	Low	Unclear	High	Unclear	High	Unclear	Low

Appendix 2: CONSIDER Statement

Checklist Item	Family acceptability of school-based echocardiographic screening for rheumatic heart disease in a high-risk population in New Zealand	Towards a child-centred public health: Lessons from rheumatic fever prevention in Aotearoa New	Sharing success— understanding barriers and enablers to secondary prophylaxis delivery for rheumatic fever and rheumatic heart disease	Nurse-led school-based clinics for rheumatic fever prevention and skin infection management: evaluation of Mana Kidz programme in Counties Manukau
Describe partnership agreements between the research institution and Indigenous-governing organization for the research, (e.g., Informal agreements through to MOU (Memorandum of Understanding) or MOA (Memorandum of Agreement)).	Nil	Nil	The researchers collaborated with Apunipima Cape York Health Council.	Nil
Describe accountability and review mechanisms within the partnership agreement that addresses harm minimization.	Nil	Nil	Nil	Nil

<p>Specify how the research partnership agreement includes protection of Indigenous intellectual property and knowledge arising from the research, including financial and intellectual benefits generated (e.g., development of traditional medicines for commercial purposes or supporting the Indigenous community to develop commercialization proposals generated from the research).</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>
<p>Explain how the research aims emerged from priorities identified by either Indigenous stakeholders, governing bodies, funders, non-government organization(s), stakeholders, consumers, and empirical evidence</p>	<p>Nil</p>	<p>Child stakeholders only: A growing body of research has engaged with children to better understand their perspectives on health, and to include them as stakeholders in developing health interventions. When done well, this work can generate unique insights that can shape approaches towards improved child health and well-being</p>	<p>Nil</p>	<p>The Mana Kidz programme was developed to address the high rates of rheumatic fever in Counties Manukau, particularly among Māori and Pacific children. Evaluating this programme offers valuable insights into how effectively it is in achieving this goal.</p>
<p>Specify measures that adhere and honor Indigenous ethical guidelines, processes, and approvals for all relevant Indigenous stakeholders, recognizing that multiple Indigenous partners may be involved, e.g., Indigenous ethics committee approval, regional/national ethics approval processes.</p>	<p>Nil</p>	<p>With institutional ethics approval, I conducted participant-observation alongside 150 children aged between 8 and 12 years old, making daily notes about the 82 children who had assented and their parents consented.</p>	<p>Nil</p>	<p>Nil</p>

<p>Report how Indigenous stakeholders were involved in the research processes (i.e., research design, funding, implementation, analysis, dissemination/recruitment).</p>	<p>Nil</p>	<p>Nil</p>	<p>The researchers collaborated with Apunipima Cape York Health Council, local health service providers, and community members to recruit participants and facilitate interviews. Apunipima Cape York Health Council is a community-controlled primary healthcare organisation, guided by Aboriginal and Torres Strait Islander values.</p>	<p>Nil</p>
<p>Describe the expertise of the research team in Indigenous health and research.</p>	<p>For Dr Perelini mission of creating a 'For Pacific By Pacific' approach is not just a vision, but an essential component of improving healthcare outcomes for Pacific peoples. Nikki Blair has published on health equity for rheumatic fever. Nigel Wilson has published on the burden of RHD to Pacific people's.</p>	<p>Julie Spray has published mainly on childrens rights and participation in healthcare. Many of her publications discuss indigenous rights in healthcare and she has published with other Maori researchers.</p>	<p>Jennifer Chamberlain-Salaun and Jane Mills have published research supporting Aboriginal and Torres Strait Islander nursing students. Marc G. W. Rémond has published extensively on the prevention and treatment strategies of rheumatic fever within indigenous populations. Graeme P. Maguire has published on Aboriginal and Torres Strait Islander respiratory and cardiovascular health and disease.</p>	<p>Michelle Moss has published on sustaining Māori nursing leadership. Diana Lennon is well known in the rheumatic fever space and has multiple publications on inequities.</p>

<p>Describe the methodological approach of the research including a rationale of methods used and implication for Indigenous stakeholders, e.g., privacy and confidentiality (individual and collective)</p>	<p>A post-screening questionnaire was developed to survey parents of children who underwent echocardiographic screening. No rationale provided. No implications stated for indigenous stakeholders.</p>	<p>With institutional ethics approval, I conducted participant-observation alongside 150 children aged between 8 and 12 years old, making daily notes about the 82 children who had assented and their parents consented. I also interviewed 38 children, seven school staff and six caregivers who accepted my open invitation (see Spray, 2020). I did schoolwork alongside children in classrooms and several mornings a week observed the school 'sore throat' clinic. I found the value of these child-centred ethnographic methods lay not only in hearing children's perspectives in interviews, but building long-term relationships, witnessing children's encounters, and triangulating what children told me with what I observed them doing (Spray, 2018). These methods follow the anthropological tradition of 'being there' (Geertz, 1988; Trnka, 2020), where through combining embodied and</p>	<p>Data collection occurred through face-to-face interviews in a semi-structured format. Informed consent was obtained prior to participating in the study.</p>	<p>Data collection occurred through surveys and focus groups.</p>
---	---	--	---	---

		<p>spatially located experience with other forms of data, I constructed an understanding of children's encounters with health care services from multiple perspectives.</p>		
--	--	---	--	--

<p>Describe how the research methodology incorporated consideration of the physical, social, economic and cultural environment of the participants and prospective participants. (e.g., impacts of colonization, racism, and social justice). As well as Indigenous worldviews.</p>	<p>Nil</p>	<p>The ethnographic methods do seem to consider the physical, social, economic and cultural environment. No obvious indication however of incorporating indigenous worldviews.</p>	<p>The study is situated in remote aboriginal and torres strait islander communities where there is a high burden of rheumatic fever. The researchers worked with key informants to reach participants, recognising the high workforce turnover and the importance of going through the right channels. The semi-structured face-to-face interviews allowed participants to share their stories in a way that was meaningful to them.</p>	<p>Nil</p>
<p>Specify how individual and collective consent was sought to conduct future analysis on collected samples and data (e.g., additional secondary analyses; third-parties accessing samples (genetic, tissue, blood) for further analyses).</p>	<p>Consent process: pamphlets about ARF/RHD for parents/care givers with consent form to sign for participation in school-based echocardiographic screening. No consent asked for future analysis.</p>	<p>No information given about future analysis.</p>	<p>Informed consent was obtained prior to participating in the study.</p>	<p>Consented into the MK programme.</p>
<p>Described how the resource demands (current and future) placed on Indigenous participants and communities involved in the research were identified and agreed upon including any resourcing for participation, knowledge, and expertise</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>

Specify how biological tissue and other samples including data were stored, explaining the processes of removal from traditional lands, if done, and of disposal.	N/A	N/A	Nil	Nil
Explain how the research supported the development and maintenance of Indigenous research capacity (e.g., specific funding of Indigenous researchers).	Nil	Nil	Nil	Nil
Discuss how the research team undertook professional development opportunities to develop the capacity to partner with Indigenous stakeholders?	Nil	Nil	The researchers collaborated with Apunipima Cape York Health Council.	Nil

<p>Specify how the research analysis and reporting supported critical inquiry and a strength-based approach that was inclusive of Indigenous values.</p>	<p>Nil</p>	<p>I found the value of these child-centred ethnographic methods lay not only in hearing children's perspectives in interviews, but building long-term relationships, witnessing children's encounters, and triangulating what children told me with what I observed them doing (Spray, 2018). These methods follow the anthropological tradition of 'being there' (Geertz, 1988; Trnka, 2020), where through combining embodied and spatially located experience with other forms of data, I constructed an understanding of children's encounters with health care services from multiple perspectives.</p>	<p>The research drew on multiple perspectives, including 11 patients/caregivers and 11 health practitioners, across four sites in far north Queensland. Applying the Chronic Care Model to the findings helped explore the different factors that interact to influence care. The resulting recommendations emphasise system changes and community based strategies.</p>	<p>The research drew on multiple perspectives, including students, parents and staff. The conclusions focus on the importance of the programme in preventing ARF.</p>
<p>Describe the dissemination of the research findings to relevant Indigenous governing bodies and peoples.</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>
<p>Discuss the process for knowledge translation and implementation to support Indigenous advancement (e.g., research capacity, policy, investment).</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>

