Supporting Information

Supplementary material

This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

Appendix to: Vaka S, Whop LJ, Kirk SJ, et al. Scoping review of variation in clinical guidelines for delivery of injectable long-acting penicillin across Australia and Aotearoa New Zealand. *Med J Aust* 2025; doi: 10.5694/mja2.70050.

Section 1: Report of Scoping Review according to PRISMA-Scoping Review Reporting Protocol

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	3
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	N/A
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	5
Information sources	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	25
Selection of sources of evidence	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
Data charting process	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	6
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	7-8
Critical appraisal of individual sources of evidence	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	9-10

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	7-8
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	5
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	7-8
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	28-29
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	9-10
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	9-10
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	9-15
Limitations	20	Discuss the limitations of the scoping review process.	15
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	16
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	16

Section 2: Full electronic strategy presented for Scopus and PubMed

1	Aborigin* OR Torres OR Indigenous OR “First Nation” OR “First Nations”
	Australia OR New Zealand OR Aotearoa
2	bicillin OR BPG OR penicillin OR benzathine
3	guideline OR administration
4	cultural* aware* OR cultural* competen* OR cultural* safe* OR cultural* humility
1 AND 2 AND 3 AND 4	All fields, English, 2013-2023
Scopus	0 hits
PubMed	0 hits

Section 3: Reporting Scoping Review according to the CONSIDER Statement

Governance		
		Specify how and where you've addressed this in the paper, or note 'Not applicable' and provide reasoning.
1.	Describe partnership agreements between the research institution and Indigenous-governing organisation for the research (e.g., informal agreements through to MOU (Memorandum of Understanding) or MOA (Memorandum of Agreement)).	Not applicable. This research used publicly available, clinician-focused, information sources.
2.	Describe accountability and review mechanisms within the partnership agreement that addresses harm minimisation.	Not applicable. No partnership agreement required.
3.	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 commercialisation proposals generated from the research).	Not applicable. No partnership agreement required.
Prioritisation		
4.	Explain how the research aims emerged from priorities identified by Indigenous stakeholders, governing bodies, funders, non-government organisation(s), stakeholders, consumers and empirical evidence.	Improving the experience of BPG injections has been widely identified as a priority by Indigenous consumers and providers in both Australia and Aotearoa New Zealand.
Relationships (Indigenous stakeholders/participants and research team)		
5.	Specify measures that adhere and honour Indigenous ethical guidelines, processes and approvals for all relevant Indigenous stakeholders, recognising that multiple Indigenous partners may be involved, e.g., Indigenous ethics committee approval, regional/national ethics approval processes.	Research conducted on publicly available clinical resources would usually be considered to not require ethics review or be conducted via a negligible risk pathway. Given Indigenous people were a focus population in this research we sought and received full ethics review from the Australian National University Human Research Ethics Committee.

6.	Report how Indigenous stakeholders were involved in the research processes (i.e., research design, funding, implementation, analysis, dissemination/recruitment).	Indigenous stakeholders were considered through the choice of focus area (based on qualitative considerations raised in previous research), authorship team and dissemination strategies.
7.	Describe the expertise of the research team in Indigenous health and research.	Associate Professor Lisa J Whop (Wagadagam, Gumulgal, Torres Strait) is a senior health researcher with specific expertise in cultural safety in clinical care. Associate Professor Rosemary Wyber (non-Indigenous) is a general practitioner who has worked clinically in Aotearoa, Samoa and community-controlled Aboriginal health organisations alongside her research focusing on equity-enhancing approaches for marginalised communities. Associate Professor Laurens Manning (non-Indigenous) is an infectious disease physician with a focus on BPG including collaborative research with a number of community-controlled primary health care service. Ms Shriyutha Vaka (non-Indigenous) is an ANU medical student with developing skills in Aboriginal health research.
Methodologies		
8.	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).	This research used a novel methodology for considering cultural safety in clinical guidelines. The outcomes have individual and collective implications for Indigenous people receiving BPG injections.
9.	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 colonisation, racism and social justice), as well as Indigenous worldviews.	The application of cultural safety considerations to this work provided an opportunity to consider the effect of power differentials and relationship on care delivery.
Participation		
10.	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).	Not applicable. This research used publicly available, clinician-focused, information sources.
11.	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.	Not applicable. This research used publicly available, clinician-focused, information sources.

12.	Specify how biological tissue and other samples including data were stored, explaining the processes of removal from traditional lands, if done, and of disposal.	Not applicable. This research used publicly available, clinician-focused, information sources.
Capacity		
13.	Explain how the research supported the development and maintenance of Indigenous research capacity (e.g., specific funding of Indigenous researchers).	No funding was received for this research and there were no specific Indigenous capacity development components.
14.	Discuss how the research team undertook professional development opportunities to develop the capacity to partner with Indigenous stakeholders.	Ms Shriyutha Vaka is a medical student at the Australian National University who completed this research within the Indigenous Health Stream at ANU. As part of this, she attended an immersion on Yuin Country, yarning and learning from local Elders, and completed 6 weeks of full-time medical placement in Tennant Creek, Northern Territory. Alongside full-time study, Shriya has purposefully engaged with local Aboriginal and Torres Strait Islander stakeholders while organising the 2023 Indigenous Health Conference (as Junior Indigenous Health Promotion Officer for the ANU Rural Medical Society). This involved working closely with the Chief Executive Officer of Winnunga Nimmityjah (local Aboriginal community-controlled health organisation), Tjabal Centre (ANU centre for Indigenous students) and researchers in the Aboriginal and Torres Strait Islander health arena (Associate Professor Rosemary Wyber and Associate Professor Lisa J Whop).
Analysis and interpretation		
15.	Specify how the research analysis and reporting supported critical inquiry and a strength-based approach that was inclusive of Indigenous values.	The analysis framework of this work was structured around the Ahpra definition of cultural safety and emphasised the centrality of Indigenous people defining and evaluating whether cultural safety was achieved.
Dissemination		
16.	Describe the dissemination of the research findings to relevant Indigenous governing bodies and peoples.	Findings will be provided to clinical guideline developers to provide opportunities for reflection and guideline review. Copies will be provided to Aboriginal and Torres Strait Islander peak bodies, including NACCHO, to support accountability on these issues.
17.	Discuss the process for knowledge translation and implementation to support Indigenous advancement (e.g., research capacity, policy, investment).	Preliminary results from this work were presented in the Aboriginal and Torres Strait Islander Health theme of the Royal Australian College of General Practitioners conference in 2024 (GP24). Findings will inform updates of the Australian Guidelines for Diagnosis and Management of ARF and RHD.

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Abbreviations: benzathine benzylpenicillin G (BPG); Australian National University (ANU); National Aboriginal Community Controlled Health Organisation (NACCHO); acute rheumatic fever (ARF); rheumatic heart disease (RHD).

Section 4: Table of initial, raw data extraction

Administration of Bicillin L-A® Full Data, Part 1, guideline details										
Common / colloquial guideline name	**Indication (RHD / Syphilis / Skin sores)**	**Year produced**	**Stand-alone Cultural Safety Chapter?**	**Developing Body**	**Endorsing Body**	**Jurisdiction and Country**	**Intended audience (All clinical / RN / GP Aboriginal/Torres Strait Islander Health Professional / patient)**	**Setting of administration (not specified/outreach/home/ community, primary care, hospital)**	**Format (written, video, training module, other)**	**Refers to additional information / other guidelines**
PCH guidelines	Rheumatic Heart Disease and Syphilis	2015	No	Perth Children's Hospital	Government of Western Australia - Child and Adolescent Health Service	Western Australia, Australia	Medical, Pharmacy and Nursing staff at Perth Children's Hospital	Children's hospital	Written	Nil
Queensland RHD program video	Rheumatic Heart Disease	2015	No*	RHDAustralia (funding by Pfizer Australia)	Queensland Rheumatic Heart Disease Control Program, Queensland Government	Queensland, Australia	Not specified	Not specified	Video	https://www.rhdaustralia.org.au/resources/administering-bpg-information-poster
SA Health / AHCSA RHD guidelines	Rheumatic Heart Disease	2018	No	Aboriginal Health Council of South Australia	RHDAustralia	South Australia, Australia	Not specified	Not specified	Written	Nil
SA Health - standing order	Rheumatic Heart Disease	2018	No	SA RHD Control Program	SA Government	Adelaide, SA, Australia	Health care personnel	Primary health care service	Written	Yes (lists 7 references in the document)
Kimberley Clinical Protocols - skin infections	Skin Infections in Children	2019	No	Kimberley Clinical Protocols	Kimberley Aboriginal Health Planning Forum	Kimberley, Western Australia, Australia	Not specifed	Not specified	Written	Nil
SA guidelines	Rheumatic Heart Disease	2020	No	Department of Health and Wellbeing, Government of South Australia	Department of Health and Wellbeing, Government of South Australia	South Australia, Australia	Health professionals	Not specified	Written	rhdaustralia.org.au/arf-rhd-guideline
WA training video	Syphilis	2020	No	Department of Health - WA Health Training	Government of Western Australia	Western Australia, Australia	Nursing staff	Primary care	Video (training)	Nil
RHDAustralia video	Rheumatic Heart Disease and Skin Sores	2020	No	RHDAustralia	Heart Foundation	National, Australia (also specific to ACT)	Health care workers	Not specified	Video	https://www.rhdaustralia.org.au/system/files/fileuploads/arf_rhd_guidelines_3.2_edition_march_2022.pdf
SA Health	Rheumatic Heart Disease	2020	No	Government of South Australia - SA Health	RHDAustralia	South Australia, Australia	Patients	Not specified	Written	sahealth.sa.gov.au/rhd and rhdaustralia.org.au
Kimberley Clinical Protocols - RHD	Rheumatic Heart Disease	2021	No	Kimberley Clinical Protocols	Kimberley Aboriginal Health Planning Forum	Kimberley, Western Australia, Australia	Not specified	Not specified	Written	Nil
RHDAustralia guidelines	Rheumatic Heart Disease	2022	Yes	RHDAustralia	Menzies School of Health Research	Australia	Not specified	Primary care (alternative places specified - schools, homes and places of employments)	Written	Nil
CARPA	Rheumatic Heart Disease	2022	Yes	Remote Primary Health Care Manuals	Not specified	Northern Territory, Australia	Not specified	Primary care - also includes outreach or home visit service	Written	Supporting resources - RHDAustralia ARF/RHD guidelines ARF/RHD diagnosis calculator app Treatment tracker app for patients Giving Bicillin L-A e-learning module
WA North Metro Health Service	Rheumatic Heart Disease and Syphilis	2022	No	Women and Newborn Health Service	Government of Western Australia North Metropolitan Health Service	Western Australia, Australia	Obstetrics and Gynaecology (all WNHS staff)	Not specified	Written	https://www.rhdaustralia.org.au/system/files/fileuploads/arf_rhd_guidelines_3.2_edition_march_2022.pdf

RFDS primary care clinical manual	Not specified - general guidelines to manage injection pain	2022	No	Royal Flying Doctor Service - Queensland Section	Queensland Government	Queensland, Australia	Primary clinical care (manual)	Not specified	Written	See video - Ventrogluteal injection technique https://www.youtube.com/watch?v=BIO_hojT5ik&feature=youtu.be
NZ Heart Foundation guidelines	Rheumatic Fever and Rheumatic Heart Disease	2014	No	Heart Foundation of New Zealand	Cardiac Society of Australia and New Zealand; Heart Foundation; Paediatric Society New Zealand; Pacific Heartbeat	New Zealand	Not specified	Not specified	Written	Nil
ASHM guidelines	Syphilis	Not specified	No	Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM) and New Zealand Sexual Health Society	Aoteraoa New Zealand STI Management Guidelines for Use in Primary Care	New Zealand	Primary care	Primary care	Written	Nil
Te Whatu Ora Health guidelines	Rheumatic Fever	Not specified	No	Te Whatu Ora Health	New Zealand Government	New Zealand	Patients	Not specified	Written	Nil

Administration of Bicillin L-A® Full Data, Part 2, technical and pain minimisation recommendations														
	Technical	Injection site			Pain reduction strategies									
Common / colloquial guideline name	Needle gauge	Vastus lateralis	Dorso gluteal	Ventro gluteal	Injection method	Temperature of BPG at time of injection	Local anaesthetic	Topical anaesthetic	Ice pack	Buzzy Bee (vibration device)	Medications	Distraction	Other pain reduction techniques	Devices (Buzzy Bee, Coolsense etc.)
PCH guidelines	21 gauge	Specified	Not specified	Specified	Slow, steady rate, over 2-3 minutes	Room temperature (immediately prior to injection)	Lidocaine (0.5 mL of 1%)	Not specified	Not specified	Not specified	Not specified	Not specified	Alternating injection site for each injection	Not specified
Queensland RHD program video	Not specified	Specified	Specified	Specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified (just said encourage relaxation of muscle)	Not specified
SA Health / AHCSA RHD guidelines	21 gauge	Specified	Specified	Specified	Inject slowly over 2-3 minutes	Room temperature	Not specified	Emla cream (before injection)	Yes (after injection)	Not specified	Oral pain relief beforehand	Provide appropriate distraction	Apply pressure to site for 10 seconds	Not specified
SA Health - standing order	Not specified	Specified (for small children)	Not specified	Specified	Inject slowly over 2-3 minutes	Warm to body temperature immediately before using	Specified (references RHDAustralia guideline for specification on dose and considerations)	Specified (anaesthetic spray before injection)	Specified (before injection)	Specified	Oral paracetamol before injection and at appropriate time intervals afterwards as required; Entonox during injection; oral clonidine before injection	Distraction with electronic games and videos	Firm pressure to site for at least 10 seconds immediately before injecting	Specified (e.g., ShotBlocker and Buzzy vibrating ice pack directly adjacent to injection site during injection)
Kimberley Clinical Protocols - skin infections	Not specified	Not specified	Not specified	Specified	Not specified	Not specified	Yes (mix BPG with lignocaine, dosage not specified)	Not specified	Not specified	Yes	Not specified	Not specified	Not specified	Not specified
SA guidelines	21 gauge	Specified	Specified	Specified	Deliver injection slowly over 2-3 minutes	Room temperature (remove from fridge 15 minutes prior; hold or roll between hands)	Lidocaine 1% or 2% (lidocaine injected before BPG; one syringe overall)	Emla cream; ethylchloride cold spray (Emla cream - 15 minutes prior to the injection [application at least 60 minutes prior to the injection provides best pain relief]; ethylchloride spray - apply immediately before the injection, directly to injection site until the skin starts to turn white,	Yes (Buzzy4 Shots vibrating ice pack; placed on injection site for 2 minutes prior to injection)	Yes	Not specified	Distract with talking, offering puzzles, an iPad, phone games, picture books; encourage and reassure pt; talk about benefits to pt's health and importance of next	Alternating injection site for each injection	Yes (Buzzy4Shots and Bionix ShotBlocker) (Buzzy4Shots vibrating ice pack; placed on injection site for 2 minutes prior to injection)

								stopping before skin frosts)				injection within 21-28 days		
WA training video	Not specified	Not specified	Specified	Specified	Slow push over 1-2 minutes	Room temperature (remove from fridge 10-15 minutes prior; roll between hands)	No	Not specified	No	Yes	Not specified	Ask pt to wriggle toes, invite pt to look at their iPhone, play games as a distractor	Apply pressure post-injection for a couple of seconds	Not specified
RHDAustralia video	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified
SA Health	Not specified	Specified	Specified	Specified	Inject slowly over 2-3 minutes	Room temperature (remove from fridge 15 minutes prior; hold between hands to warm up)	Lidocaine (dosage not specified)	Emla cream (15-30 minutes beforehand; recommended 60 minutes before); ethylchloride cold spray - just before the injection	Yes (before injection)	Yes	Oral pain relief beforehand	Children - talking, playing games, or looking at a phone, iPad or book	Not specified	Yes (Buzzy4Shots and Bionix ShotBlocker) (Buzzy4Shots vibrating ice pack - stays on during the injection)
Kimberley Clinical Protocols - RHD	Not specified	Specified	Not specified	Specified	Inject slowly	Not specified	Lidocaine/lignocaine (lidocaine - 0.5 mL of 1% lidocaine)	Yes (local anaesthetic cream/spray prior to injection - not specified)	Yes (before injection)	Yes	Paracetamol (before and after); clonidine (before); nitrous oxide (during injection)	Distraction techniques with videos	Firm pressure to injection site for 10 seconds before injection, refrigerate needle prior to injection	Not specified
RHDAustralia guidelines	21 gauge	Acceptable site	Must be used with caution - risk of sciatic nerve injury	Preferred	Slowly	Not specified	Lidocaine (0.5 mL of 1% or 0.25 mL of 2%)	Anaesthetic spray before injection	Yes (before injection)	Yes (during injection)	Oral paracetamol before injection and at appropriate time intervals after as required	Distractions during injection with electronic games, videos	Firm pressure to site for 10 seconds immediately before injecting	Buzzy (during injection); ShotBlocker
CARPA	21 gauge	Specified	Specified	Preferred	Inject slowly (2-3 minutes) or as preferred by the person	Not specified	Yes (anaesthetic spray; add lidocaine to injection - 0.5 mL of 1% or 0.25 mL of 2%)	Not specified	Yes (before injection)	Yes	Oral pain relief beforehand	Not specified	Firm thumb pressure on injection site for 30-60 seconds before giving	Not specified
WA North Metro Health Service	21 gauge	Specified	Not specified	Specified	Not specified	Not specified	Yes (lignocaine injected with BPG - 0.5 mL of 1% or 0.25 mL of 2%)	Yes (anaesthetic spray before injection - not specified)	Yes (before injection)	Not specified	Oral paracetamol before injection and at appropriate time intervals after as required; Entonox	Not specified	Firm pressure to site for 10 seconds immediately before injecting	Not specified

												during injection; oral clonidine prior to injection			
RFDS primary care clinical manual	Not specified	Not specified	Not specified	Specified	Inject slowly over 2-3 minutes; guided by the patient	Refrigerate needle prior to injection; syringe reaches room temperature before use	Yes (lignocaine cream - 2.5%; prilocaine patch - 2.5%)	Anaesthetic spray/cream before injection e.g., Emla	Yes (ice pack for 5 minutes prior to injection)	Yes (ice pack for 5 minutes, Buzzy for 60 seconds; then Buzzy directly above site of insertion during injection)	Paracetamol (before and at appropriate intervals after injection); nitrous oxide and oxygen (Entonox) during injection	Distraction techniques (e.g., electronic games, videos)	Firm pressure for 10 seconds prior to injection	Yes (Coolsense, Buzzy and ShotBlocker) (Buzzy for 60 sec, then Coolsense for 10 sec, then Buzzy directly above site of insertion during injection)
NZ Heart Foundation guidelines	23 gauge	Specified	Specified	Not specified	Deliver injection very slowly (over at least 2-3 minutes)	Warm syringe to room temperature before using	Yes (0.25 mL of 2% lignocaine)	Ethylchloride spray prior to injection	Yes (Buzzy - vibrating device with cold pack)	Yes	Not specified	Distraction techniques during injection (e.g., with conversation)	Apply pressure with thumb for 10 seconds before inserting needle	Vibrating device (refers to KidzFirst Guideline for further information)
ASHM guidelines	Not specified	Not specified	Not specified	Not specified	Not specified	Room temperature	Yes (0.25 mL of 2% lidocaine)	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified
Te Whatu Ora Health guidelines	Not specified	Not specified	Not specified (just says buttocks)	Not specified (just says buttocks)	Not specified	Not specified	Not specified	Not specified	Yes (post-injection, if there is swelling and pain at the injection site)	Not specified	Paracetamol or ibuprofen (after injection if child feels sore)	Not specified	Not specified	Not specified
Totals	7	11	7	12	11	9	12	9	11	10	9	9	11	6

Administration of Bicillin L-A® Full Data, Part 3, experiential and other recommendations

	Experiential recommendations			Post-injection directions	
Common / colloquial guideline name	**Minimise wait time**	**Rotation of injection site**	**Site selection**	**Post-injection directions**	**Notes**
PCH guidelines	Not specified	Alternating injection site	Not specified	Not specified	
Queensland RHD program video	Not specified	Not specified	IM site selection depends on patient's preference, age and weight of patient and clinician's discretion and experience	Not specified	
SA Health / AHCSA RHD guidelines	Not specified	Not specified	Ask patient's preferred site of injection		Provide reminder for next injection
SA Health - standing order	Specified (minimal wait time for injection)	Specified (as doses are repeated, use the opposite side used for the previous injection)	Specified - respect for patient's preference for pharmacological pain management strategies and site for injection	Paracetamol at appropriate time intervals afterwards as required	Relationship-based and relationship-strengthening activities such as use of incentives and rewards noted; patient-focused, culturally safe environment specified; family or support person involvement during injection procedures specified
Kimberley Clinical Protocols - skin infections	Not specified	Not specified	Not specified	Not specified	
SA guidelines	Not specified	Not specified	Not specified	Apply heat packs/cold packs as per pt preference; encourage movement of limb; oral pain relief; encourage and praise pt; health service information provided	
WA training video	Not specified	Not specified	Not specified	Not specified	
RHDAustralia video	Not specified	Not specified	Not specified	Not specified	
SA Health	Not specified	Not specified	Not specified	Move around as soon as possible; apply heat packs/cold packs as per preference	Reassure child that injection is important for them to be healthy; inform child's teacher RE injection (that child may be sore); use of RHD phone app or calendar as a reminder
Kimberley Clinical Protocols - RHD	Minimal wait time	Not specified	Not specified	Paracetamol after (as needed)	First to talk about nitrous oxide during injection - 50% nitrous and 50% oxygen
RHDAustralia guidelines	Minimal wait time	Not specified	Patient's preference for site selection	Not specified	Pages 175-176
CARPA	Not specified	Not specified	Ask patient where they would like to receive injection	Not specified	Give injection as soon as person comes to clinic (don't ask them to wait; give opportunistically in clinic prior to due date if pt at risk of non-adherence; recall reminders and outreach or home visit service offered
WA North Metro Health Service	Not specified	Rotate side of injection	Not specified	Paracetamol (after, at appropriate intervals, as required)	Confusion about author - written by pharmacist/Pharmacy Department, for health service; endorsed by medicines and therapeutics committee
RFDS primary care clinical manual	Short wait time for injection	Not specified	Patients of all ages should have control over how and where they receive their injection	Paracetamol (at appropriate intervals, after)	Guideline on how to manage injection pain - covers non-pharm and pharm strategies; the Australian ARF/RHD guideline provides guidance for lidocaine (lignocaine) injected with Bicillin L-A® as an option. This is not currently supported in Qld
NZ Heart Foundation guidelines	Not specified	Not specified	Not specified	Not specified	Includes findings from different papers and compiles these when discussing secondary prophylaxis; recommends lignocaine and Buzzy being used together for greatest reduction in pain (than lignocaine alone); **also recommends having good rapport with the patient, assisted by having a designated nurse for each case to increase injection comfort, compliance, and understanding**
ASHM guidelines	Not specified	Not specified	Not specified	Not specified	BPG as management for syphilis
Te Whatu Ora Health guidelines	Not specified	Not specified	Not specified	Paracetamol or ibuprofen; wait at clinic for 20 minutes; place a cold/wet cloth or ice pack where injection was given	Outlines what reactions a child can expect post-injection
	4	3	6	8	

Section 5: Summary of clinical administration guidelines for Bicillin L-A® as appraised using the AGREE Guidelines

AGREE-II Global Rating Scale Instrument																
Guideline description (year released)	Domain 1: Rate the overall quality of the guideline development methods (/ 7)*			Domain 2: Rate the overall quality of the guideline presentation (/ 7)†			Domain 3: Rate the completeness of reporting (/ 7)‡			Domain 4: Rate the overall quality of the guideline recommendations (/ 7)§			Rate the overall quality of the guideline (/ 7)¶			Qualitative descriptor** (low = 1-3, moderate = 4-5, high = 6-7)
NZ Heart Foundation guidelines (2014)	6	7	6.5	5	6	5.5	6	5	5.5	5	6	5.5	6	6	6	High
Perth Children's Hospital guidelines (2015)	4	7	(5)	5	6	5.5	3	5	(5)	3	4	3.5	4	5	4.5	Moderate
Queensland RHD program video (2015)	5	5	5	5	6	5.5	2	1	1.5	4	3	3.5	4	3	3.5	Moderate
SA Health / AHCSA RHD guidelines (2018)	4	4	4	7	7	7	5	5	5	6	5	5.5	6	5	5.5	High
SA Health – SA Government (2018)	4	7	(6)	7	6	6.5	6	7	6.5	5	5	5	5	7	(5)	
Kimberley Clinical Protocols – skin infections (2019)	6	4	(4)	5	5	5	3	4	3.5	4	4	4	5	4	4.5	Moderate
SA guidelines (2020)	6	6	6	6	6	6	7	6	6.5	7	6	6.5	6	6	6	High
WA training video (2020)	3	4	3.5	3	4	3.5	3	4	3.5	4	4	4	3	4	3.5	Moderate
RHDAustralia video (2020)	5	4	4.5	5	6	5.5	3	2	2.5	3	3	3	4	3	3.5	Moderate
SA Health (2020)	4	4	4	6	7	6.5	6	6	6	6	5	5.5	6	6	6	High
Kimberley Clinical Protocols – RHD (2021)	6	7	6.5	6	7	6.5	7	6	6.5	5	6	5.5	6	6	6	High
RHDAustralia guidelines (2022)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	High
CARPA (2022)	4	7	(4)	4	5	4.5	6	6	6	5	6	5.5	5	5	5	Moderate
WA North Metro Health Service (2022)	5	7	(6)	6	7	6.5	5	5	5	5	6	5.5	5	6	5.5	
RFDS primary care clinical manual (2022)	6	7	6.5	5	6	5.5	6	6	6	6	7	6.5	6	7	6.5	High
ASHM guidelines (Not specified)	3	6	(4)	5	5	5	2	3	2.5	3	2	2.5	3	4	3.5	Moderate
Te Whatu Ora Health guidelines (Not specified)	2	2	2	5	6	5.5	4	4	4	3	4	3.5	3	4	3.5	Moderate

[Author, we deleted the repeat of the section title here] **Abbreviations:** Western Australia (WA); Queensland (QLD)

***** This refers to whether the clinical practice guideline considered the appropriate stakeholders in development of the guideline, whether the evidentiary base was developed systematically, and whether the recommendations were consistent with the literature

† This refers to whether the clinical practice guideline was well organised and whether the recommendations were easy to find

‡ This refers to whether the clinical practice guideline's development process was transparent and reproducible and the extent to which the information to inform decision making was complete
§ This refers to whether the clinical practice guideline recommendations were clinically sound and appropriate for the intended audience
¶ A cumulative measure of the overall quality of the guideline based on the overall rating across the previous descriptors
** A qualitative descriptor of the overall quality of the guideline based on the scores from preceding domains

Where there was more than a 2-point discrepancy in ratings between the first and second reviewer, a third review was conducted. Scores in brackets ( ) refer to scores determined by third review.