

BMJ Open Understanding the implementation of health checks in the prevention and early detection of chronic diseases among Aboriginal and Torres Strait Islander people in Australia: a realist review protocol

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ABSTRACT

Introduction Chronic disease remains the leading cause of morbidity and mortality among Aboriginal and Torres Strait Islander peoples in Australia. Regular structured, comprehensive health assessments are available to Aboriginal and Torres Strait Islander people as annual health checks funded through the Medicare Benefits Schedule. This realist review aims to identify context-specific enablers and tensions and contribute to developing an evidence framework to guide the implementation of health checks in the prevention and early detection of chronic diseases for Aboriginal and Torres Strait Islander people.

Methods and analysis The review will involve the following steps: (1) Aboriginal and Torres Strait Islander engagement and research governance; (2) defining the scope of the review; (3) search strategy; (4) screening, study selection and appraisal; (5) data extraction and organisation of evidence; (6) data synthesis and drawing conclusions. This realist review will follow the Realist and MEta-narrative Evidence Syntheses: Evolving Standards guidance and will be reported as set up by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols statement. The realist programme theory will be developed through a literature review using multiple database searches from 1 November 1999 to 31 June 2022, limited to the English language, and stakeholder consultation, which will be refined throughout the review process. The study findings will be reported by applying the context–mechanism–outcome configuration to gain a deeper understanding of context and underlying mechanisms that influence the implementation of health checks in the prevention and early detection of chronic diseases among Aboriginal and Torres Strait Islander people in Australia.

Ethics and dissemination Ethical approval is not required as this review will be using secondary data. Findings will be published in a peer-reviewed journal and presented at scientific conferences.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The realist review addresses a policy initiative for Aboriginal and Torres Strait Islander peoples in Australia to promote the prevention and early detection of chronic diseases.
- ⇒ The methodological approach of combining learnings from published research and key stakeholders' experiences will provide a holistic view of the studied phenomenon.
- ⇒ Involvement of key stakeholders including Aboriginal and Torres Strait Islander peoples across project objectives, methodology, programme theory design, data extraction, interpretation and dissemination of study findings with valuing Indigenous viewpoints is a novel approach.
- ⇒ Certainty of the evidence generated may be limited by richness and relevance of available published literature.

Systematic review registration The review protocol has been registered on the international prospective register of systematic reviews: CRD42022326697.

BACKGROUND

Chronic diseases are the leading cause of morbidity and mortality among Aboriginal and Torres Strait Islander people in Australia.¹ Aboriginal and Torres Strait Islander peoples experience a significant disparity linked to sociocultural determinants, including employment, education, income and experiences of intergenerational and racial trauma, along with lower access to health services, all of which are known to contribute to the early development and progression of chronic



disease.^{2–4} Since 2006, although there have been improvements in disparities for cardiovascular disease, diabetes and kidney disease, Aboriginal and Torres Strait Islander people have a disproportionate burden of cardiovascular disease, type II diabetes, respiratory disease, cancer, renal disease and mental illness with the onset of these conditions at a younger age than non-Indigenous Australians.¹ One tool to address this high burden of disease are health checks delivered in primary healthcare (PHC).

Preventive healthcare can be provided in any episode of care in primary care, however, health checks offer a structured way of providing a systematic and comprehensive assessment of the patient's physical, psychological and social well-being. In particular, health checks offer opportunities for screening for chronic disease, risk reduction and management.⁵ While health checks can be delivered in various formats, in Australia these are funded by Medicare, Australia's universal health insurance scheme, through specific items in the Medicare Benefits Schedule (MBS), including specific health check items for Aboriginal and Torres Strait Islander people.⁶ Annual claims for MBS-funded Aboriginal and Torres Strait Islander health checks have increased more than sixfold in the past decade,⁷ with national policies targeting increased uptake.⁸ Between 2019 and 2020, 28% of Aboriginal and Torres Strait Islander people received an Indigenous-specific health check, and 62% had received at least one Indigenous-specific health check in the 5-year period to June 2020.⁹ Despite progress in the uptake of health checks, Schütze *et al* reported barriers to access including low identification rates of Indigenous status and a lack of knowledge of MBS item numbers among practice staff.¹⁰

The evidence for the effectiveness of health checks in improving health outcomes is mixed. International systematic reviews have shown that health checks can be associated with increased new diagnoses of risk factors and chronic conditions^{11–12} and, when delivered in PHC settings, with improvements in immediate health outcomes such as blood pressure control and body mass index.¹³ Australian studies have generally supported these findings with evidence of health checks supporting evidence-based screening, identifying new diagnoses of chronic conditions, and supporting healthy behavioural change among Aboriginal and Torres Strait Islander peoples.^{10–16} However, some studies identified a low level of motivation and confidence among staff, lack of clarity about specific roles of practice staff, inadequate cultural safety training (training that is only focused on individual clinicians behaviour but does not consider the history of colonisation and its manifestation through institutional or structural racism) and lack of organisational teamwork within the practice as barriers to implementing health checks.^{17–20} Some studies have shown poor follow-up of problems identified, with changes in evidence-based screening not sustained beyond the first 1–2 years after the introduction of systematic health checks.^{21–22} Similarly, objective 5.1 of the National Aboriginal and Torres Strait Islander health plan 2021–2031

acknowledges the need to increase the uptake and quality of health checks.²³ Therefore, it is imperative that we develop a deeper understanding of what makes a health check effective at the PHC level. Given the complexity of PHC delivery mechanisms, which at times can be fragmented, uncoordinated and inaccessible,²⁴ it is crucial to understand how and under what circumstances health checks can be effectively implemented.

A realist review is well suited to exploring these PHC delivery mechanisms by clarifying the settings and contexts that support quality care. A realist review is a systematic review of a complex intervention, and asks the question 'What works for whom, in what circumstances and in what respects?'.²⁵ The current study will use the realist review framework specifically designed for healthcare systems, as described by Pawson and colleagues, to unpack the context and explore the underlying complexities that impact the implementation and effectiveness of health checks.²⁶ Single simple solution are improbable in intricate healthcare systems and contexts; realist review approaches acknowledge this complexity. Rather it seeks to learn from lived experience and allow room for growth.²⁶

There has been no synthesis of research about the implementation and effectiveness of health checks in the primary and secondary prevention of chronic diseases for Aboriginal and Torres Strait Islander people. Therefore, this research will address the following specific aims:

1. To identify key contextual factors and causal mechanisms that lead to the success or failure (outcome) of implementing effective health checks in primary care to prevent and detect chronic disease among Aboriginal and Torres Strait Islander peoples.
2. To contribute to the development of an evidence-based framework to build theoretical understanding and evaluate health checks within primary care.

Operational definitions

Health checks

For the purposes of this review a **health check** is defined as the systematic and comprehensive assessment of the patient's physical, psychological and social well-being with an aim to identify undiagnosed conditions and risk factors in the PHC setting. This aligns with definitional guidance from the Medicare Benefits Schedule for MBS item 715²⁷ and the preamble of the Aboriginal and Torres Strait Islander Health Check templates developed by National Aboriginal Community Controlled Health Organisation (NACCHO) and Royal Australian College of General Practitioners (RACGP).²⁸ These checks may include use of standardised assessment tools, such as Australian Diabetes Risk Assessment Tool or the Australian Cardiovascular Risk Assessment Calculator. Isolated screening programmes (ie, blood pressure measurements or echocardiography screening for rheumatic heart disease) are excluded, as are health assessments which are not connected to the primary care setting (such as isolated school-based programmes or occupational assessments).

Chronic disease

Australia reports data on 10 major chronic condition groups (arthritis, mental health conditions, asthma, cancer, cardiovascular disease, chronic obstructive pulmonary disease, diabetes, chronic kidney disease, back pain and osteoporosis).²⁹ Additionally, chronic diseases that disproportionately affect Aboriginal and Torres Strait Islander people, such as liver disease, chronic otitis media, and rheumatic heart disease, will also be considered.

Methodology

This realist review will follow the Realist and Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES II) guidance and will be reported in accordance with the reporting guidelines set up by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols statement.³⁰ Pawson and colleagues developed the realist review approach to synthesise evidence using an explanatory approach.²⁶ Realist review is underpinned by realism philosophy, a theory-driven methodological paradigm that sits between positivism (the world is real and can be observed directly) and constructivism (we can never be sure about reality).³¹ Realism is viewed as a tent of diverse ideas rather than fixed ideas that can be generated through systematic and careful exploration of underlying causal mechanisms that result in outcomes in any particular context.³² In a realist review, the context–mechanism–outcome (CMO) configuration helps to understand how, why and for whom the intervention produced unintended and desired outcomes.³³ The following phases are involved while undertaking realist synthesis: (1) Aboriginal and Torres Strait Islander engagement and research governance; (2) defining the scope of the review; (3) search strategy; (4) screening, study selection and appraisal; (5) data extraction and organisation of evidence; and (6) data synthesis and drawing conclusions. Any amendments made to the protocol during the study will be reported in the final manuscript developed from this study.

Phase 1: Aboriginal and Torres Strait Islander engagement and research governance

In this phase 1, the ideas developed by our team will be shared and iterated if required with the team from the *Thiitu Tharrmay Aboriginal Reference Group* and other peak bodies like the Royal Australian College of General Practitioners (RACGP) Aboriginal and Torres Strait Islander Health Faculty and NACCHO that consist of researchers and community members who advocate and work in the field of Aboriginal and Torres Strait Islander health. Importantly, Aboriginal and Torres Strait Islander researchers from the National Centre for Aboriginal and Torres Strait Islander Well-being Research at ANU and other Australian academic institutions will be invited to join the team. The active engagement and contribution of Aboriginal and Torres Strait Islander researchers and community representatives will guide us throughout the

realist review process and will enable us to synthesise evidence with valuing Indigenous viewpoints.

Phase 2: defining the scope of the review

In this phase, a broad literature review will be undertaken to identify approaches to health checks addressing chronic diseases among Aboriginal and Torres Strait Islander peoples in Australia. In addition to this, various quantitative, qualitative and review papers will be identified through literature searches, which will provide clear insights to understand the contextual delivery mechanisms of the intervention. Grey literature such as policy reports, programme reports, student theses and policy briefs will also be searched for potentially relevant material. Building on the broad knowledge generated through literature reviews, such as intervention delivery mechanism, barriers and enablers for the uptake of health checks, intervention outcomes, and so on, an initial programme theory (mapping the sequence of steps) will be developed, that will allow us to understand the delivery mechanism of health checks at PHC level for prevention and early detection of chronic disease. CMOs will be identified using realist logic of analysis in an attempt to identify salient contextual relationships which impact the implementation of health checks for Aboriginal and Torres Strait Islander peoples. In this phase, we will share iterations of programme theory during development by our research team with the *Thiitu Tharrmay Aboriginal Reference Group* and other peaks RACGP Aboriginal and Torres Strait Islander Health Faculty and National Aboriginal Community Controlled Health Organisation. This will enable us to refine a programme theory with valuing Indigenous viewpoints which ensure the locus of power lies in the hands of knowledge owner. An initial indicative programme theory has been provided in [figure 1](#)

Phase 3: search strategy

In this phase, programme theory will be used to guide the development of the search strategy and key search terms that will be reviewed by review team members and librarian search strategy experts. Multiple electronic databases such as PubMed/MEDLINE, Web of Science, EMBASE, Trove, and the Analysis and Policy Observatory database, Australia's National Institute for Aboriginal and Torres Strait Islander Health Research and CINAHL will be considered as sources of data for the period 1 November 1999–31 June 2022, limited to the English language. The rationale behind choosing the initial search date is that annual health checks for Aboriginal and Torres Strait Islanders were first specifically funded under the MBS in Australia in November 1999.³⁴ The search will be performed using a combination of subject headings and keywords related to 'Health Assessment', 'Chronic Disease' and 'Aboriginal and Torres Strait Islander peoples', using 'OR' and 'AND'. We will manually perform hand searching of the reference lists of included studies; and will contact authors who have contributed significantly to Aboriginal health around PHC and health assessment

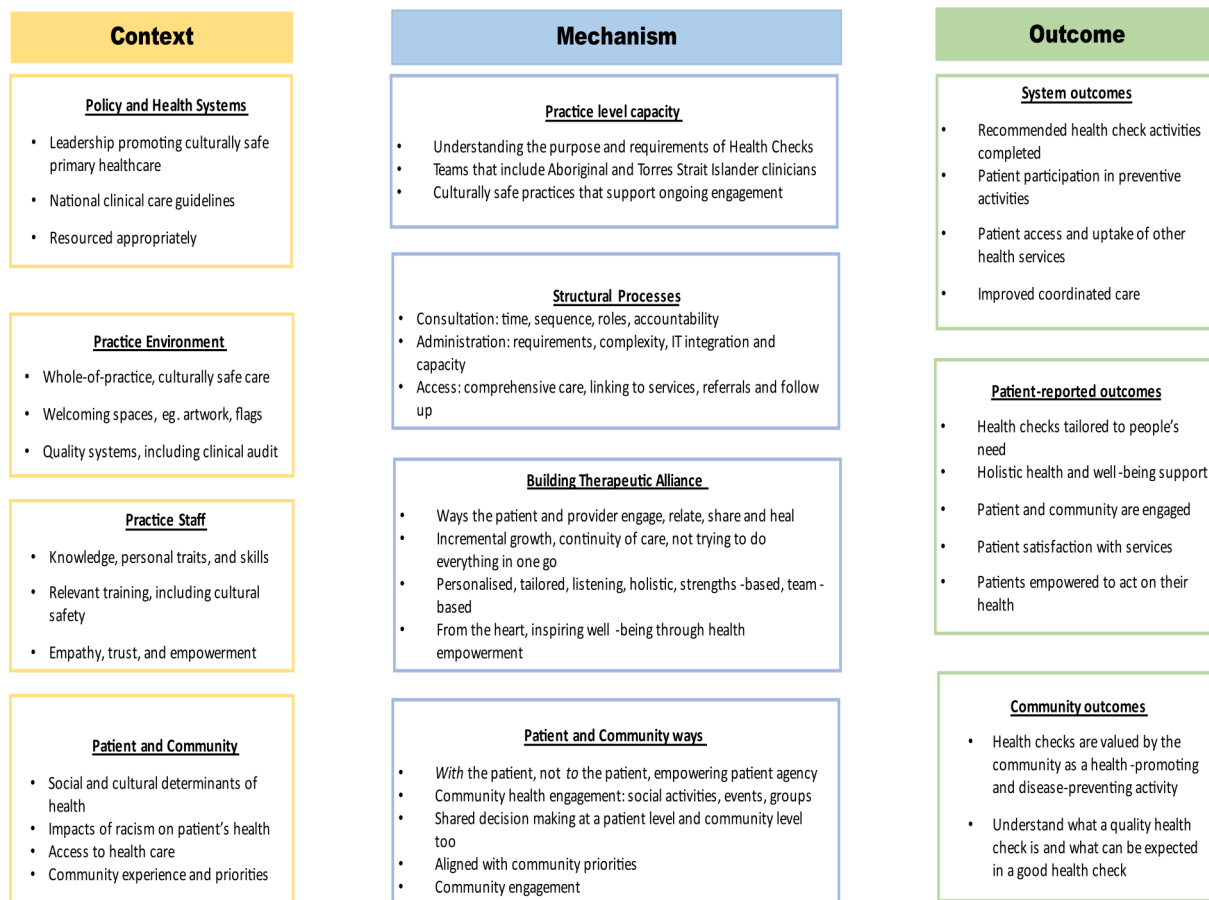


Figure 1 Programme theory with Context–Mechanism–Outcome hypotheses.

focusing on Aboriginal and Torres Islander people's health. A draft search strategy for PubMed/MEDLINE has been provided in [box 1](#).

Phase 4: screening, study selection and appraisal

This review will include research that provides information relating to CMOs (describing the intervention). We will include studies of any designs (randomised controlled trials, quasiexperiments, action research, mixed methods and qualitative studies using recognised methods) and publication types (peer-reviewed journal articles, programme reports, grey literature from Department of Health websites and Clinical Commissioning Groups) that involved adults (aged 18 years and over) who identified as Aboriginal and/or Torres Strait Islander. Publications like letters to the editor, conference abstracts, publications other than the English language and studies that do not provide sufficient information on why an intervention worked (for whom and in what context) will be excluded from this study. Further eliminations will be made if the objective of the study is not focused on health checks, or if a study only reported on chronic conditions such as autoimmune disorders and cystic fibrosis that are not in line with the chronic disease operational definition presented in this study. [Table 1](#) presents additional inclusion and exclusion criteria, and these will likely be refined during the review process. Search results will be exported

to the reference management tool, EndNote20, and then search results will be uploaded to Covidence, where the title, abstract and full-text screening of the search results will be done by two members of the research team. For validation, 10% of the included and excluded articles will be assessed independently by another two research team members.

The quality appraisal for all the included studies will be conducted using quality assessment tools relevant to the individual study design. For example, we will use 'Joanna Briggs Institute critical appraisal tools' that align with study designs such as randomised controlled trials, observational and analytical studies, 'mixed methods appraisal tool' for mixed-methods studies³⁵ and Implementation Science Research Development (ImpRes) tool for implementation research.³⁶

Phase 5: data extraction and organisation of evidence

Following iterative process and discussions within the review team—including Aboriginal and Torres Strait Islander health researchers—a data extraction sheet valuing Indigenous viewpoints will be developed. Later, data extraction sheet will be finalised after rigorous discussion with Aboriginal and Torres Strait Islander researchers and collaborators from NACCHO and RACGP Aboriginal and Torres Strait Islander Health Faculty. The data extraction sheet will capture the information that is

Box 1 List of search terms

#1. Health assessment(s) OR 'Structured Health Assessment' OR 'Patient history taking' OR 'Overall health assessment' OR 'Routine health check' OR 'Patient outcome assessment' OR 'initial assessment' OR 'physical examination' OR 'Patient assessment' OR 'Physical assessment' OR 'Questionnaire-based assessment' OR 'Questionnaires' OR 'Assessment checklists' OR 'Comprehensive medical assessment' OR 'Health check' OR 'Screening test(s)' OR 'Physical exam checklist' OR 'Mental health assessment checklist' OR 'Health assessment checklist' OR 'Medicare Benefits Schedule-715' OR 'Preventive Healthcare checklist' OR 'Preventive Healthcare Questionnaire'.

#2. Chronic Disease OR 'Chronic Illness' OR 'Chronic conditions' OR 'Cardiovascular Diseases' OR 'diabetes' OR 'Non-communicable disease' OR 'Type 2 diabetes' OR 'pulmonary disease' OR 'Chronic Obstructive' OR 'Bronchiectasis' OR 'Emphysema' OR 'Lung diseases' OR 'Rheumatoid' OR 'Liver diseases' OR 'Arthritis' OR 'Heart diseases' OR 'Chronic kidney disease' OR 'Renal insufficiency' OR 'Renal Disease' OR 'Mental health' OR 'Depression' OR 'Depressive disorder' OR 'Mental disorders' OR 'Anxiety' OR 'Asthma', 'hypertension' OR 'Blood pressure' OR 'Osteoporosis' OR 'Cancer' OR 'Chronic otitis media' OR 'Persistent otitis media'.

#3. Primary Health Care OR 'Aboriginal community-controlled health organizations' OR 'Indigenous primary health care' OR 'General practice' OR 'Primary care services' OR 'Primary care'.

#4. Indigenous OR 'Indigenous people(s)' OR 'Aboriginal people(s)' OR 'Australian Aboriginal and Torres Strait Islander people' OR 'Aboriginal adults' OR 'First Nation people(s)' OR 'Oceanians'.

#5. Australia OR 'Rural Australia' OR 'Victoria' OR 'New South Wales' OR 'Queensland' OR 'Northern Territory' OR 'Western Australia' OR 'Tasmania' OR 'Australian Capital Territory' OR 'South Australia' OR 'Remote Australia' OR 'Urban Australia'.

#6. 1 AND 2 AND 3 AND (4 AND 5)

relevant to study objectives and programme theory developed in the scoping review phase. During data extraction, any relevant missing information will be marked as 'not reported'. Predesigned data extraction will be piloted on four selected articles of different study designs to check the functionality and comprehensiveness of the designed data extraction sheet. The data extraction sheet will include study characteristics (title, author, publication year, study setting, participants characteristics, study objective, study design), study findings (such as intervention components, delivery mechanism, enablers and barriers, delivery CMO aspects) and quality appraisal. In this context, enablers are any external or internal factors that promote/facilitate or enable the uptake of health checks across PHC contexts recognised by consumers or other stakeholders with provided theoretical explanations. Likewise, barriers are any internal or external factors that impeded the delivery or uptake of health checks across PHC contexts identified by consumers or other stakeholders under consideration. Importantly, advice for context will be sought from *Thiitu Tharrmay Aboriginal Reference Group* at ANU. In this phase, we will also map the underpinning theory of intervention that the authors described to produce one or more desired outcomes.

Phase 6: data synthesis and drawing conclusions

This phase will use a realist logic of analysis to make sense of the data extracted from phase 4 and will likely result in refining of the programme theory that was developed in phase 1. We will use both deductive and inductive analysis

Table 1 Inclusion and exclusion criteria

Criteria	Relevant studies (no restriction on study design) will be those that
Inclusion	<ul style="list-style-type: none"> ▶ Reports the uptake or implementation of health checks at PHC settings. ▶ Reports the barriers and enablers for implementation of health checks. ▶ Reports activities and initiatives started by practitioners or healthcare workers to improve utilisation of health checks. ▶ Relates to perspectives of practitioners, people or managers with regard to opportunities and challenges in the implementation of health checks. ▶ Relates to the description of people's experience of interacting with practitioners or healthcare workers for health checks. ▶ Describes the implementation of practices or practitioner-initiated initiatives to promote utilisation of health checks. ▶ Describes people-centred health outcomes about health checks implementation for early detection and prevention of chronic disease. ▶ Describes opportunities created to engage people in utilisation (including follow-up and referrals) of health checks. ▶ Describes quality improvement, shared decision-making and relationships with practitioners/ healthcare workers with regard to health checks.
Exclusion	<ul style="list-style-type: none"> ▶ Studies that focused solely on chronic disease management. ▶ Studies focused on describing patients, healthcare providers and managers experience with chronic disease management rather than implementing health checks. ▶ Studies that do not report strategies and initiatives targeted toward health checks implementation. ▶ Studies that are not focused on PHC settings.
PHC, primary healthcare.	

processes for the interpretation of the data. Data on CMOs will be sought within and across the documents to explain how the contexts influenced the intervention mechanism and outcomes. Interpretive cross-case comparison will be used to explain how and why the intended outcomes have occurred or why the intervention failed to produce a particular outcome. The extracted data will be coded and will be presented narratively. We will also conduct 6–7 regular meetings with working groups (n=4–6) and one final round table discussion with larger group of stakeholders (n=10–15) to obtain a wide range of perspectives. The insights from these evidence reviews, and perspectives of these experts gained through the larger round of discussion will be synthesised to develop the final programme logic. Finally, these research findings and recommendations will provide an evidence-base for the design and implementation of people-centred strategies for the provision of health checks, and the experience of these health checks. In turn, Aboriginal and Torres Strait Islander peoples will benefit from improved and effective prevention and early detection of chronic disease. Strength-based approaches³⁷ that privilege Indigenous ways of knowing (epistemology), ways of being (ontology) and ways of doing (axiology) will be applied while interpreting data and making recommendations rather than helicopter approach where non-Indigenous researchers inadequately acknowledge situated Indigenous viewpoints in process of knowledge generation.

Patient and public involvement

Patient and public involvement is central to the development of this review project. This project has involved key knowledge users such as researchers from Aboriginal and Torres Strait Islander communities/services and peak bodies working for Aboriginal and Torres Strait Islander communities in the development of the research and initial programme theory. These key knowledge users will be involved throughout the project via meetings and knowledge sharing workshops, which will ensure that recommendations derived from this project will reflect their knowledges, priorities and aspirations.

DISCUSSION

This study will be the first realist review to provide an understanding of how Aboriginal and Torres Strait Islander health checks are being provided and identify the opportunities for improving the prevention and early detection of chronic disease in the PHC setting. This study will help to build a realist programme theory that will help to identify opportunities and strategies for service improvement in relation to the health check at the PHC level. Additionally, evidence informed recommendations that intentionally value voice, context and Aboriginal and Torres Strait Islander culture will guide policymakers, researchers and wider stakeholders code-sign people-centred interventions for improving the

delivery of health checks for prevention and early detection of chronic disease in PHC.

An anticipated challenge with our study could be the development and interpretation of programme theory, which is common in realist reviews. In order to address this potential issue, we have developed a team of subject and context experts from various institutions who work in this area. The team of experts will help to develop, refine and interpret the programme theory to answer the review question. Another issue that can be an obstacle to the realistic review process is the significant resources and time required to complete phases 2–4: screening; data extraction and interpretation of findings. We have a team of two–three members with dedicated time working in a supportive environment (access to resources and training) which should enable completion in a realistic timeframe. Similar to other reviews, organisation and interpretation of data is time consuming part of realist review and to overcome this the team of experts will be consulted throughout the review process to guide in this regard. Another challenge with realist review is the rigour of selected studies which will be acknowledged as limitations in the final analysis. More importantly, the review team of this study included Aboriginal and Torres Strait Islander researchers who will be involved through all phases of the review, to allow Indigenous perspectives and knowledge to be integrated in the knowledge creation process; ensuring research is valid and meaningful.

This research is grounded in active involvement of Aboriginal and Torres Strait Islander researchers in coproduction of knowledge with including Indigenous viewpoints on what works and what is needed. The perspectives of Aboriginal and Torres Strait Islander authors will be privileged throughout this work (including project objectives, methodology design, data extraction, interpretation and dissemination of study findings) and informed by input from *NACCHO–RACGP Partnership project team* who develop the *National guide to preventive healthcare for Aboriginal and Torres Strait Islander people*³⁸ and work to support and promote health checks that are culturally safe, effective and valued by Aboriginal and Torres Strait Islander people. Alongside knowledge and contextual contributions, early career Aboriginal and Torres Strait Islander researchers involved in this project will learn with the wider team about process of conducting realist reviews and analysis. This shared learning will support capacity development for Aboriginal and Torres Strait Islander collaborators and co-authors.

Plain language summaries of study findings will be shared through Aboriginal Community Controlled Health Organizations which is controlled by local Aboriginal and Torres Strait Islander community members (through a locally elected board), so it is the good avenue to relay findings to local communities and families. Study findings will also be disseminated through academic publications, policy briefs, conference presentations and knowledge exchange seminars with policymakers within Australian Government Department of Health, RACGP,

NACCHO, the Aboriginal community-controlled health sector, Lowitja Institute and other relevant stakeholders.

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Contributors UNY, JA, DCB and KAD conceived the idea and designed the study. UNY, JA and MS developed the first draft study protocol. UNY, JA, MS, VS, LW, DCB, BH, MB, MP, KF, EW, RW, RL and KAD reviewed the protocol and contributed significantly to improve the scientific richness of the manuscript. All authors read and approved the final draft of the protocol.

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