

BMJ Open Understanding the barriers and facilitators that influence access to quality cardiovascular care for rural Indigenous peoples: protocol for a scoping review

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ABSTRACT

Introduction Māori (the Indigenous peoples of New Zealand) are disproportionately represented in cardiovascular disease (CVD) prevalence, morbidity and mortality rates, and are less likely to receive evidence-based CVD healthcare. Rural Māori experience additional barriers to treatment access, poorer health outcomes and a more significant burden of CVD risk factors compared with non-Māori and Māori living in urban areas. Importantly, these inequities are similarly experienced by Indigenous peoples in other nations impacted by colonisation. Given the scarcity of available literature, we are conducting a scoping review of literature exploring barriers and facilitators in accessing quality CVD healthcare for rural Māori and other Indigenous peoples in nations impacted by colonisation.

Methods and analysis A scoping review will be conducted to identify and map the extent of research available and identify any gaps in the literature. This review will be underpinned by Kaupapa Māori Research methodology and will be conducted using Arksey and O'Malley's (2005) methodological framework. A database search of MEDLINE (OVID), PubMed, Embase, SCOPUS, CINAHL Plus, Australia/New Zealand Reference Centre and NZResearch.org will be used to explore empirical research literature. A grey literature search will also be conducted. Two authors will independently review and screen search results in an iterative manner. The New Zealand Ministry of Health Te Tiriti o Waitangi (Treaty of Waitangi) Framework principles will be used as a framework to summarise and construct a narrative of existing literature. Existing literature will also be appraised using the CONSolidated critERia for strengthening the reporting of health research involving Indigenous Peoples (CONSIDER) statement.

Ethics and dissemination Ethical approval has not been sought for this review as we are using publicly available data. We will publish this protocol and the findings of our review in an open-access peer-reviewed journal. This protocol has been registered on Open Science Framework (DOI:10.17605/osf.io/xruhy).

INTRODUCTION

Māori, the Indigenous peoples of Aotearoa New Zealand, are disproportionately

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This is the first systematic review that (to our knowledge) explores barriers and facilitators of accessing quality cardiovascular care for rural Indigenous peoples.
- ⇒ To ensure that this research supports health equity and strengthens research conduct on and for Indigenous peoples, it is underpinned by Kaupapa Māori Research methodology and the CONSolidated critERia for strengthening the reporting of health research involving Indigenous Peoples statement.
- ⇒ The review is focused on Indigenous peoples from New Zealand, Australia, Canada and the USA, and although we do expect there to be similarities and relevance, our findings may not be fully generalisable to other Indigenous peoples impacted by colonisation.
- ⇒ The review is focused on cardiovascular diseases only. Other long-term or chronic conditions (eg, type 2 diabetes mellitus) have been excluded from the scope of this review. Therefore, our findings may not be generalisable to care associated with other long-term or chronic conditions.
- ⇒ To the best of our knowledge, there is no universally accepted definition for 'rural' populations. Therefore, we have not specified definitions for the term 'rural' or 'remote' in this scoping review.

represented in cardiovascular disease (CVD) prevalence, morbidity and mortality rates, and are less likely to receive evidence-based CVD treatment.¹⁻³ Coronary heart disease is also one of the most significant contributors to inequities in life expectancy for Māori, compared with non-Māori, non-Pacific people.⁴ These health disparities give rise to Māori experiencing a greater burden of disease and an enduring gap in life expectancy, compared with non-Māori.^{5,6}

Inequities in CVD outcomes and access to quality CVD healthcare in Aotearoa New Zealand are similar to those experienced by



international Indigenous peoples, in nations impacted by colonisation. CVD disproportionately affects Indigenous Australians, American Indians, Alaska Natives, First Nations, Métis and Inuit, and Native Hawaiians, compared with other ethnic groups within their respective nations.^{7–9} CVD prevalence in Indigenous Australians is one and a half times higher than non-Indigenous Australians, and the CVD mortality rate in Indigenous Australians is three times higher than that of non-Indigenous Australians.⁹ Indigenous Australian patients are also 40% less likely to receive proven coronary interventions and have an in-hospital mortality rate double that of non-Indigenous Australians.¹⁰ In the USA and Canada, Indigenous peoples are disproportionately affected by CVD risk factors.¹¹ Indigenous peoples in the USA also have worse access to quality CVD-related healthcare and receive poorer CVD-related healthcare, compared with white Americans.¹²

These patterns of Indigenous health disparities in Aotearoa New Zealand and internationally are influenced by the ongoing impacts of colonisation and the wider social determinants of health.^{7 13 14} The historical trauma intergenerationally experienced by Indigenous peoples through sustained dispossession of land, cultural oppression, persistent systemic racism and social deprivation all adversely impact opportunities for Indigenous peoples to successfully engage with their respective healthcare systems.^{7 10 14 15} These health impacts include significant physical, psychological and structural stressors, which inherently drive inequities in CVD risk factors and CVD outcomes.¹⁶

Māori are entitled to equitable health outcomes, derived from three key sources. First, Article 2 in the Te Tiriti o Waitangi (Treaty of Waitangi), the founding document of modern Aotearoa New Zealand, asserts the protection of Māori taonga (anything valued by Māori, including health) and Māori sovereignty over those taonga.^{17 18} Second, the New Zealand Health and Disability Act 2000 expresses a commitment to improving Māori health outcomes.¹⁹ The New Zealand Ministry of Health also recently updated its expression of the Crown's Te Tiriti o Waitangi obligations in the New Zealand Health and Disability System by publishing a new Te Tiriti o Waitangi Framework. The framework includes 'Mana tangata', which expresses the Crown's commitment to achieving equity in health and disability outcomes for Māori.²⁰ In fulfilling Te Tiriti o Waitangi obligations, Māori also have the right to monitor Crown agencies, given the persistent and compelling disparities in health outcomes (including the wider social determinants of health), consistent health system unresponsiveness and a lack of Māori representation in health workforce.²¹ These rights to equitable health outcomes extend to international Indigenous peoples, as stipulated in the United Nations Declaration on the Rights of Indigenous Peoples (2007),²² which affirms that 'States shall also take effective measures to ensure, as needed, that programmes for monitoring, maintaining and restoring the health of Indigenous Peoples, as developed and

implemented by the peoples affected by such materials, are duly implemented'.²²

Rural Māori in Aotearoa New Zealand experience additional barriers to treatment access and poorer health outcomes compared with those living in urban areas (New Zealand Health and Disability System Review, 2020). Lilley *et al*²³ recently found that rural Māori are less likely to receive timely access to emergency medical services compared with other New Zealanders.²³ Evidence also shows that rural Māori have a greater burden of CVD risk factors, ischaemic heart disease, heart failure and stroke mortality (35+ years) when compared with urban Māori or urban non-Māori.^{3 24} In Te Tai Tokerau Northland (the northern-most region of Aotearoa New Zealand), Māori make up 36% of the population, compared with the national average of 17%.²⁵ Te Tai Tokerau Northland also has a higher proportion of people living in the highest levels of social deprivation, a significantly older population compared with the national average and a high proportion of the population live in rural areas.^{25 26} In 2018, 44.3% of the Māori descendent population in the Northland District Health Board region were indicated as living in the most socially deprived areas, compared with 13.3% non-Māori.²⁷ Understanding the additional barriers experienced by rural Māori communities in accessing quality CVD healthcare is therefore essential to consider for regions like Te Tai Tokerau Northland, where there are strong intersections between ethnicity, social deprivation and rurality.^{27 28} The intersectionality between communities residing in rural or remote areas, low socioeconomic status, high levels of psychosocial stress and disparities in CVD incidence and mortality rates are also observed in Indigenous peoples in other nations.^{29–31}

To our knowledge, there are no known systematic reviews that explore the barriers and facilitators to accessing CVD care among rural Māori or rural Indigenous peoples in other nations. A systematic scoping review is therefore needed to identify the extent that literature is available, identify any gaps in the literature and map available evidence, all well maintaining rigour and transparency in our methods to ensure our results are reliable.³² Given the scarcity of localised literature here in Aotearoa New Zealand, and the similarities in health disparities experienced by Indigenous peoples in colonised nations, we have extended this review to include rural Indigenous peoples in other nations.^{11 33}

METHODS AND ANALYSIS

A scoping review approach was chosen as it best aligned with our research objectives, which are aimed at mapping and summarising the extent of available literature while maintaining rigour and transparency.³² This approach was also selected because the research topic has not been comprehensively addressed previously.³⁴ The conduct of this scoping review will be guided by Arksey and O'Malley's³⁵ Scoping Review Methodological Framework.³⁵

Methodology

Kaupapa Māori Research

This scoping review will be underpinned by Kaupapa Māori Research (KMR) methodology. KMR methodology is one of many decolonising methodologies in existence that responds to traditional positivist and colonial approaches by centring Indigenous worldviews and epistemologies.³⁶ Decolonising methodologies support Indigenous reclamation of self-determination and social justice in the research space, particularly for Indigenous peoples who have been harmed by colonisation.³⁶ By foregrounding KMR, we assert tino rangitiratanga (self-determination) and privilege Māori ways of being and understanding.^{36–39} KMR reconciles imbalances in power and supports social justice by challenging dominant systems, cultural deficit theories and victim-blame analyses.^{38 40 41} It can also be used for both quantitative and qualitative research methods, where appropriate.³⁸ We acknowledge that there is no singular decolonising methodology that can be appropriately applied across all Indigenous peoples; however, KMR allows us to approach international literature involving Indigenous peoples in a respectful and meaningful manner while asserting our own self-determination in our research objectives.^{38 42}

CONSolIDated critERia for strengthening the reporting of health research involving Indigenous Peoples statement

To reconcile a legacy of exploitative and inequitable health research conduct on Indigenous peoples, it is important that this scoping review is conducted in a manner that supports health equity and strengthens research conduct on and for Indigenous peoples.^{36 43 44} We have therefore used the CONSolIDated critERia for strengthening the reporting of health research involving Indigenous Peoples (CONSIDER) statement⁴⁴ as a tool to critically appraise our methodology in relation to strengthening Indigenous research and reducing health inequities.⁴⁴ Here, we summarise key points from our critical appraisal under the CONSIDER statement framework, and have attached our full appraisal in online supplemental appendix A.

This scoping review is being conducted as part of the Manawataki: Fatu Fatu for Access for ACCESS (ACCESS Project), a research programme funded by two New Zealand national research agencies—the Heart Foundation and the National Science Challenge—Healthier Lives. Governance of the wider research programme sits with the two principal investigators, one of whom identifies as Māori. Governance of the project also includes two Māori stakeholder reference groups, one of which includes Māori consumers (people with lived or family experience of CVD), and the other which includes health workers providing care to Māori with CVD.

The objectives of this scoping review were developed by the protocol authors, based on both known gaps in empirical evidence and preliminary findings of qualitative interviews with Māori participants as part of the wider ACCESS research project. To the best of our knowledge, there are no known systematic reviews that explore the

barriers and facilitators to accessing CVD healthcare among rural Māori or other rural Indigenous peoples. A scoping review is therefore needed to identify the extent that literature is available, identify any gaps in the literature and to map available evidence related to the barriers and facilitators to CVD care access among rural Māori and rural Indigenous peoples in other nations.

This scoping review and the conduct of the wider ACCESS Project are underpinned by KMR methodology (described above). This review is led by an emerging Māori health researcher, who is supported by a well-established Māori health researcher (principal investigator of the ACCESS Project) and tauwi (non-Indigenous) health researchers who have significant experience in Māori health equity research.^{45 46} The wider ACCESS research team promotes Māori leadership and workforce development by supporting several Māori studentships and emerging Māori researchers. To ensure equity in access to our findings, we intend to publish our results in an open-access journal and on the ACCESS research website. Finally, there will be no resource demands placed on Indigenous communities as part of this scoping review as it will be based on information already in the public domain.

Stage 1: defining the research question

The protocol authors developed the research question for this scoping review in a collaborative manner. There were a number of considerations when defining parameters we were interested in, given the breadth and ambiguity of some concepts (eg, CVDs, healthcare services and Indigenous peoples).

Research question

What barriers and facilitators associated with accessing quality CVD healthcare for rural Indigenous peoples?

Objectives

This scoping review aims to identify and describe the extent of research available that investigates the barriers and facilitators associated with accessing quality CVD healthcare for rural Indigenous peoples. Specific objectives are:

- ▶ To identify the extent of research available.
- ▶ To map and summarise main findings related to the barriers and facilitators to accessing quality CVD healthcare in Māori and other rural Indigenous peoples.
- ▶ To identify and describe any gaps in the literature.
- ▶ To identify and describe how further research in this area can benefit healthcare access for rural Māori and other rural Indigenous peoples.

Stage 2: identifying relevant studies

Eligibility criteria

Publications will be selected according to the criteria described below.

Study design

We will include published original research studies irrespective of study type as well as a range of grey literature (described below). Both qualitative and quantitative studies will be included in this review, although it is anticipated that our findings are likely to be presented as qualitative data.

The following literature will be excluded:

- ▶ Texts that do not have a research question or report new data (eg, opinion pieces).
- ▶ Studies that do not focus on the outcomes described below.
- ▶ Studies for which the full text is not available.

Participants/population

The population of interest for this scoping review includes Māori and Indigenous peoples in other nations. Given that there is no internationally recognised standard definition of Indigenous peoples, we will instead use three definitions of 'Indigenous peoples' to describe the population of interest for this review. First, we will use two definitions from the United Nations. The first describes Indigenous peoples as 'inheritors and practitioners of unique cultures and ways of relating to people and the environment. They have retained social, cultural, economic, and political characteristics that are distinct from those of the dominant societies in which they live'.⁴⁷ Second, we use the United Nations Working Group on Indigenous Populations (2009) definition, which specifies four key factors when describing 'Indigeneity': (1) 'priority in time, with respect to the occupation and use of a specific territory'; (2) 'the voluntary perpetuation of cultural distinctiveness, which may include the aspects of language, social organisation, religion and spiritual values, modes of production, laws and institutions'; (3) 'self-identification, as well as recognition by other groups, or by State authorities, as a distinct collectivity'; and (4) 'an experience of subjugation, marginalisation, dispossession, exclusion or discrimination, whether or not these conditions persist'.⁴⁸ Lastly, we incorporate the 1989 International Labour Organisation's Indigenous and Tribal Peoples Convention Policy description, which describes Indigenous peoples as (a) 'tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations'; and (b) 'peoples in independent countries who are regarded as Indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonisation or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions'.⁴⁹ Based on these definitions, we will include literature from New Zealand, Australia, Canada and the USA. We will also focus our search on adults aged 18 years and older, as CVD is primarily a disease of adults.

We also will include literature focusing on the following CVD conditions⁵⁰:

- ▶ Atherosclerotic cardiovascular disease
- ▶ Heart failure
- ▶ Coronary heart disease
- ▶ Cerebral vascular disease
- ▶ Peripheral vascular disease
- ▶ Acute coronary syndrome
- ▶ Other chronic heart diseases
- ▶ Ischaemic stroke
- ▶ Transient ischaemic attack
- ▶ Other cerebrovascular diseases
- ▶ Myocardial infarction
- ▶ Unstable angina

Lastly, in the absence of a universal definition for 'rural' populations, we have not specified definitions for the term 'rural' or 'remote'. We will instead align our rurality inclusion criteria with Wilson *et al*⁵¹ methods by including literature that uses the terms 'rural' and 'remote' when describing their participants, target population or population of interest.⁵¹

Setting

Literature based in any care setting (including community, inpatient and outpatient settings) providing care to adults for CVD will be included.

Outcomes

The outcomes of this scoping review will include the following:

- ▶ Barriers to accessing care in rural Indigenous peoples living with CVD, reported by Indigenous peoples and health service providers.
- ▶ Facilitators to accessing care in rural Indigenous peoples living with CVD, reported by Indigenous peoples and health service providers.
- ▶ Reported gaps and limitations.

Time frame

We will include literature published between January 1990 and January 2022. This time frame was selected as the 1990s signified the start of significant structural changes to the health system in New Zealand and would allow us to identify any relevant literature pertaining to our research objectives.⁵²

Language

While we anticipate most of the literature will be reported in English, we will also consider publications reported in other languages. For publications not reported in English (eg, publications from Canada reported in French), we will attempt to locate an English version of the publication. If we are unable to source an English version of the publication, translation services will be sought.

Search strategy

We will search the following databases: MEDLINE (OVID), PubMed, Embase, SCOPUS, CINAHL Plus, Australia/New Zealand Reference Centre and NZResearch.org.

Table 1 Official governmental websites included in grey literature search

Country/organisation	Link
New Zealand	https://www.health.govt.nz/
Australia	https://www.health.gov.au/
Canada	https://www.canada.ca/en/health-canada.html
USA	https://www.usa.gov/health
Hawaii state	https://portal.ehawaii.gov/
WHO	https://www.who.int/

Literature search strategies will be tailored to individual databases (eg, using medical subject heading terms). The protocol authors iteratively developed search terms with support from subject librarians at the University of Auckland. A table of key search terms has been provided in online supplemental appendix B.

Grey literature

We will conduct a grey Literature search to promote a more comprehensive analysis, reduce publication bias and capture emerging research areas.⁵³ We will only include published reports from official government agencies, government-funded agencies, and nationally recognised charitable organisations and publications by the WHO. We will search official governmental websites of those nations included in our scoping review (see table 1) and carry out a Google search engine search using our search terms to locate grey literature that addresses any of the outcomes listed in this protocol. This approach maximises our chances of identifying relevant information by using overlapping approaches.⁵⁴ To focus on our results, we will limit Google search results to the first 30 items listed. Reports that address any of the outcomes described above will be shortlisted by and then independently reviewed by two reviewers. To ensure an appropriate level of rigour in our approach, we will assess grey literature using the Authority, Accuracy, Coverage, Objectivity, Date, Significance (ACCORDS) checklist for critically evaluating grey literature, developed by Flinders University.⁵⁵

Stage 3: study selection

A summary of our process for identifying relevant sources of evidence is provided in figure 1. First, the lead protocol author will conduct an electronic search based on the search strategy. Once the search has been completed

and duplicates have been removed, two of the protocol authors will screen titles and abstracts based on eligibility criteria. A full-text review will then be conducted by two of the protocol authors on the remaining list of publications. Once the full-text review has been completed, the remaining list of publications will be finalised, and data will then be charted. Any disagreements throughout the screening process will be resolved via discussion with the aim to reach a consensus. A member of the wider ACCESS Project will be available to mediate and resolve any disagreements where a consensus is unable to be reached. Literature search results will be managed through EndNote and Microsoft Excel.

Stage 4: data extraction and charting

Data charting

The protocol authors will determine the appropriate variables for data extraction. A standardised data form will be created. The lead protocol author will perform the data charting process and then discuss the analysis and summary of findings with the other protocol authors.

Data items

Where available, the following data will be extracted from each eligible citation:

1. General information
2. Author
3. Article title
4. Year
5. Country
6. Study characteristics
7. Aims/objectives of study
8. Study design/type
9. Study inclusion/exclusion criteria
10. Recruitment procedures and sample size
11. Participant characteristics
12. Sample size
13. Ethnicity
14. Study outcome(s) listed in this protocol.

Stage 5: collating, summarising and reporting findings

In this review stage, we will collate and present an overview of all materials included in our review.³⁵ Given that Kaupapa Māori methodology underpins this study, we will use the New Zealand Ministry of Health's Te Tiriti o Waitangi (Treaty of Waitangi) Framework principles to summarise and construct a narrative of existing literature available.^{20 35} As this is a scoping review of international

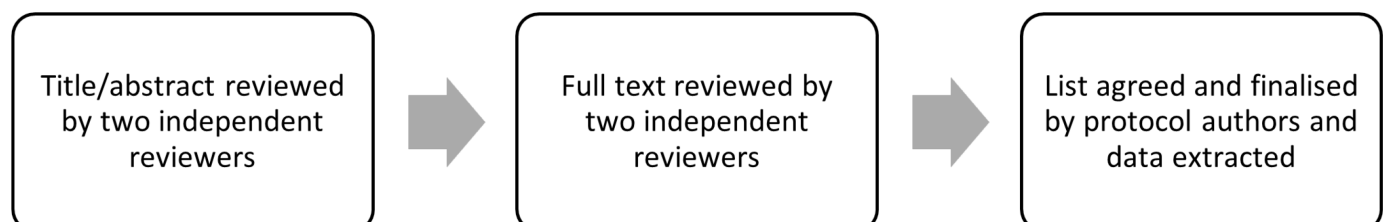


Figure 1 Process for study selection.

Tino rangatiratanga (self-determination)	The guarantee of tino rangatiratanga (self-determination), which provides for Indigenous Peoples self-determination in the design, delivery, and monitoring of health and disability services.
Equity	The principle of equity, which requires the Healthcare System to commit to achieving equitable health outcomes for Indigenous Peoples.
Active protection	The principle of active protection, which requires the Healthcare System to act, to the fullest extent practicable, to achieve equitable health outcomes for Indigenous Peoples. This includes ensuring that it, its agents, and Indigenous Peoples are well informed on the extent, and nature, of both Indigenous health outcomes and efforts to achieve health equity for Indigenous Peoples.
Options	The principle of options, which requires the Healthcare System to provide for and properly resource Indigenous health and disability services. Furthermore, the Crown is obliged to ensure that all health and disability services are provided in a culturally appropriate way that recognises and supports the expression of Indigenous models of care.
Partnership	The principle of partnership, which requires the Healthcare System and Indigenous Peoples to work in partnership in the governance, design, delivery, and monitoring of health and disability services. Indigenous Peoples must be co-designers, with the Healthcare System.

Figure 2 Te Tiriti o Waitangi Framework principles.

literature, a generic framework of Indigenous healthcare access for presenting the results was considered. However, the indigenous frameworks identified in our search were not generic and were specific to a single nation and its Indigenous peoples.^{24 56–59} Further Indigenous critique of other potential conceptual frameworks identified gaps, which are addressed in Te Tiriti o Waitangi Framework (ie, equity in funding).⁶⁰ These principles have been reframed with careful consideration of the statements within the United Nations Declaration on the Rights of Indigenous Peoples.²² The principles of Te Tiriti o Waitangi are summarised in [figure 2](#). Our findings will be reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews checklist.^{36 61}

Critical appraisal using the CONSIDER statement

Scoping reviews do not require the appraisal or synthesis of the review findings.^{35 62} However, given that our review is underpinned by KMR methodology, we will appraise the literature using the CONSIDER statement⁴⁴ and include commentary in our scoping review findings report.⁴⁴

Stage 6: consultation

Patient and public involvement

Governance of the wider ACCESS Project includes two Māori stakeholder reference groups, one of which includes Māori consumers (people with lived or family experience of CVD), and the other which includes health workers providing care to Māori with CVD. More information regarding patient and public involvement can be found in online supplemental appendix A.

Consultation

Consultation involving practitioners and consumers is optional but recommended in Arksey and O'Malley's methodological framework for scoping reviews.³⁵ The research aims of this scoping review were informed by both empirical evidence and preliminary findings of qualitative interviews with Māori healthcare consumers living with CVD, conducted as part of the wider ACCESS qualitative study. We will disseminate the methods and findings of this scoping review to the ACCESS Māori stakeholder groups, who will be asked to provide feedback. We will incorporate all stakeholder feedback, where practicable.

ETHICS AND DISSEMINATION

Ethical approval will not be sought for this scoping review, as it will only include publicly accessible publications. We intend to publish the results of this scoping review in an open-access peer-reviewed journal and will also make our findings available to the public on the ACCESS research website. This protocol has been registered on Open Science Framework (DOI:10.17605/osf.io/xruhy).

Contributors TT is leading protocol development, the search strategy, collection of papers, analysis and drafting the thesis chapter. VS, KE and MH are guarantors for the review and analysis. All authors will contribute to the overall design of the scoping review, development of the selection criteria, eligibility criteria, data extraction criteria, and will read, provide feedback, and approve the final manuscript.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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REFERENCES

- Riddell T, Jackson RT, Wells S. Assessing Māori/non-Māori differences in cardiovascular disease risk and risk management in routine primary care practice using web-based clinical decision support:(PREDICT CVD-2). *The New Zealand Medical Journal* 2007;120.
- Grey C, Wells L, Riddell T. A comparative analysis of the cardiovascular disease risk factor profiles of Pacific peoples and Europeans living in New Zealand assessed in routine primary care: predict CVD-11, 2010.
- Cameron VA, Faatoese AF, Gillies MW, et al. A cohort study comparing cardiovascular risk factors in rural Maori, urban Maori and non-Maori communities in New Zealand. *BMJ Open* 2012;2:e000799.
- Walsh M, Grey C. The contribution of avoidable mortality to the life expectancy gap in Māori and Pacific populations in new Zealand—a decomposition analysis. *NZ Med J* 2019;132:46–60.
- Ministry of Health.. *Health loss in New Zealand: a report from the New Zealand burden of diseases, injuries and risk factors study, 2006–2016*. Wellington: Ministry of Health, 2016.
- Zealand SN. Growth in life expectancy slows, 2021. Available: <https://www.stats.govt.nz/news/growth-in-life-expectancy-slows>
- Breathett K, Sims M, Gross M, et al. Cardiovascular health in American Indians and Alaska natives: a scientific statement from the American heart association. *Circulation* 2020;141:e948–e959.
- Aluli NE, Reyes PW, Brady SK, et al. All-Cause and CVD mortality in native Hawaiians. *Diabetes Res Clin Pract* 2010;89:65–71.
- Okwuosa IS, Lewsey SC, Adesiyun T, et al. Worldwide disparities in cardiovascular disease: challenges and solutions. *Int J Cardiol* 2016;202:433–40.
- Durey A, Thompson SC. Reducing the health disparities of Indigenous Australians: time to change focus. *BMC Health Serv Res* 2012;12:151.
- Reading J. Confronting the growing crisis of cardiovascular disease and heart health among Aboriginal peoples in Canada. *Can J Cardiol* 2015;31:1077–80.
- Hutchinson RN, Shin S. Systematic review of health disparities for cardiovascular diseases and associated factors among American Indian and Alaska native populations. *PLoS One* 2014;9:e80973.
- Paradies Y. Colonisation, racism and Indigenous health. *J Pop Research* 2016.
- Wirihana R, Smith C. Historical trauma, healing and well-being in Māori communities. *Mai Journal* 2014:198–210.
- Kritharides L, Brown A, Brieger D, et al. Overview and determinants of cardiovascular disease in Indigenous populations. *Heart Lung Circ* 2010;19:337–43.
- Lewis ME, Volpert-Esmond HI, Deen JF, et al. Stress and cardiometabolic disease risk for Indigenous populations throughout the lifespan. *Int J Environ Res Public Health* 2021;18:18.
- Came H, Herbert S, McCreanor T. Representations of Māori in colonial health policy in Aotearoa from 2006–2016: a barrier to the pursuit of health equity. *Critical Public Health* 2019.
- Tribunal W. The Treaty of Waitangi/Te Tiriti O Waitangi. *Justicegovt.nz* 2016.
- Ministry of health. *New Zealand public health and disability act 2000*. Wellington: Ministry of health, 2021.
- Ministry of Health. *Te Tiriti O Waitangi*. Wellington: Ministry of health, 2020. <https://www.health.govt.nz/our-work/populations/maori-health/te-tiriti-o-waitangi>
- Reid P, Robson B. Understanding Health Inequities. In: *State of the M ori nation: twenty-first century issues in Aotearoa*. Auckland: Reed, 2006: 1–10.
- United Nations. *United nations Declaration on the rights of Indigenous peoples*, 2007.
- Lilley R, de Graaf B, Kool B, et al. Geographical and population disparities in timely access to prehospital and advanced level emergency care in New Zealand: a cross-sectional study. *BMJ Open* 2019;9:e026026.
- Ministry of health. *Equity of health care for Māori: a framework*. Wellington, 2014.
- Ministry of Health. *Population of Northland dhb*, 2021.
- Northland Regional Council. Population. In: *Council NR*. Northland Regional Council, 2011.
- Atkinson J, Crampton P, Salmond C. NZDep2018 Analysis of census 2018 variables - DHB01: Northland. New Zealand Deprivation Index 2018. *University of Otago* 2021.
- National Health Committee.. *Rural health*. Wellington: National Health Committee, 2010.
- Marrone S. Understanding barriers to health care: a review of disparities in health care services among Indigenous populations. *Int J Circumpolar Health* 2007;66:188–98.
- Jaffer S, Foulds HJA, Parry M, et al. The Canadian women's heart health alliance atlas on the epidemiology, diagnosis, and management of cardiovascular disease in Women-Chapter 2: scope of the problem. *CJC Open* 2021;3:1–11.
- Valeggia CR, Snodgrass JJ. Health of Indigenous peoples. *Annu Rev Anthropol* 2015;44:117–35.
- Munn Z, Peters MDJ, Stern C, et al. Systematic review or scoping review? guidance for authors when choosing between a systematic or scoping review approach. *BMC Med Res Methodol* 2018;18.
- Gracey M, King M. Indigenous health Part 1: determinants and disease patterns. *Lancet* 2009;374:65–75.
- Bowden VR, Purper C. Types of reviews – Part 3: literature review, integrative review, scoping review. *Pediatric Nursing* 2022;48:97–100.
- Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
- Smith LT. *Decolonizing Methodologies : Research and Indigenous Peoples*. London, United Kingdom: Bloomsbury Academic & Professional, 2012.
- Mahuika R. *Kaupapa Māori theory is critical and anti-colonial*. MAI Review, 2008: 1–16.
- Curtis E. *Indigenous positioning in health research: the importance of Kaupapa Maori theory-informed practice*. SAGE Publications, 2016.



- 39 Pihama L, Cram F, Walker S. Creating methodological space: a literature review of Kaupapa Māori research. *Canadian Journal of Native Education* 2002;26:30–43.
- 40 Walker S, Eketone A, Gibbs A. An exploration of kaupapa Maori research, its principles, processes and applications. *Int J Soc Res Methodol* 2006;9:331–44.
- 41 Reid P, Paine S-J, Curtis E. Achieving health equity in Aotearoa: strengthening responsiveness to Māori in health research. *NZMJ*. 2017;96–103.
- 42 Lee J. Decolonising Māori narratives: Pūrākau as a method. *MAI Review* 2009;2.
- 43 Cochran PAL, Marshall CA, Garcia-Downing C, et al. Indigenous ways of knowing: implications for participatory research and community. *Am J Public Health* 2008;98:22–7.
- 44 Huria T, Palmer SC, Pitama S, et al. Consolidated criteria for strengthening reporting of health research involving Indigenous peoples: the consider statement. *BMC Med Res Methodol* 2019;19:173.
- 45 Eggleton K, Anderson A, Harwood M. *The whitewashing of contracts: unpacking the discourse within Māori health provider contracts in Aotearoa/New Zealand*. Health and Social Care in the Community, 2021: 1–8.
- 46 Selak V, Rahiri J-L, Jackson R, J-I R, Harwood M, et al. Acknowledging and acting on racism in the health sector in Aotearoa New Zealand. *N Z Med J* 2020;133:7–13.
- 47 Affairs UNDoEaS. *Indigenous peoples at the un*, 2022.
- 48 Guidelines on indigenous peoples' issues. *New York and Geneva: United nations*, 2009.
- 49 C169 - Indigenous and Tribal Peoples Convention, 1989 (No. 169). *Geneva: international labour organisation*, 1989.
- 50 The University of Auckland.. Cardiovascular Disease Definitions (Latest) - Originally created by Billy Wu, 2021. Available: <https://wiki.auckland.ac.nz/pages/viewpage.action?pageId=153562344>
- 51 Wilson NW, Couper ID, De Vries E, et al. A critical review of interventions to redress the inequitable distribution of healthcare professionals to rural and remote areas. *Rural Remote Health* 2009;9:1060.
- 52 Ashton T. Recent developments in the funding and organisation of the New Zealand health system. *Aust New Zealand Health Policy* 2009;2:9.
- 53 Paez A. Gray literature: an important resource in systematic reviews. *J Evid Based Med* 2017;10:233–40.
- 54 Adams J, Hillier-Brown FC, Moore HJ, et al. Searching and synthesising 'grey literature' and 'grey information' in public health: critical reflections on three case studies. *Syst Rev* 2016;5:164.
- 55 Tyndall J. *The AACODS checklist*. Adelaide: Flinders University, 2010.
- 56 Ongomiizwin Indigenous Institute of Health and Healing, Innovation FYCfH. *Indigenous healthcare quality framework*, 2022.
- 57 Reading C, Wien F. Health Inequalities and Social Determinants of Aboriginal People's Health. *National Collaborating Centre for Aboriginal Health* 2009.
- 58 The Royal Australasian College of Physicians. Medical specialist access framework: the Royal Australasian College of physicians, 2022. Available: <https://www.racp.edu.au/advocacy/policy-and-advocacy-priorities/medical-specialist-access-framework/overview>
- 59 Ministry of health. *Equity of health care for Māori: a framework*. Wellington: Ministry of health, 2014.
- 60 Davy C, Harfield S, McArthur A, et al. Access to primary health care services for Indigenous peoples: a framework synthesis. *Int J Equity Health* 2016;15:163.
- 61 Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
- 62 Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implementation Sci* 2010;5:1–9.

Appendix A. CONSIDER STATEMENT (2019)

Governance

This scoping review has been conducted as part of the Manawataki: Fatu Fatu for Access for ACCESS (ACCESS Project), a research programme funded by two New Zealand national research agencies - the Heart Foundation and the National Science Challenge – Healthier Lives. Governance of the wider research programme sits with the two principal investigators, one of whom identifies as Māori. Governance of the project also includes two Māori stakeholder reference groups, one of which includes Māori consumers (people with lived or family experience of CVD), and the other which includes health workers providing care to Māori with CVD.

Our approach to dissemination is underpinned by our foundational value of ‘Manu or Action-drive research’, which states that our research hopes to build on the gaps identified to advocated for equity. To support equitable access to any new knowledge generated, we will publish our results in an open access journal, and on our study website. We do not anticipate that this review will generate intellectual property with any commercial potential. Any intellectual property that is generated as a result of this scoping review will remain with the research team.

Prioritisation

Despite the significant disease burden and known inequities in CVD prevalence, morbidity, mortality, and access to proven treatments for Māori, little is known what barriers and facilitators influence access to CVD care for rural Māori. The aim of this scoping review is to identify and describe the extent of research available that explores the barriers and facilitators associated with accessing quality CVD healthcare for rural Indigenous Peoples. The research aims were developed by the protocol authors and are based on both empirical evidence and preliminary findings of qualitative interviews with whānau Māori living with CVD that were conducted as part of the wider ACCESS qualitative study. To the best of our knowledge, there are no known systematic reviews that explore the barriers and facilitators to accessing CVD care among rural Indigenous Peoples. A scoping review is therefore needed to identify the extent that literature is available, identify any gaps in the literature and to map available evidence.

The research team promotes Māori leadership and workforce development by recruiting and supporting Māori health researchers (including the lead author TT). This scoping review and the wider ACCESS project also uses a critical theory lens to avoid any deficit-framing or victim-blame analyses (37, 40).

Relationships (Indigenous stakeholders/participants and Research team)

Formal ethical approval is not required for this scoping review. This review and the wider research programme is underpinned by Kaupapa Māori Research methodology and indigenous ethical principles. This means that our research privileges and promotes Māori leadership, centres Māori health equity, practices safe data sampling, utilises Kaupapa Māori practices where appropriate, provides a critical theory lens to avoid victim-blame analyses, and supports Māori workforce development.

The authors of this protocol and research team for this scoping review is comprised of two Māori researchers (TT & MH) and two tauwiwi (non-indigenous) researcher (VS & KE). TT is a population health doctoral candidate with experience conducting Kaupapa Māori research related to long term conditions. MH is an established and well-respected Kaupapa Māori researcher and General Practitioner. VS is an

epidemiologist and public health physician with expertise in research associated with health inequities in CVD and supporting Māori and Pacific-led research on this topic. KE is Associate Dean Rural Health in the Faculty of Medical and Health Sciences at the University of Auckland and has extensive experience in rural health, health equity, access issues and participatory action research. The research team jointly conceived the research question and design of this scoping review.

Methodologies

This scoping review and the conduct of the wider ACCESS project is underpinned by Kaupapa Māori Research methodology. The methods and analysis of this scoping review is also guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) (47).

Participation

There are no participant requirements as part of this literature review as we will be investigating publicly available information.

Capacity

This research is supporting TT (a Māori doctoral candidate) by way of funding and supervision support.

Dissemination

The research will be published in a peer-reviewed journal and available on the ACCESS project website. We may also present the findings to community stakeholders, at conferences, and on other online platforms. This scoping review will contribute to the overarching goal of the ACCESS project, which aims to Quality-Improvement Equity Roadmap to inform the development of an action plan for interventions to reduce barriers to Māori and Pacific peoples accessing evidence-based CVD care.

Appendix B. Search Terms

Key Concept	Search Terms
Cardiovascular diseases	("cardiovascular diseases"[Title/Abstract]) OR ("atherosclerotic cardiovascular disease"[Title/Abstract]) OR ("atherosclerosis"[Title/Abstract]) OR ("heart failure"[Title/Abstract]) OR ("heart disease*"[Title/Abstract]) OR ("coronary heart disease"[Title/Abstract]) OR ("coronary disease*"[Title/Abstract]) OR ("cerebral vascular disease"[Title/Abstract]) OR ("cerebrovascular disorders"[Title/Abstract]) OR ("peripheral vascular disease*"[Title/Abstract]) OR ("acute coronary syndrome"[Title/Abstract]) OR ("acute coronary syndrome"[Title/Abstract]) OR ("other chronic heart disease*"[Title/Abstract]) OR ("ischemic stroke"[Title/Abstract]) OR ("Ischemic stroke"[Title/Abstract]) OR ("transient ischemic attack"[Title/Abstract]) OR ("ischemic attack, transient"[Title/Abstract]) OR ("other cerebrovascular disease*"[Title/Abstract]) OR ("myocardial infarction"[Title/Abstract]) OR ("myocardial ischemia"[Title/Abstract]) OR ("unstable angina"[Title/Abstract]) OR ("angina, unstable"[Title/Abstract])
	AND
Barriers and facilitators to accessing care	("access"[Title/Abstract]) OR ("health care quality, access, and evaluation"[Title/Abstract]) OR ("barrier*"[Title/Abstract]) OR ("care"[Title/Abstract]) OR ("health services administration"[Title/Abstract]) OR ("disease management"[Title/Abstract]) OR ("ambulatory"[Title/Abstract]) OR ("hospital care"[Title/Abstract]) OR ("health service*"[Title/Abstract]) OR ("primary health care"[Title/Abstract]) OR ("intervention"[Title/Abstract]) OR ("community health services"[Title/Abstract]) OR ("facilitator*"[Title/Abstract]) OR ("experience*"[Title/Abstract]) OR ("issues"[Title/Abstract]) OR ("engagement"[Title/Abstract]) OR ("patient care management"[Title/Abstract]) OR ("delivery of health care"[Title/Abstract]) OR ("community participation"[Title/Abstract]) OR (affordab*[Title/Abstract]) OR (acceptab*[Title/Abstract]) OR ("appropriat*"[Title/Abstract]) OR ("availab*"[Title/Abstract]) OR ("factor*"[Title/Abstract])
	AND
Rurality	("rural"[Title/Abstract]) OR (rural population[Title/Abstract]) OR ("rural health"[Title/Abstract]) OR ("rural health service*"[Title/Abstract]) OR ("remote"[Title/Abstract]) OR ("outreach"[Title/Abstract]) OR ("health transition"[Title/Abstract])
	AND
Indigenous Peoples	("indigenous peoples"[Title/Abstract]) OR ("maori"[Title/Abstract]) OR ("aborigin*"[Title/Abstract]) OR ("indigenous"[Title/Abstract]) OR ("native American"[Title/Abstract]) OR ("first nation"[Title/Abstract]) OR (oceanic ancestry group[MeSH Terms]) OR (american native continental ancestry group[MeSH Terms]) OR ("torres strait islander"[Title/Abstract]) OR ("inuit"[Title/Abstract]) OR ("american Indian"[Title/Abstract])

SCOPUS Search Example

(ABS ("cardiovascular disease") OR ABS ("atherosclerotic cardiovascular disease") OR ABS ("atherosclerosis") OR ABS ("heart failure") OR ABS ("heart disease") OR ABS ("coronary heart disease") OR ABS ("coronary disease") OR ABS ("cerebrovascular disorders") OR ABS ("peripheral vascular disease") OR ABS ("acute coronary syndrome") OR ABS ("isch!emic stroke") OR ABS ("transient heart attack") OR ABS ("myocardial infarction") OR ABS ("unstable angina") AND ABS (indigenous) OR ABS (aborigin*) OR ABS (maori) OR ABS ("native american") OR ABS ("first nation") OR ABS ("torres strait islander") OR ABS (inuit) OR ABS ("american Indian")

) AND ABS (rural) OR ABS (remote) AND ABS (barrier*) OR ABS (factor*) OR ABS (facilitator*) OR ABS (access) OR ABS (experience*) OR ABS (affordab*) OR ABS (engagement))