Received: 16 January 2024 | Revised: 18 June 2024 | Accepted: 5 July 2024
DOI: 10.1111/acem.14987

Academic Emergency Medicine

ORIGINAL ARTICLE

Interventions to improve equity in emergency departments for Indigenous people: A scoping review

Davis MacLean MD, MPH[1] | **Kimberley D. Curtin PhD**[2] | **Cheryl Barnabe MD, MSc**[1,3] | **Lea Bill**[4] | **Bonnie Healy**[5] | **Brian R. Holroyd MD, MBA**[2,6] | **Jaspreet K. Khangura MD, MSc**[2] | **Patrick McLane PhD**[2,6]

[1]Department of Medicine, Health Sciences Centre, University of Calgary, Calgary, Alberta, Canada
[2]Department of Emergency Medicine, University of Alberta, Edmonton, Alberta, Canada
[3]Department of Community Health Sciences, Health Sciences Centre, University of Calgary, Calgary, Alberta, Canada
[4]Alberta First Nations Information Governance Centre, Calgary, Alberta, Canada
[5]Blackfoot Confederacy Tribal Council, Standoff, Alberta, Canada
[6]Strategic Clinical Networks, Alberta Health Services, Edmonton, Alberta, Canada

Correspondence
Patrick McLane, Department of Emergency Medicine, University of Alberta, 790 University Terrace Building, 8303 - 112 Street, Edmonton AB T6G 2T4, Canada.
Email: mclane@ualberta.ca

Funding information
Alberta Health Services

Abstract

Background: Disparities in health outcomes, including increased chronic disease prevalence and decreased life expectancy for Indigenous people, have been shown across settings affected by white settler colonialism including Canada, the United States, Australia, and New Zealand. Emergency departments (EDs) represent a unique setting in which urgent patient need and provider strain interact to amplify inequities within society. The aim of this scoping review was to map the ED-based interventions aimed at improving equity in care for Indigenous patients in EDs.

Methods: This scoping review was conducted using the procedures outlined by Arksey and O'Malley and guidance on conducting scoping reviews from the Joanna Briggs Institute. A systematic search of MEDLINE, CINAHL, SCOPUS, and EMBASE was conducted.

Results: A total of 3636 articles were screened by title and abstract, of which 32 were screened in full-text review and nine articles describing seven interventions were included in this review. Three intervention approaches were identified: the introduction of novel clinical roles, implementation of chronic disease screening programs in EDs, and systems/organizational-level interventions.

Conclusions: Relatively few interventions for improving equity in care were identified. We found that a minority of interventions are aimed at creating organizational-level change and suggest that future interventions could benefit from targeting system-level changes as opposed to or in addition to incorporating new roles in EDs.

INTRODUCTION

Disparities in health outcomes for Indigenous people exist in territories occupied by White settler states including Canada,[1–4] the United States,[2,4,5] Australia,[2,4,6] and New Zealand.[2,4,6] For example, in the United States, Indigenous people are disproportionately affected by chronic disease[7,8] and have a life expectancy at least 12 years shorter than that of White Americans.[5] More concerning are reports that life expectancies for Indigenous people are declining at a disproportionate rate compared to other

Supervising Editor: Jody A. Vogel

groups. For example in Alberta, Canada, the life expectancy for First Nations people decreased from 71 years of age in 2017 to 63 in 2021 where in that same period life expectancy of non–First Nations people only decreased by 1 year,[9] with similar trends also being reported in the United States.[10] Colonialism, defined here as "the processes by which Indigenous Peoples were [and are] dispossessed of their lands and resources, subjected to external control, and targeted for assimilation and, in some cases, extermination,"[11,12] is directly linked to these health disparities[1,13–15] as well as downstream, cascading negative effects on other social determinants of health.

Health systems and structures of care were established on colonial institutional practices and policies.[16–18] Some impacts, such as the lack of appropriate and timely access to primary care,[19–22] reflect inaction in implementing evidence-based care approaches. Others reflect overt racism within health care settings.[13,23,24] Emergency departments (ED) represent a unique setting in which urgent patient need and provider strain interact to amplify societal inequities. In American, Canadian, Australian, and New Zealand EDs, Indigenous patients experience organizational-level[11,25–29] and interpersonal[11,26] racism as well as differential decisions in the triage process.[30] Several calls to action from governments, health systems, and national medical organizations have been generated to address the inequities experienced by Indigenous people in EDs and health care as a whole[31–36] but still lack in implementation and evaluation of change.

Using scoping review methodology, we aimed to identify and describe interventions implemented in EDs, and their theoretical foundations and methods, to reduce inequities in care experienced by Indigenous patients. This information was identified as relevant to inform future interventions as well as identify gaps in interventions to improve equity for Indigenous patients in emergency care. Of note, we have chosen not to include interventions solely focused on education within EDs as we understand racism and colonialism as systemic issues requiring multilevel solutions, such that educating providers without changing the context in which they practice is unlikely to create sustainable improvements in equity-oriented care.[37,38] While interpersonal-level interventions likely result in improvements in health outcomes for some patients, our theoretical perspective is that individual behaviors are unlikely to impact broader systems and population health equity issues.[39] Previous work has examined structural/system-level interventions in health care and highlighted their potential value over interpersonal level interventions (i.e., education initiatives), but not relative to equity in care for Indigenous patients.[40]

In this review we will use the term Indigenous to refer to groups of Indigenous people of Canada (First Nations, Inuit, and Métis), the United States (American Indians, Alaskan Natives, and Pacific Islanders), Australia (Aboriginal and Torres Strait Island [ATSI]), and New Zealand (Māori). While acknowledging the unique experience and knowledge both among and within these Indigenous groups, we recognize them as the original inhabitants of territories, who assert preexisting political rights and nationhood in the context of colonialism.[41,42]

METHODS

This scoping review was conducted using the procedures outlined by Arksey and O'Malley[43] and the more recent guidance on conducting scoping reviews from the Joanna Briggs Institute.[44,45] We included the following five steps: identifying the research question, identifying relevant studies, selecting the studies, extracting and charting data, and reporting results.[43] This review established an a priori methodology to ensure reliability of findings[45] while allowing for modifications to be made to inclusion and exclusion criteria as the research team developed further familiarity with the literature.[43] A protocol was created in advance of article screening but was not formally registered. The PRISMA-ScR[46] reporting guideline was followed and the checklist is included in Supplement A.

Research question

This review is guided by the following question: *What interventions or programs have been implemented in white settler countries (Canada, United States, Australia, and New Zealand) to address inequities experienced by Indigenous people in ED's?* This research question was broad while offering a clearly articulated scope of inquiry to meet review objectives.[45,47]

Eligibility criteria

Initial inclusion criteria were developed using the population, concept, and context approach.[43–45] As the research team developed further familiarity with the literature, inclusion and exclusion criteria were modified as described by Arksey and O'Malley.[43] Final inclusion and exclusion criteria are listed in Table 1.

Identifying studies

A search strategy including search terms and strings was developed with an information specialist librarian at the University of Victoria, drawing on search terms and strings created by information specialists at the University of Alberta for the purpose of systematic topic searches. The following databases were searched with no date restrictions for peer review literature: MEDLINE, CINAHL, SCOPUS, and EMBASE. This search was initially done on February 20, 2023, and results were imported to the COVIDENCE web application for title and abstract screening. This search was repeated on October 19, 2023, to assess for any eligible studies published since February 2023. The search strings used were extensive and crafted individually by database (see Supplement B). Reference lists of included studies were also reviewed for relevant studies (see Figure 1 [PRISMA diagram] for further details).

TABLE 1 Inclusion and exclusion criteria.

Inclusion	Exclusion
Intervention, implementation, policy, or program is designed to improve care for Indigenous populations as a focus group, identified prior to implementation	Guidelines, recommendations/best practice statements without implementation of specific intervention or program
Intervention, implementation, policy, or program must at least in part be implemented in an ED in Canada, United States, Australia, or New Zealand	Educational initiatives (including cultural safety training; equity, diversity, and inclusion training; medical education curriculum development)
Published any time prior to October 19, 2023	Editorials, opinion pieces, lay summaries, brief reports
	Interventions solely focused on education within EDs

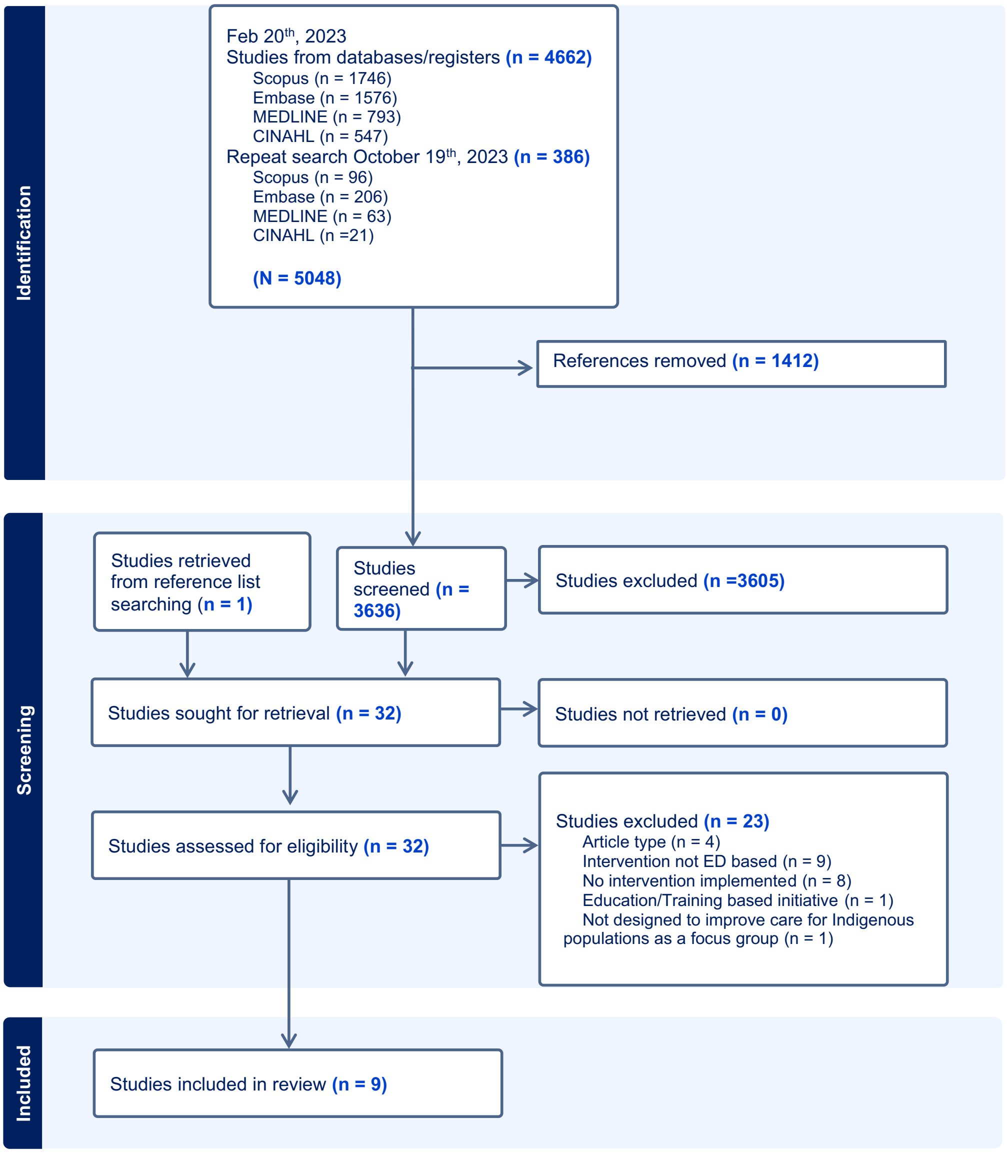

FIGURE 1 PRISMA diagram of studies included.

Study selection

Title and abstract screening were completed in duplicate for the first 200 entries by authors D.M. and K.C. using the online application Covidence.[48] The remainder of title and abstract screening was completed by D.M. Full-text reviews were completed by D.M. and meetings were held between D.M, K.C., and P.M. to discuss inclusion and exclusion as ambiguous cases arose.

Data extraction

Data extraction was performed in duplicate by D.M. and K.C. for the first two included studies to refine extraction criteria,[43,45] and the remainder of extraction was completed by D.M. Extracted information included location, population, intervention type, intervention details, underlying theoretical frameworks, the use of Indigenous methods, and other information related to intervention development and implementation.

Analysis and synthesis of results

Study team members (D.M., K.C., P.M.) met regularly to discuss identified articles and relevant themes and insights that emerged from the included studies, prior to review and discussion with the wider team. Further meetings were held with the broader team to discuss and refine findings and interpretation.

RESULTS

Figure 1 outlines the results of our search and screening. The original search yielded 4662 studies and the repeat search (October 2023) retrieved 386 results; in total 1412 of these were identified as duplicates and removed. The remaining 3636 articles were screened by title and abstract, of which 32 were included in the full-text review. Following the initial (200 article) title and abstract screening there was disagreement on inclusion of two (1%) articles. These cases were discussed and agreement was reached to exclude the articles based on article type (i.e., published conference abstract). Following full-text review reference lists of included studies identified one additional article suitable for full-text review, which was a protocol paper[49] related to the intervention described by Hatcher et al.[50] From the 32 articles selected for full-text review, nine were included for data extraction. Articles were most often excluded because they did not implement an intervention or the intervention being implemented was exclusively implemented outside the ED (17/32). In total, we included nine articles describing seven unique interventions. Table 2 summarizes the characteristics of all included interventions. Table 3 presents a summary of data extracted related to Indigenous methods, engagement with Indigenous partners, and intervention goals of included interventions.

Study characteristics

Of the seven included interventions (nine included articles), four took place in Australia and one in each of Canada, New Zealand, and the United States. All interventions were focused uniquely on Indigenous population groups and all but one relied on patient self-identification to determine patient race, with the exception being a diabetes screening program implemented by Anderson et al.[51] The number of patients reported in the interventions ranged from 18[50] to 924[52] with a mean of 295 patients. No participant sample size was reported for the quality improvement study described by Gadsden et al.[53] Interventions ranged from 3 to 18 months in duration and for many interventions it is unclear if components of the intervention were sustained at the end of study.

Intervention type, scope, and effect

We have grouped the seven interventions into three broad categories: novel clinical roles,[50,54] chronic disease screening programs,[51,52] and systems/organizational level interventions.[32,45,48]

Novel clinical roles

There were two studies which introduced novel clinical roles. One study described the implementation of an Aboriginal mental health liaison officer (AMHLO) based out of an inpatient unit providing support for ATSI ED patients as needed. This AMHLO role was described as facilitating access and smooth transitions from the ED to inpatient or outpatient services and also providing cultural brokerage/interpretation in cases of cultural mismatch between patient needs and health service delivery.[54] Based on qualitative interviews, the AMHLO role was able to positively impact the lives of Aboriginal people who were engaging with mental health services by facilitating cultural understanding and communicating the patients' cultural needs to health professionals.[54]

The second study described Māori care providers providing culturally appropriate and enhanced services beyond "standard ED practices" for Māori patients presenting to the ED due to intentional self-harm.[50] In this intervention enhanced services included increased support via in-person/telephone follow-up, follow-up problem solving therapy sessions, "vouchers" to facilitate access to primary care, and cultural assessments, among other enhanced services.[50] This intervention reported by Hatcher et al.[50] found that patients receiving the intervention compared to standard treatment had a decrease in hopelessness (assessed via questionnaire) and self-harm related return visits at 3 months, although this was not sustained at 1 year.[50]

Chronic disease screening

Two studies examined chronic disease screening interventions. One study evaluated a targeted ED-based screening program for

TABLE 2 Summary of relevant information from included interventions.

	Abbreviated reference	Country	Study design	Study population and duration	Intervention description
Novel clinical roles	Hatcher et al. Te Ira Tangata: a Zelen randomised controlled trial of a culturally informed treatment compared to treatment as usual in Māori who present to hospital after self-harm[47] Hatcher et al. Te Ira Tangata: a Zelen randomised controlled trial of a treatment package including problem solving therapy compared to treatment as usual in Maori who present to hospital after self-harm[46]	New Zealand	Randomized control trial	Māori patients who presented to a single ED with self-harm over a 15-month period (n =95)	Implementation of a package of interventions delivered in a culturally appropriate way to care for Māori patients presenting to EDs with self-harm. The study team introduced a study team member to the ED to facilitate one on one patient support for 2 weeks to facilitate outpatient management plans and resources, access to four to six session of "problem-solving therapy," risk management strategies, "voucher" for covered general practitioner visits and facilitated connection with Māori cultural services and therapists.
Chronic disease screening	McKenna et al. "Cultural brokerage" and beyond: piloting the role of an urban Aboriginal mental health liaison officer[54]	Australia	Qualitative study	n = 37 aboriginal patients received care from an AMHLO over a 9-month period; n = 18 of the patients were referred from the ED and seen in the ED	Introduction of a 0.8 full-time equivalent position, the AMHLO. The AMHLO was based out of a single inpatient mental health unit though also provided support for ED patients on a referral basis.
	Prince et al. Screening emergency admissions at risk of chronic hepatitis C (SEARCH) to diagnose or "re-diagnose" infections is effective in Australia[52]	Australia	Observational study	Screening protocol included all patients who were born outside of Australia or who self-identified in the ED as being ATSI; n = 5000 patients were screened over the course of the 18-month study, of which n = 222 were ATSI	Implementation of a screening protocol to examine the effectiveness of a novel automated screening process in diagnosing chronic hepatitis C in ATSI (and overseas-born) patients. Patients who screened positive for hepatitis C were subsequently referred to a hepatitis care team.
	Anderson et al. Nontargeted diabetes screening in a Navajo Nation emergency department[52]	United States	Observational study	Any patient presenting to a rural "Indian health service" ED in Shiprock, New Mexico; n = 924 patients were screened over a 3- month study period. Demographic information only reported on age, sex, BMI, and previous connection to primary care provider	Implementation of diabetes screening program into routine clinical care in a single ED. Physicians were encouraged to use bundled laboratory testing including hemoglobin A1c (diabetes screening test) when ordering any blood tests on a patient in ED regardless of medical indication. Patients who screened positive for diabetes were subsequently referred to a diabetes clinic.

(Continues)

TABLE 2 (Continued)

	Abbreviated reference	Country	Study design	Study population and duration	Intervention description
Systems/organizational change	Preisz et al. "Dalarinji": A flexible clinic, belonging to and for the Aboriginal people, in an Australian emergency department[55]	Australia	QI study with quantitative evaluation methods	ATSI patients presenting to the ED triaged as 3, 4, or 5 using the Australasian Triage Category scale over a 3-month period ($n=537$)	A flexible model of care within the ED. The patient may leave and return to the ED at any point with their care to be resumed at the last point of contact without duplicating previous care. Additional follow up care was coordinated to suit patient needs.
	Gadsden et al. Can a continuous quality improvement program create culturally safe emergency departments for Aboriginal people in Australia? A multiple baseline study[53]	Australia	QI study with quantitative evaluation methods	The intervention took place in eight EDs in New South Wales, Australia over a period of 10–15 months	As part of the AIHQIP participating EDs established working groups to implement QI projects in collaboration with Aboriginal organizations and communities to improve the cultural safety of ED services for Aboriginal patients. To support these projects the AIHQIP project/research team supported ED implementation of projects by facilitating training sessions on quality improvement frameworks, facilitating partnerships with Aboriginal community organizations and provided funding for QI programs. Example QI interventions pursued include improving the waiting room environment (including land acknowledgment plaques and maps), organizing meetings between Aboriginal elders and ED leadership, and increasing availability of Aboriginal liaison officers.
	Varcoe et al. EQUIP emergency: can interventions to reduce racism, discrimination and stigma in EDs improve outcomes?[35] Varcoe et al. EQUIP Emergency: study protocol for an organizational intervention to promote equity in health care[36]	Canada	QI study with quantitative evaluation methods	All ED patients over 18 at three ED sites. $n=4771$ total patients ($n=560$ Indigenous). Study durations was 12 months preimplementation and 12 months postimplementation	EQUIP Emergency was an intervention designed to promote equity at an organization level. The intervention was guided by an EOHC model, which incorporates cultural safety, harm reduction, contextually tailored care, and trauma- and violence-informed care principles with an understanding of the structures that perpetuate health and social inequities. In the EQUIP Emergency intervention three unique EDs were given tools and support to develop and implement their own unique interventions tailored to the ED needs and populations. The EQUIP Emergency study facilitated this by hosting information sessions on principles of EOHC, developing working groups of frontline health care staff, access to guidance from organizational change coaches and funding for projects. EDs were given the tools to develop their own interventions tailored to the EDs needs. Examples of interventions implemented by the participating EDs include installing TV monitors with EOHC and antistigma health messaging in the ED, collaborating with Indigenous community members and artists to install Indigenous artwork in the ED waiting room.

Abbreviations: AIHQIP, Aboriginal Identification in Hospitals Quality Improvement Program; AMHLO, Aboriginal Mental Health Liaison Officer; ATSI, Aboriginal and Torres Strait Islander; EOHC, equity-oriented health care; QI, quality improvement.

TABLE 3 Summary of data extracted related to Indigenous methods, engagement, and intervention goals of included interventions.

Abbreviated reference	Incorporation of Indigenous methods, stakeholders, or knowledge	Authors' rationale for focusing on Indigenous patients	Intervention goals	Results	Author explanation of the mechanism of outcomes
Hatcher et al. Te Ira Tangata: a Zelen randomised controlled trial of a culturally informed treatment compared to treatment as usual in Māori who present to hospital after self-harm.[47] Hatcher et al. Te Ira Tangata: A Zelen randomised controlled trial of a treatment package including problem solving therapy compared to treatment as usual in Maori who present to hospital after self-harm[46]	The study research coordinator, manager, and therapists were Māori. The intervention was framed, organized, and presented in terms of a powhiri (welcoming ceremony) model, a traditional Māori practice. This created a culturally relatable framework for patients and therapists to understand the intervention goals and the individual progression through the intervention package.	Documented high rates of suicide and self-harm among Māori people	Assess the efficacy of a culturally safe package of interventions for Māori patients presenting to the ED with self-harm	Those receiving the intervention compared to standard treatment had a decrease in hopelessness assessed via Beck Hopelessness Questionnaire and self-harm related return visits at 3 months but not at 1 year	Reduction in 3-month hopelessness scores and self-harm related ED visits may be related to the culturally safe, co-designed package of interventions implemented in the trial.
McKenna et al. "Cultural brokerage" and beyond: piloting the role of an urban Aboriginal mental health liaison officer[54]	Not reported	In response to national Aboriginal health reform at the time as well as local identification of the need to improve accessibility to mental health care for Aboriginal patients	To improve Aboriginal peoples' transitions and overall access to mental health care (i.e., inpatient admissions or outpatient care) from multiple settings, including the ED	Results from the qualitative interviews highlight themes relating to the success of the AMHLO in: (1) Initiating smooth entry to mental health services, (2) brokering understanding between clinician and patient, and (3) acting as an "interpreter" to bridge the cultural mismatch between the medical model and Aboriginal world views	The AMHLO role was able to positively impact the lives of Aboriginal people who were engaging with mental health services by facilitating cultural understanding and communicating the patients' cultural needs to health professionals.
Prince et al. Screening Emergency Admissions at Risk of Chronic Hepatitis C (SEARCH) to diagnose or "re-diagnose" infections is effective in Australia[52]	Not reported	Based on Australian hepatitis C testing policies recommending that all ATSI patients be screened for hepatitis C	Improve diagnoses or "rediagnose" hepatitis C in ATSI patients	54/222 screened ATSI patients were diagnosed or "rediagnosed" with a current of previous hepatitis C infection; 14/222 (6.4%) of ATSI had signs of an active Hepatitis C infection	The authors state that using the ED as a novel entry point for hepatitis C screening is cost-effective. Authors state that universal screening for hepatitis C in ATSI patients is beneficial in that it avoids risk-based screening questioning that may be perceived as stigmatizing.

(Continues)

TABLE 3 (Continued)

Abbreviated reference	Incorporation of Indigenous methods, stakeholders, or knowledge	Authors' rationale for focusing on Indigenous patients	Intervention goals	Results	Author explanation of the mechanism of outcomes
Anderson et al. Nontargeted diabetes screening in a Navajo Nation emergency department[51]	Not reported	High prevalence and mortality rates of diabetes in American Indians and Alaska natives	To diagnose previously undiagnosed prediabetes and diabetes patients presenting to a rural "Indian Health Service" ED in Shiprock, New Mexico	This screening intervention identified patients with undiagnosed prediabetes and diabetes; of the patients who screened positive for previously undiagnosed prediabetes or diabetes, 54.9% (146) attended a follow-up appointment to discuss results with a diabetes clinic or primary care provider	The authors conclude that using the ED as a novel point of screening can lead to increased identification of prediabetes and diabetes in Indigenous peoples (specifically American Indians and Alaska Natives) thus generating the opportunity for early intervention with "lifestyle modifications" to improve long-term health outcomes.
Preisz et al. "Dalarinji": A flexible clinic, belonging to and for the Aboriginal people, in an Australian emergency department[55]	The intervention/study was codesigned with the local Aboriginal health unit; development and implementation of the intervention used the Yerin Dilly Bag model of Indigenous research to facilitate incorporation of Indigenous knowledge and frameworks within the intervention	In response to previously reported inequities in health outcomes among ATSI peoples and the documented high rates of LAOR or DNW (leaving care) among ATSI patients presenting to the ED	To reduce rates of leaving care among ATSI patients presenting to the ED	A fivefold reduction in leaving rates reported during the study period	The authors attribute the results to the Dalarinji clinic better addressing the cultural/health care needs of ATSI patients.
Gadsden et al. Can a continuous quality improvement program create culturally safe emergency departments for Aboriginal people in Australia? A multiple baseline study[53]	Working group members included staff of Aboriginal controlled community organizations and local Aboriginal community members	The intervention was commissioned by the New South Wales Ministry of Health (36) in response to disparities in health outcomes between Aboriginal and non-Aboriginal patients as well as the identification of the ED being uniquely positioned to address these disparities as a first point of contact for patients	(1) Improve accuracy of recording Aboriginal status of patients in ED health records, (2) decrease incomplete visit rates in Aboriginal patients, and (3) enhance the cultural appropriateness of the ED systems of care	Overall there was no effect of the AIHQIP on the rates of incomplete visits among Aboriginal patients or the rate of accurate recording of Aboriginal status in ED records; the authors do provide examples of organizational change that occurred including establishment of Aboriginal cultural competence training and the development of a critical incident response procedure for all incomplete ED visits among Aboriginal patients to learn from incidents, prevent incidents, and arrange appropriate follow-up care for the affected patient	The authors highlight supportive hospital leadership, close collaboration with local Aboriginal-directed community organizations, and the work of Aboriginal liaison officers in design and implementation of projects as key factors that fostered successful organizational change.

TABLE 3 (Continued)

Abbreviated reference	Incorporation of Indigenous methods, stakeholders, or knowledge	Authors' rationale for focusing on Indigenous patients	Intervention goals	Results	Author explanation of the mechanism of outcomes
Varcoe et al. EQUIP Emergency: can interventions to reduce racism, discrimination and stigma in EDs improve outcomes?[35] Varcoe et al. EQUIP Emergency: study protocol for an organizational intervention to promote equity in health care[36]	The EQUIP Emergency study was described by authors as a three-way collaboration between researchers, health care staff, and Indigenous community leaders; the entire project was guided by an advisory panel including Indigenous community leaders and researchers and all ED interventions were implemented in collaboration with Indigenous community groups and members	Evidence showing the health care system to be deeply inequitable towards Indigenous peoples	Create systems-level, sustainable equity-oriented change and intervention tailored to specific EDs to improve ED care quality (health outcomes and patient experiences) for Indigenous people and other equity seeking groups	At two of the three ED's there was a nonsignificant, but positive trend in patient perceptions of care and decrease in patient experiences of racism. There was a significant decrease in patients leaving without completing care at one site. The third ED did not develop a working group or implement any interventions. Of note, the EQUIP Emergency study and the capacity to introduce novel interventions was significantly hampered by the emergence of the COVID-19 pandemic during the early stages of study implementation as well as ED constraints at the time including staff shortages, leadership turnover, and a "syndemic" of the worsening opioid crisis/toxic drug supply in Canada	Organizational change was achieved to some extent by implementing an EOHC informed intervention that moved beyond educational initiatives and fostered "frontline ownership" of novel ED interventions. Overall intervention efficacy was limited by the time and structural system constraints during the study period (COVID-19 redeployments etc.). Authors argue that this highlights the contextually dependent factors influencing optimal intervention strategies, including optimal intervention "dose" and time frame.

Abbreviations: DNW, do not wait to be seen; LAOR, leave at own risk.

hepatitis C among ATSI and overseas-born patients in Australia, with opt-out consent. Serum testing for HCV was conducted with a goal of increasing diagnosis and linkage to care in patients who screened positive.[52] The second study introduced nontargeted screening for diabetes at a rural Indian health service ED in the United States, aiming to detect undiagnosed diabetes and prediabetes and assess glycemic control in known diabetics by including HbA1C testing as part of the routine ED lab testing bundle.[51]

Both chronic disease screening studies report descriptive results on identifying previously undiagnosed disease. The screening intervention by Prince et al.[52] reports identifying a current or previous hepatitis C infection in 24% of screened ATSI with 6.3% of ATSI patient having signs of an active hepatitis C infection. The study by Anderson et al.[51] reports a positive identification rate of previously undiagnosed diabetes or prediabetes to be 28.8% and subsequent successful referral to follow-up care to be 54.9%. Authors in each study claim effectiveness of ED screening.

Systems/organizational-level interventions

Three initiatives describing systems/organization-level intervention to promote equity for Indigenous patients in the ED were identified, including the “Dalarinji/Flexiclinic” model,[55] the Australian Aboriginal Identification in Hospitals Quality Improvement Program (AIHQIP),[53,56] and the Canadian “EQUIP Emergency” model.[37]

The Dalarinji/Flexiclinic model of care was described as having Indigenous patients seen by a dedicated senior clinician/Aboriginal Health Care Worker team, with the ability to leave and return to ED visits as needed and having their care resumed without duplication of the triage process or previous investigations. This intervention was directed at reducing the rates of patients who were leaving without completing care.[53,56]

The AIHQIP initiative supported individual EDs to implement quality improvement projects to improve cultural competence of ED staff, improve identification of ATSI patients in the ED, and decrease the number of ATSI patients leaving without completing care. To do so the AIHQIP project provided training on a nine-step continuous quality improvement framework that focused on identifying issues in ED care as well implementing solutions with Indigenous partners. Examples of the unique projects developed and implemented included improving the waiting room environment (including land acknowledgement plaques and maps), organizing meetings between Aboriginal Elders and ED leadership, increasing availability of Aboriginal liaison officers, strengthening the referral mechanisms between the ED, and local Aboriginal community-controlled health services; creating an incident response procedure for all incomplete ED visits among Aboriginal patients (which aimed to learn from the incident, prevent similar incidents in the future, and ensure follow up and care of the affected patient); and developing a performance indicator on the ED care of Aboriginal patients. The authors of this study state that the cumulative intent of these interventions was to reorient the ED care setting toward providing culturally safe care for Aboriginal patients.

The EQUIP Emergency study[37,38] aimed to reorient the entire ED toward an “equity-oriented” model of care, referring to the prioritization of health care resources to those with the greatest need and doing so using harm reduction, contextually tailored care, culturally safe care and trauma and violence informed care principles. EQUIP Emergency[37,38] was a systems-level intervention where at each site ED staff were invited to information sessions describing the principles of “equity-oriented health care” and invited to join working groups that would lead quality improvement development at each individual site. Working groups were supported with paid time for working group members to complete tasks related to the intervention, a full-time research assistant to support tasks, a $10,000 catalyst grant to support quality improvement projects, and access to a “change coach” to help facilitate and advise on effective organizational change methods.[37,38] Two EDs formed working groups, while a third did not due to staffing pressures and leadership turnover.[37] Similar to the AHQIP intervention described, examples of unique ED intervention that arose from working groups include changes to waiting room environments, including antistigma messaging. One of the EDs additionally undertook concurrent staff training on substance use and stigma with specific attention to anti-Indigenous racism.[37] Of note, the authors related that the COVID-19 pandemic significantly impacted sites during the intervention period and curtailed some intervention activities.[37]

Each of the identified studies anchored their effectiveness on reducing rates of leaving the ED without completing care. The Dalarinji/Flexiclinic intervention reported a fivefold decrease in the rates of leaving the ED without completing care.[55] However, counting procedures were changed between their pre- and postintervention periods. Any case where a patient left and returned the same day was counted as a complete visit in the postintervention period, while such visits would have been counted as leaving without completing care in the preintervention period (personal communication). In the AIHQIP intervention there were no reported reductions in the primary outcome of leaving without completing care, although organizational changes were made across EDs.[56] The EQUIP Emergency study found a small but statistically significant reduction in leaving without being seen in one of the three study sites.[37]

Incorporation of Indigenous methods, stakeholders, or knowledge

Just over half ($n=4$) of the included interventions clearly engaged local Indigenous stakeholders including Indigenous researchers, community organizations, community members, and leaders.[37,50,53,55] Two interventions incorporated Indigenous methods in intervention design and implementation and included the Yerin Dilly Bag model[55] and Powhiri model.[50] The Yerin Dilly Bag model as described by Preisz et al.,[55] in their Dalarinji/Flexiclinic intervention is a framework that upholds seven core values that may resonate with Indigenous knowledge, beliefs, and culture and shape the research process. While the authors recognize the unique experience of diverse Indigenous groups does not make these values universally resonant with all Indigenous peoples, these values were nonetheless rooted in community-oriented ideals rather than traditional individualist Western ideals.[55,57] The Yerin Dilly Bag was traditionally used as a keeper of sacred artifacts and thus researchers metaphorically "carry" the seven core values of this model when engaging with all aspects of Indigenous research.[55,57]

The study by Hatcher et al. references the Incorporation of a Powhiri (welcoming ceremony) model to facilitate a culturally relatable framework for practitioners and patients to understand the intervention goals and track progression through the various components of the intervention package. A Powhiri model also emphasizes the positive and respectful relationship between the researchers (the guests) and research participants (the hosts).[58]

DISCUSSION

We have summarized peer-reviewed and published interventions implemented in ED in the United States, Canada, Australia, and New Zealand to reduce inequities in care experienced by Indigenous people. This review highlights a dichotomy in intervention types, specifically with novel clinical roles and chronic disease screening addressing primarily the interpersonal level of care systems and, by contrast, some interventions targeting organizational change. While interpersonal-level interventions are apt to be of value in improving individual experiences, and may potentially improve some patient health outcomes, multilevel interventions could facilitate broader impact and more sustainable change. As reinforced by the authors of the EQUIP Emergency study, multilevel interventions also redirect "blame" from individual actors operating within a system to the deeply rooted inequitable and colonial attitudes entrenched in the system itself,[37,38] which could be advantageous for implementation and uptake by providers, and patient engagement. Previous work on multilevel equity interventions in health care has been done and provides guidance on key components of these interventions. For example the Systems Health Equity Lens, developed in part of the Equity Lens in Public Health Program, identifies a number of considerations required of multilevel health systems equity interventions that together shift attention from simply identifying "vulnerable groups" and focusing on the system structures and process that create vulnerability and inequity.[39] Meanwhile the EQUIP primary care study, which was the template for EQUIP Emergency study, produced quantitative improvements in patient confidence in their health care and ability to manage their health as well as improvements to such fundamental concerns as depressive symptoms, PTSD symptoms, chronic pain, and quality of life.[59]

It is difficult and complex to ascertain the effects from multilevel system interventions. The EQUIP Emergency and AIHQIP studies selected a proxy outcome of reducing leaving without completing care and found very little to no change in their primary measure.[37,56] Authors of the AIHQIP study note that these findings may relate to measurement issues or to the intervention itself.[56] They note that they may have searched for effects too soon, the possibility that their intervention was not intense enough or that their sample was too small. EQUIP Emergency did not achieve the scope of intervention activities they hoped to, and implementation was negatively impacted by factors such as staffing pressures, ED leadership turnover, and COVID-19 impacts on EDs.[37]

Beyond maximizing effectiveness of ED equity interventions, it is also important to consider potential inadvertent harms of new interventions and associated research. For example, studies that implemented screening interventions in the ED may cause further psychological harm to Indigenous people, create culturally unsafe care, and perpetuate inequities created by the health system. In the diabetes and hepatitis C screening studies identified in this review, the cultural appropriateness of the screening procedures was not reported.[51,52] Given the history of colonialism, these screening tests for stigmatized conditions could represent a culturally unsafe intervention. In each of the identified studies, the interventions do not report co-developing the interventions alongside Indigenous stakeholders nor were the publications identified as being Indigenous-led (e.g., Indigenous first or corresponding author). Future articles that clearly report author Indigeneity would allow better understanding of the current state of ED equity intervention design alongside community-engaged research principles and integral ethical considerations in Indigenous research, such as how the data of Indigenous patients was stored and managed.[60–68] A minority of the studies address systems-level racism or incorporate Indigenous research/development methods. Incorporation of Indigenous frameworks in ED research facilitates a "bridging" of western practices with Indigenous knowledge and methodology.[69] Importantly there is not a "universally appropriate Indigenous framework"; the unique experiences and knowledge among and within Indigenous groups creates a wealth of unique frameworks. To best apply Indigenous frameworks and ways of knowing within research and interventions, collaboration should be sought with Indigenous Elders, knowledge holders, and community members to tailor frameworks for intervention effectiveness and cultural safety.[70]

LIMITATIONS

A main limitation of this scoping review was that a complete search of the gray literature was not included and as a result some interventions may have been missed. While we did examine a variety of gray literature search strategies, the topic and scope were too broad to create high-yield search strategies. By only screening peer reviewed literature we are unable to account for interventions implemented by health systems that have not been reported in the peer-reviewed literature. Additionally, this study did not set out to systematically review intervention effects, nor would this be feasible given the limited and heterogenous literature to date.

It is important to acknowledge the conflicting epistemological frameworks between scoping review methodologies and Indigenous research methods and knowledge.[71] Scoping review methods are based in western research methodology. This method of knowledge gathering and interpretation may yield an incomplete description of the topic as it relates to what is important and relevant to Indigenous people. Strict inclusion/exclusion criteria may limit the interpretive process of research literature critique and drawing connections to other bodies of knowledge. To address these limitations, inclusion of Indigenous coauthors helped us interpret the findings of this scoping review.

It is also possible that the peer-reviewed literature underreports crucial details that would allow understanding of interventions. Constraints to publications in peer-reviewed journals related to word limits and expected content may limit authors' ability to convey the depth of an intervention (e.g., team dynamics, community relationships). Additionally, only studies that explicitly sought to implement equity-oriented interventions toward Indigenous peoples in EDs were included. Studies that may have reported on unintended consequences from other interventions that affect Indigenous equity in EDs may have been missed in the screening process.

Also worth noting is the fact that several of the studies reviewed were conducted over short time scales, which constrains our ability to assess whether the interventions led to sustained improvements. Effective equity interventions need ongoing support with sufficient resources until sustainable change has been achieved and must be regularly reviewed and flexible over time to ensure they continue to meet their goals.

CONCLUSIONS

This scoping review suggests that little work has been published in the peer-reviewed literature relating to interventions focused toward improving the equity of ED care for Indigenous people. Of the limited interventions identified, only half reported incorporating Indigenous knowledge or stakeholders. Future interventions could benefit from targeting system-level changes as opposed to or in addition to incorporating new roles in EDs. When considering such system level interventions, the authors of this review suggest that interventions should be co-developed and wherever feasible be Indigenous led, incorporate Indigenous methods and knowledge, and establish benchmarks and performance indicators that can be used to monitor progress.

AUTHOR CONTRIBUTIONS

Davis MacLean was responsible for the primary manuscript writing and methodology with review and oversight by Kimberley D. Curtin and Patrick McLane. All authors (Davis MacLean, Kimberley D. Curtin, Cheryl Barnabe, Lea Bill, Bonnie Healy, Brian R. Holroyd, Jaspreet K. Khangura, and Patrick McLane) contributed to results interpretation and manuscript editing.

FUNDING INFORMATION

Funded by Alberta Health Services, Strategic Clinical Networks.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ORCID

Davis MacLean https://orcid.org/0000-0003-4914-4737
Patrick McLane https://orcid.org/0000-0002-4845-9182

REFERENCES

1. Kim PJ. Social determinants of health inequities in Indigenous Canadians through a life course approach to colonialism and the residential school system. *Health Equity*. 2019;3(1):378-381. doi:10.1089/heq.2019.0041
2. Bramley D, Hebert P, Jackson R, Chassin M. Indigenous disparities in disease-specific mortality, a cross-country comparison: New Zealand, Australia, Canada, and the United States. *N Z Med J*. 2004;117(1207):U1215.
3. Feir D, Akee R. First peoples lost: determining the state of status First Nations mortality in Canada using administrative data. *Can J Econ Can Déconomique*. 2019;52(2):490-525.
4. Cooke M, Mitrou F, Lawrence D, Guimond E, Beavon D. Indigenous well-being in four countries: an application of the UNDP'S human development index to indigenous peoples in Australia, Canada, New Zealand, and the United States. *BMC Int Health Hum Rights*. 2007;7(1):9.
5. Gorzig MM, Feir DL, Akee R, et al. Native American age at death in the USA. *J Econ Race Policy*. 2022;5(3):194-209. doi:10.1007/s41996-021-00095-0
6. Phillips B, Daniels J, Woodward A, Blakely T, Taylor R, Morrell S. Mortality trends in Australian Aboriginal peoples and New Zealand Māori. *Popul Health Metrics*. 2017;15(1):25.
7. Adamsen C, Schroeder S, LeMire S, Carter P. Education, income, and employment and prevalence of chronic disease among American Indian/Alaska native elders. *Prev Chronic Dis*. 2018;15:E37. doi:10.5888/pcd15.170387
8. Laffey KG, Nelson AD, Laffey MJ, Nguyen Q, Sheets LR, Schrum AG. Chronic respiratory disease disparity between American Indian/Alaska native and white populations, 2011–2018. *BMC Public Health*. 2021;21(1):1466.
9. AHS Monitoring Measures: 2021-22 FY. 2022. Accessed December 7, 2023. https://www.albertahealthservices.ca/assets/about/publications/ahs-pub-monitoring-measures-annual.pdf
10. Arias E, Tejada-Vera B, Kochanek KD, Ahmad FB. *Provisional Life Expectancy Estimates for 2021*. National Center for Health Statistics; 2022.
11. McLane P, Mackey L, Holroyd BR, et al. Impacts of racism on First Nations patients' emergency care: results of a thematic analysis of healthcare provider interviews in Alberta, Canada. *BMC Health Serv Res*. 2022;22(1):804.
12. *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls*. National Inquiry into Murdered and Missing Indigenous Women and Girls; 2019.
13. Paradies Y. Colonisation, racism and Indigenous health. *J Popul Res*. 2016;33(1):83-96. doi:10.1007/s12546-016-9159-y
14. Reid P, Cormack D, Paine SJ. Colonial histories, racism and health—the experience of Māori and Indigenous peoples. *Public Health*. 2019;172:119-124.
15. Mitchell T. Colonial trauma: complex, continuous, collective, cumulative and compounding effects on the health of Indigenous

peoples in Canada and beyond. *Int J Indig Health*. 2019;14(2):74-94. doi:10.32799/ijih.v14i2.32251

16. Came HA, Herbert S, McCreanor T. Representations of Māori in colonial health policy in Aotearoa from 2006–2016: a barrier to the pursuit of health equity. *Crit Public Health*. 2021;31(3):338-348. doi:10.1080/09581596.2019.1686461
17. Phillips-Beck W, Eni R, Lavoie JG, Avery Kinew K, Kyoon Achan G, Katz A. Confronting racism within the Canadian healthcare system: systemic exclusion of First Nations from quality and consistent care. *Int J Environ Res Public Health*. 2020;17(22):8343. doi:10.3390/ijerph17228343
18. Jongbloed K, Hendry J, Behn Smith D, Gallagher Kwunuhmen J. Towards untying colonial knots in Canadian health systems: a net metaphor for settler-colonialism. *Healthc Manage Forum*. 2023;36:228-234. doi:10.1177/08404704231168843
19. Reading CL, Wien F. *Health Inequalities and the Social Determinants of Aboriginal peoples' Health*. National Collaborating Centre for Aboriginal Health; 2009.
20. Greenwood ML, de Leeuw SN. Social determinants of health and the future well-being of Aboriginal children in Canada. *Paediatr Child Health*. 2012;17(7):381-384.
21. Christensen L, Damon S. Social determinants of health and response to disease associated with health outcomes of American Indian and Alaska native patients. *JAMA Netw Open*. 2022;5(3):e224827. doi:10.1001/jamanetworkopen.2022.4827
22. Singh GK, Daus GP, Allender M, et al. Social determinants of health in the United States: addressing major health inequality trends for the nation, 1935–2016. *Int J MCH AIDS*. 2017;6(2):139-164.
23. Kitching GT, Firestone M, Schei B, et al. Unmet health needs and discrimination by healthcare providers among an Indigenous population in Toronto, Canada. *Can J Public Health*. 2020;111(1):40-49. doi:10.17269/s41997-019-00242-z
24. Roach P, Ruzycki SM, Hernandez S, et al. Prevalence and characteristics of anti-Indigenous bias among Albertan physicians: a cross-sectional survey and framework analysis. *BMJ Open*. 2023;13(2):e063178.
25. McLane P, Barnabe C, Holroyd BR, et al. First Nations emergency care in Alberta: descriptive results of a retrospective cohort study. *BMC Health Serv Res*. 2021;21(1):423.
26. McLane P, Bill L, Barnabe C. First Nations members' emergency department experiences in Alberta: a qualitative study. *CJEM*. 2021;23(1):63-74.
27. Anson K. Is racism in emergency care contributing to higher Māori mortality rates? *Emerg Med Australas*. 2022;34(1):4-5. doi:10.1111/1742-6723.13912
28. Puumala SE, Burgess KM, Kharbanda AB, et al. The role of bias by emergency department providers in care for American Indian children. *Med Care*. 2016;54(6):562-569. doi:10.1097/MLR.0000000000000533
29. Quigley A, Hutton J, Phillips G, et al. Implicit bias towards Aboriginal and Torres Strait Islander patients within Australian emergency departments. *Emerg Med Australas*. 2021;33(1):9-18.
30. McLane P, Barnabe C, Mackey L, et al. First nations status and emergency department triage scores in Alberta: a retrospective cohort study. *CMAJ*. 2022;194(2):E37-E45. doi:10.1503/cmaj.210779
31. *Final Report of the Truth and Reconciliation Commission of Canada: Summary: Honouring the Truth, Reconciling for the Future*. Truth and Reconciliation Commission of Canada; 2015.
32. Dell EM, Firestone M, Smylie J, Vaillancourt S. Cultural safety and providing care to Aboriginal patients in the emergency department. *CJEM*. 2016;18(4):301-305. doi:10.1017/cem.2015.100
33. Thomas DP, Anderson IP, Kelaher MA. Accessibility and quality of care received in emergency departments by Aboriginal and Torres Strait Islander people. *Aust Health Rev Publ Aust Hosp Assoc*. 2008;32(4):648-654. doi:10.1071/AH080648
34. Bryan JM, Alavian S, Giffin D, et al. CAEP 2021 academic symposium: recommendations for addressing racism and colonialism in emergency medicine. *CJEM*. 2022;24(2):144-150.
35. Fact Sheet: Building A New Era of Nation-to-Nation Engagement. The White House. 2021. Accessed December 7, 2023. https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/15/fact-sheet-building-a-new-era-of-nation-to-nation-engagement/
36. Statement on the Health of the Indigenous Peoples of Australia and New Zealand. The Australian College of Emergency Medicine. 2017. Accessed December 7, 2023. https://acem.org.au/getmedia/71744c5b-2936-4937-927d-71862d9dbf97/S52_Statement_Indigenous_Health.aspx
37. Varcoe C, Browne AJ, Perrin N, et al. EQUIP emergency: can interventions to reduce racism, discrimination and stigma in EDs improve outcomes? *BMC Health Serv Res*. 2022;22(1):1113.
38. Varcoe C, Bungay V, Browne AJ, et al. EQUIP emergency: study protocol for an organizational intervention to promote equity in health care. *BMC Health Serv Res*. 2019;19(1):687.
39. Pauly B, Shahram SZ, van Roode T, Strosher HW, MacDonald M. *Reorienting Health Systems Towards Health Equity: The Systems Health Equity Lens (SHEL)*. The Equity Lens in Public Health (ELPH) Research Project; 2018. Accessed December 7, 2023. https://www.uvic.ca/research/projects/elph/assets/docs/kte-resource-6---systems-health-equity-lens.pdf
40. Brown AF, Ma GX, Miranda J, et al. Structural interventions to reduce and eliminate health disparities. *Am J Public Health*. 2019;109(suppl. 1):S72-S78.
41. Merlan F. Indigeneity: global and local. *Curr Anthropol*. 2009;50(3):303-333. doi:10.1086/597667
42. Indigenous Peoples at the United Nations. United Nations Department of Economic and Social Affairs. Accessed December 7, 2023. https://www.un.org/development/desa/indigenouspeoples/about-us.html
43. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol*. 2005;8(1):19-32. doi:10.1080/1364557032000119616
44. Peters MDJ, Marnie C, Tricco AC, et al. Updated methodological guidance for the conduct of scoping reviews. *JBI Evid Synth*. 2020;18(10):2119-2126. doi:10.11124/JBIES-20-00167
45. Peters MDJ, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. *Int J Evid Based Healthc*. 2015;13(3):141-146. doi:10.1097/XEB.0000000000000050
46. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*. 2018;169(7):467-473. doi:10.7326/M18-0850
47. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci*. 2010;5(1):69.
48. Covidence Systematic Review Software. *Veritas Health Innovation*. Veritas Health Innovation; 2023. www.covidence.org
49. Hatcher S, Coupe N, Durie M, et al. Te Ira Tangata: a Zelen randomised controlled trial of a treatment package including problem solving therapy compared to treatment as usual in Maori who present to hospital after self harm. *Trials*. 2011;12:117.
50. Hatcher S, Coupe N, Wikiriwhi K, Durie SM, Pillai A. Te Ira Tangata: a Zelen randomised controlled trial of a culturally informed treatment compared to treatment as usual in Māori who present to hospital after self-harm. *Soc Psychiatry Psychiatr Epidemiol*. 2016;51(6):885-894. doi:10.1007/s00127-016-1194-7
51. Anderson ES, Dworkis DA, DeFries T, Emery E, Deegala C, Mohs K. Nontargeted diabetes screening in a Navajo nation emergency department. *Am J Public Health*. 2019;109(2):270-272. doi:10.2105/AJPH.2018.304799
52. Prince DS, Pipicella JL, Fraser M, et al. Screening emergency admissions at risk of chronic hepatitis C (SEARCH) to diagnose or

"re-diagnose" infections is effective in Australia. *J Viral Hepat*. 2021;28(1):121-128. doi:10.1111/jvh.13393

53. Gadsden T, Wilson G, Totterdell J, et al. Can a continuous quality improvement program create culturally safe emergency departments for Aboriginal people in Australia? A multiple baseline study. *BMC Health Serv Res*. 2019;19(1):222.
54. McKenna B, Fernbacher S, Furness T, Hannon M. "Cultural brokerage" and beyond: piloting the role of an urban Aboriginal mental health liaison officer. *BMC Public Health*. 2015;15(1):881.
55. Preisz P, Preisz A, Daley S, Jazayeri F. 'Dalarinji': a flexible clinic, belonging to and for the Aboriginal people, in an Australian emergency department. *Emerg Med Australas*. 2022;34(1):46-51.
56. Wilson G, Willis J, Totterdell J, et al. *Aboriginal Identification in Hospitals Quality Improvement Program Evaluation Findings*. Centre for Aboriginal Health and Centre for Epidemiology and Evidence NSW Ministry of Health; 2017. Accessed December 7, 2023. https://www.health.nsw.gov.au/research/Publications/aihqip-evaluation-report.pdf
57. Doyle K, Cleary M, Blanchard D, Hungerford C. The Yerin Dilly Bag Model of indigenist health research. *Qual Health Res*. 2017;27(9):1288-1301.
58. McClintock K, Mellsop G, Moeke-Maxwell T, Merry S. Pōwhiri process in mental health research. *Int J Soc Psychiatry*. 2012;58(1):96-97. doi:10.1177/0020764010387067
59. Ford-Gilboe M, Wathen CN, Varcoe C, et al. How equity-oriented health care affects health: key mechanisms and implications for primary health care practice and policy. *Milbank Q*. 2018;96(4):635-671. doi:10.1111/1468-0009.12349
60. Kuhn NS, Parker M, Lefthand-Begay C. Indigenous research ethics requirements: an examination of six tribal institutional review board applications and processes in the United States. *J Empir Res Hum Res Ethics*. 2020;15(4):279-291.
61. Hudson M, Milne M, Russell K, Reynolds P, Atatoa-Carr P. *The Development of Guidelines for Indigenous Research Ethics in Aotearoa/New Zealand*. Semantic Scholar; 2016.
62. AIATSIS Code of Ethics for Aboriginal and Torres Strait Islander Research. Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS). 2020. Accessed December 7, 2023. https://aiatsis.gov.au/sites/default/files/2022-02/aiatsis-code-ethics-jan22.pdf
63. Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans—TCPS 2 (2018)—Chapter 9: Research Involving the First Nations, Inuit and Métis Peoples of Canada. Government of Canada Panel on Research Ethics. 2019. Accessed December 7, 2023. https://ethics.gc.ca/eng/tcps2-eptc2_2018_chapter9-chapitre9.html
64. National Inuit Strategy on Research. Inuit Tapiriit Kanatami. Accessed December 7, 2023. https://www.itk.ca/wp-content/uploads/2018/04/ITK_NISR-Report_English_low_res.pdf
65. Mecredy G, Sutherland R, Jones C. First Nations data governance, privacy, and the importance of the OCAP® principles. *Int J Popul Data Sci*. 2018;3(4).
66. Bull JR. Research with Aboriginal peoples: authentic relationships as a precursor to ethical research. *J Empir Res Hum Res Ethics*. 2010;5(4):13-22. doi:10.1525/jer.2010.5.4.13
67. Burnette CE, Sanders S, Butcher HK, Rand JT. A toolkit for ethical and culturally sensitive research: an application with Indigenous communities. *Ethics Soc Welf*. 2014;8(4):364-382. doi:10.1080/17496535.2014.885987
68. Ball J, Janyst P. Enacting research ethics in partnerships with Indigenous communities in Canada: "do it in a good way". *J Empir Res Hum Res Ethics*. 2008;3(2):33-51. doi:10.1525/jer.2008.3.2.33
69. Lavallée LF. Practical application of an Indigenous research framework and two qualitative Indigenous research methods: sharing circles and Anishnaabe symbol-based reflection. *Int J Qual Methods*. 2009;8:21-40.
70. Wilson S. What is an Indigenous research methodology? *Can J Nativ Educ*. 2001;25:175-179.
71. Chambers LA, Jackson R, Worthington C, et al. Decolonizing scoping review methodologies for literature with, for, and by Indigenous peoples and the African diaspora: dialoguing with the tensions. *Qual Health Res*. 2018;28(2):175-188.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: MacLean D, Curtin KD, Barnabe C, et al. Interventions to improve equity in emergency departments for Indigenous people: A scoping review. *Acad Emerg Med*. 2024;00:1-14. doi:10.1111/acem.14987