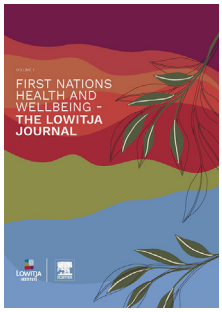

Review

Teaching social determinants of First Nations health in medical and health curricula: A review of the literature

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Abstract

Purpose This review examines contemporary curricular approaches to teaching the social determinants of health (SDoH) for First Nations peoples in Australian medical and health education. The purpose was to synthesise existing literature, identify common themes and gaps, and assess how tertiary education equips health professionals to address inequities in healthcare delivery for First Nations communities.

Methods A narrative literature review was conducted between 2020 and 2024. Search terms reflected tertiary health education, SDoH, and First Nations health. Grey literature, frameworks, policies, and reports were also included. A total of 43 relevant sources were analysed thematically.

Main findings The review found that First Nations health has been recognised as an accreditation standard since 2006, yet teaching approaches remain highly variable across institutions. Five recurring themes were identified: the impact of colonisation on health outcomes; recognition of Indigenous ways of health and healing; centring Indigenous voices and leadership; embedding anti-racism teaching; and highlighting health inequities within the healthcare system. Recommended practices included horizontal and vertical integration of Indigenous health content, community-based and immersion learning, and the adoption of holistic frameworks such as the Social and Emotional Wellbeing Wheel and Two-Eyed Seeing.

Principal conclusions Despite multiple frameworks and guiding principles, no nationally consistent or comprehensive approach to teaching SDoH for First Nations health currently exists across Australian

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tertiary institutions. Curriculum redesign is essential, grounded in decolonising pedagogies and First Nations leadership.

Keywords: First Nations; Social and cultural determinants of health; Cultural safety; Colonisation; Medical education

Highlights

- First Nations health and culturally safe healthcare provisions are specific and easily accessible in the literature; however, current approaches to teaching social determinants of health (SDoH) for First Nations peoples are highly variable, with no widely adopted singular comprehensive method.
- Identifying existing gaps and opportunities within the study of social determinants of health could be used to create more effective teaching models of First Nations health and culturally safe healthcare provision.
- Common teaching themes of the social determinants in First Nations health include the impacts of colonisation, Indigenous health and healing, anti-racism and addressing health inequities.
- To support learning, educators should adopt decolonising frameworks to develop educational materials in First Nations health.
- Further research is needed to determine the most effective methods for integrating First Nations health into public health and SDoH education.

Introduction

The health of Aboriginal and Torres Strait Islander (referred to as First Nations[1] hereafter) peoples has been a recognised national accreditation standard for all medical schools since 2006 (Springer et al. 2018). First Nations peoples' access to culturally safe services is highly dependent on the capabilities of health professionals, and how well they are taught the underlying causes of health inequities for First Nations.

The Australian Medical Council (AMC) standardised these accreditation standards as one measure for supporting a culturally safe medical workforce to improve health outcomes for First Nations peoples. However, the diversity of educational approaches and types of training offered at tertiary institutions have been known to differ in different educational and curricula settings.

First Nations health is described as 'more than just the absence of disease or illness; it is a holistic concept that includes physical, social, emotional, cultural, spiritual and ecological wellbeing, for both the individual and the community' (Australian Institute of Health and Welfare 2024), which often includes the conditions in which people are born, grow, work, live and age, as explored in the teachings of social determinants of health (SDoH) (Commission on Social Determinants of Health 2008). These determinants include the wider set of forces and systems shaping the conditions of daily life, such as the economic policies and systems, development agendas,

[1]The term First Nations is used in this paper to represent Aboriginal and/or Torres Strait Islander populations in "so-called Australia". The term embodies many culturally diverse nations and clan groups located across the continent. For clarity, Indigenous and First Nations peoples from other parts of the world will be addressed in relation to their geographical context (for example, the Native populations in the United States; First Nations population, Inuit and Métis in Canada; the Māori in New Zealand; and the Native Hawaiians in Hawaii). The use of the term "so-called Australia" acknowledges the contested nature of the colonial state and challenges the assumption of legitimacy underpinning its naming. This phrasing recognises that the sovereignty of Aboriginal and Torres Strait Islander peoples has never been ceded and that the continent continues to comprise many First Nations with their own laws, languages and governance systems. By using "so-called", the language disrupts colonial narratives and affirms the ongoing presence, authority and sovereignty of First Nations peoples.

social norms, social policies and political systems (Commission on Social Determinants of Health 2008). Since the introduction of AMC accreditation standards, teaching the underlying SDoH of First Nations peoples has been prioritised; however, the teaching approaches significantly vary depending on a multitude of factors, including, but not limited to: the delivery style of teaching, allocated curriculum time, and the resourcing of appropriately trained lecturers and clinical experts. Further factors include recruitment of First Nations staff and students, as well as cultural competence and the perceived role of educators delivering cultural safety training (Merritt et al. 2018; Springer et al. 2018).

Incorporating a social determinants of health approach within medical training models is a long-term preventative and proactive strategy to teach and train culturally safe medical practitioners, thereby improving the healthcare provided to First Nations communities. First Nations health inequities have been predominantly attributed to the underlying SDoH within their respective communities (Nour et al. 2023). The status of SDoH affecting First Nations communities remains a central focus of tertiary education. Research demonstrates that First Nations peoples continue to face multiple barriers in accessing high-quality healthcare in mainstream services, including the high cost of care, experiences of discrimination and racism, and poor communication by healthcare professionals (Hayman 2010). Research also suggests that Aboriginal community-controlled health organisations (ACCHOs) are best positioned to provide culturally safe healthcare; however, the ACCHO workforce cannot be solely responsible for the provision of culturally safe care. Davy et al. (2016) emphasise that ACCHOs are best placed to overcome social and cultural determinants of health that limit access to good healthcare; however, more action is needed to continue improving primary healthcare across all services nationwide.

Initiatives to advance the provision of healthcare have typically approached health and wellbeing from the physical dimension. However, this biomedical approach to health has not been useful in improving the health outcomes of Indigenous peoples across the globe (Reading and Wien 2009) and in Australia (Durey and Thompson 2012; Valeggia and Snodgrass 2015). While there is significant diversity within First Nations peoples, many communities view colonial perceptions of medicine as part of the destructive events in Australian history. These perceptions have enacted violence against Indigenous spiritual, holistic and collective approaches to healing. In contrast, First Nations peoples understand health as a contextual experience, closely aligned with the public health concept of the SDoH.

While the standards of First Nations health and culturally safe healthcare provisions are specific and easily accessible in the literature, the available information on teaching and training associated with First Nations health is often disjointed and varied. Culturally safe care is highly dependent on the understanding of the complex underlying causes of First Nations health inequities, the predominant cause being the SDoH. This literature review is centred on teaching approaches of the social determinants of health specifically related to First Nations peoples. It summarises and synthesises the available literature on SDoH for First Nations communities to identify key knowledge gaps and opportunities. This review goes on to explore existing health teaching models, before concluding by discussing how existing gaps and opportunities within the study of SDoH could be used to create more effective teaching models for First

Nations health and culturally safe healthcare provision.

Methods

A literature review was undertaken across 2020 and again in 2023–24 due to interruptions associated with the COVID-19 pandemic. The aim was to investigate both peer reviewed articles and grey literature of the current and evolving teaching models for First Nations health and how SDoH affect communities. The research question 'What are the current curricular approaches to teaching the social determinants of health for First Nations peoples in Australia?' was formulated to guide this review of literature. The search was limited to articles that were within Australia and related to First Nations peoples elsewhere in the world. This literature search was performed on five electronic databases in 2020, the first half of 2023 and again in the second half of 2024: MEDLINE (OVID), PubMed, CINAHL Complete, EBSCOhost and Google Scholar. Google Scholar was used to ensure that humanities and social science outputs, which are often not included within public health research (Pedersen et al. 2020), were included within the analysis. The terms used in the searches are included in the Table and were chosen to reflect the context of tertiary education and higher degree study of health professions students that will go on to work as health professionals in the Australian healthcare system; any combination of these terms was used when searching for literature. All article and grey literature titles, including reports, frameworks, policies and other health resources, were scanned to identify relevant inclusions associated with the search terms. Once included by title, all literature was reviewed for inclusion based on the research question.

Articles and grey literature were excluded if they did not concurrently cover the SDoH and First Nation health curriculum. The criteria did not include teaching that was not in a tertiary or postgraduate setting, not in a health or medical field, or not in English. Global Indigenous literature was included if the paper or report was inclusive of the other terms and supported answering the research question. This left 43 appropriate articles and grey literature in the final study. Saturation of content themes was reached at this stage and subsequent analysis and interpretation of studies were performed. This type of literature review has been found to be useful to feed into the development of medical curricula because it allows for the inclusion of 'detailed, nuanced description and interpretation' (Sukhera 2022, p. 414) of existing practice. This is particularly important when considering issues, such as First Nations experiences and SDoH, that are traditionally overlooked within existing medical education curricula (Rissel et al. 2023; Shokouh et al. 2017). This approach synthesises existing knowledge to identify gaps within available evidence.

Results and Discussion

All literature was thoroughly analysed and interpreted to ascertain thematic categories associated with curricular approaches to teaching the SDoH for First Nations peoples in Australia. Themes were identified and categorised under two major classifications: the social and cultural determinants of First Nations peoples' health that were predominantly explored and taught within health professions courses, and the elements of health teaching models that were described.

Social and cultural determinants of First Nations peoples' health

Impact of colonisation on First Nations health outcomes

First Nations communities have continued to thrive and demonstrate strength in the face of the ongoing impacts of colonisation (Usher et al. 2021). The

Terms associated with First Nations health	Terms associated with social determinants of health and teaching	Final combined terms
Aborig*.tw. OR Indigenous.tw. first nation or first nations.tw. (first people or first peoples).tw. First Australians.tw. torres strait islander*.tw. Koori or Koorie or Murri or tiwi "Australian Aboriginal and Torres Strait Islander Peoples"/ AND Australia.tw. Australia/Northern territory.tw. Tasmania*.tw. New south wales.tw. Victoria*.tw. Queensland*.tw.	Health OR medic* healthcare AND curricul* OR curricul* design OR training OR teaching model* AND social determinant* of health OR sdh OR public health AND Tertiary education OR postgraduate education OR higher degree All including .tw	Aborig*.tw. OR Indigenous.tw. first nation or first nations.tw. (first people or first peoples).tw. First Australians.tw. torres strait islander*.tw. Koori or Koorie or Murri or tiwi "Australian Aboriginal and Torres Strait Islander Peoples"/ AND Australia.tw. OR Australia/ OR Northern territory.tw. OR Tasmania*.tw. OR New south wales.tw. OR Victoria*.tw. OR Queensland*.tw. AND Health OR medic* OR healthcare AND curricul* OR curricul* design OR training OR teaching model* AND social determinant* of health OR sdh OR public health AND Tertiary education OR postgraduate education OR higher degree

*Signifies plural and other suffixes .tw refers to text word to include matched words in the title or abstract

Table 1: Key words used in database searches

impacts, however, have undoubtedly had a negative effect on the health and wellbeing of First Nations communities. Existing research demonstrates that health and wellbeing outcomes significantly differ among various Australian communities and populations, with First Nations peoples enduring some of the worst impacts, owing to a history of colonisation, and the deeply rooted oppression, discrimination and genocide that was born from it (Matheson et al. 2022). Subtle manifestations of racism in the interaction of health practitioners with patients can be traced back to family upbringing of individuals, societal constructs that define privilege and superiority, and the education and training that practitioners have received (Van Ryn et al. 2011). The ripple effects of colonisation have shaped the frameworks within which educational institutions and universities have traditionally developed their curricula, with white privilege as a dominant indicator for desired outcome (Lewis 2020). Recent research has demonstrated that colonisation has not only impacted the wellbeing outcomes for First Nations community members but also the scope of educational progress for those who wish to contribute to advancing research, policy and practice, and better outcomes for their community.

Since colonisation, Western medicine and knowledge have dominated systems of knowledge and devalued Indigenous ways of knowing and being (Griffiths et al. 2016). Colonialism has been described as a cultural project of control and ongoing process of domination, in which colonial knowledge both enabled conquest and was produced by it (Kohn and Reddy 2022; Paisley and Reid 2014). Colonisation has resulted in the economic and strategic imposition of Western knowledge systems onto First Nations peoples within Australia and many Indigenous peoples globally, leading to the devaluing of Indigenous ways of knowing and being (Griffiths et al. 2016; Hokowhitu et al. 2020;

Nakata et al. 2012). As a result, First Nations medical knowledge and healing practices, which have existed since time immemorial, have often been disregarded within health systems and research (Sherwood 2010; Valeggia and Snodgrass 2015; Zambas and Wright 2016). These practices, along with other factors like strong kinship systems and complex ecological healing practices, that contributed to the health of First Nations peoples prior to colonisation have been ignored and considered unfit and irrelevant in the duty of care protocol (Dudgeon and Bray 2019). Historical and ongoing colonisation impacts are one of the major determinants of poor access to health services, reduced participation and delayed and/or inadequate treatment of health conditions for Indigenous communities (Kirmayer et al. 2014; Zambas and Wright 2016). Consequently, health inequities for First Nations communities are often directly linked to First Nations populations rather than the individual or collective social determinants. The holistic outlook means that risk factors for many chronic diseases are associated with being First Nations, leading to misconceptions by Australian medical practitioners resultantly attributing poor health outcomes for First Nations peoples to genetics (Vasilevska et al. 2012). This review highlights the importance of incorporating SDoH that are specific to First Nations communities into teaching approaches for future health professionals to mitigate these misconceptions.

First Nations ways of health and healing and centring Indigenous voices

Access to Indigenous knowledge systems in Australia has enabled inclusion of First Nations values and spirituality in education, bringing a deeper understanding and connections to Country and how these salient aspects impact communities. These interlocking factors are variably explored in a variety of countries, such as Canada, New Zealand, United States of America (particularly Hawaii) and Australia (Wesley-Esquimaux 2009). These factors illuminate the structure of Social Determinants of Health within a public health framework that highlights the profound effects of environment and lived experience on health, including poverty, unemployment, poor education, inadequate nutrition, substandard housing, and unsafe water (Brascoupé and Waters 2009). The Commission on Social Determinants of Health (2008) stated that social factors that influence these conditions can be unevenly distributed in society by the existing structural processes, resulting in socioeconomic imbalances.

Kingsley et al. (2013) argued that a better understanding of social and cultural determinants of health can evolve by applying holistic notions of health and developing fewer rigid definitions of wellbeing. Their research explored the Victorian Indigenous peoples' relationship to their Country and offered a framework that classifies Indigenous-specific social determinants of health as positive and negative. Positive determinants include concepts like ancestry and partnership, and negative determinants include racism and destruction of Country (Kingsley et al. 2013). Similar approaches have been used to describe and group social determinants of health across the world, such as 'assets' (including self-efficacy, social inclusion and social cohesiveness) and 'deficits' (including trauma, racism and higher incarcerations, in relation to colonisation) (Griffiths et al. 2016; Humpage 2006). Drawing on the perspective of Canadian National Aboriginal Health Organisation and National Conference on Social Determinants of Health in 2002, Brascoupé and Waters (2009) outline a broader list of social determinants that impact First Nations health, including: access, colonisation, cultural continuity, globalisation, migration, poverty, self-determination, territory, followed by Aboriginal status, early life, education, employment

and working conditions, food security, gender, healthcare services, housing, income and its distribution, social safety net, social exclusion, unemployment and employment security (Brascoupé and Waters 2009; Raphael 2016). These broader determinants are consistently used in public health research in Australia on the social determinants of health for First Nations peoples compared with other values. For example, there is significant research about how low educational attainment, racism and socioeconomic marginalisation (which are the result of ongoing colonisation) affect the health outcomes of First Nations communities (Biddle 2006; Kelaher et al. 2014; Shahid et al. 2011; Whelan and Wright 2013).

Despite the existence of positive and protective determinants of First Nations health, much of university health education curricula has been shaped using deficit-based approaches (Nakata et al. 2012). As such, existing curricula lead to health professionals having a reductive understanding of the diversity within First Nations communities. In recent years a more celebratory approach has been adopted, directing focus to Indigenous resilience and spirituality (Gray 2017), however the scope of the determinants included within health teaching models remains limited. Existing curricula rarely centre Indigenous voices and leadership (McGloin et al. 2009; Phillips 2004; Virdun et al. 2013) and overlook the diversity of First Nations in Australia. Consequently, existing models fail to integrate upstream environmental, economic and sociopolitical determinants with downstream determinants that prioritise patients' best interests and address issues experienced within each community (Lin 2022). These models, therefore, do not effectively teach health sciences students to engage with First Nations peoples, leading to a health workforce that is ill-equipped to address these resultant dichotomies. The entrenched hierarchical nature of these training programs means that most students will not feel comfortable voicing their concerns about the information provided. This results in existing prejudices being further embedded into the medical system through the attitudes and practices of students and practitioners, who are typically supervised by clinicians who were trained using less culturally appropriate curricula (Pecukonis et al. 2008; Thom et al. 2006).

Anti-First Nations racism within the health system

Teaching students about the social determinants of health can help to challenge racism within the healthcare system. An understanding of the interconnectedness of types of harm can help strengthen the protective factors and eliminate the negative forces, such as racism against First Nations peoples, throughout the entire system. For example, many health professionals have analysed how racism challenges the foundations of equity at personal and institutional levels (Laccos-Barrett et al. 2022; Vass and Adams 2021; Zambas and Wright 2016) and provided practical strategies to combat racism within healthcare systems.

Reading and Wien (2009) and Awofeso (2011) have described the levels at which social determinants of health operate. They refer to distal (such as historical, political and economic context), intermediate (such as resources, systems and capacities) and proximal (such as health behaviour, social and physical environment) determinants. Fair Foundations, VicHealth's framework for health equity, similarly describes the social determinants of health inequities in three broad levels: (i) the socioeconomic, political and cultural context; (ii) daily living conditions; and (iii) individual health-related factors (Newman et al. 2015). Similarly, a Canadian educational intervention has identified harm related to racism occurring across three interconnected yet

interdependent layers: interpersonal, organisational and systemic racism (Browne et al. 2021).

Concepts and teaching on anti-racism can be used to think about racism within healthcare systems and often go hand in hand with teaching about health equity. Additionally, cultural safety training programs both nationally and internationally are most successful when combined with organisational support for policy change, measures of accountability and combined system actions (Browne et al. 2021; Dean and Thorpe Jr, 2022). Many educational programs that focus on anti-racism describe attitudinal and behavioural shifts among students pursuing health profession degrees (Bennett 2023; Browne et al. 2021; Buhagiar et al. 2023; Kylie et al. 2024). This highlights the connection between teaching and learning outcomes and the flow-on effect to professional identity related to First Nations health outcomes. Medical curricula with an anti-racism and health equity focus inspire students to assume greater professional responsibility and commitment to eliminating inequities and disparities in response to the health crisis at hand.

Furthermore, understandings of harm need to be adapted to the specifics of the Australian setting. An Australian First Nations academic describes racism as 'the main source of oxygen that maintains the fire of Indigenous suffering and disadvantage' (Dillon 2015). Similarly, other First Nations academics contend that racism causes poor health rather than follows it (McKinnon et al. 2023). While research and teaching often focus on racism that occurs at the interpersonal level, researchers have also highlighted how anti-Indigenous racism plays out at the organisational and system level (Zambas and Wright 2016). For example, Elias et al. (2021) and Elias and Paradies (2021) discuss the nature of institutional racism within the Australian healthcare context, which include, but are not limited to: funding inequities, differences in treatment regimens, and inequitable Medicare and pharmaceutical benefits schedule. Despite racism playing out in different ways, Cross (2020) urges policymakers to adopt a human rights-based approach in order to eliminate racism across all levels.

Elements of health teaching models

Institutional racism has led to a lack of Indigenous-informed health education and research, the delivery of culturally inappropriate healthcare and low numbers of First Nations health workers (Zambas and Wright 2016). This implies that colonial ways of generating knowledge have been left to produce data and medical training models that create harmful health outcomes (Sherwood 2010) and silence Indigenous voices and ways of knowing (Bodkin-Andrews and Carlson 2016; Sherwood 2010). This section of the review considers how Indigenous knowledge has been incorporated within health curricula, the importance of holistic understanding of health and the incorporation of social determinants of health within these curricula.

Integration of First Nations ways of thinking within health curricula

In recent years, Indigenous studies have expanded across most university faculties and are now taught and researched within all disciplines, including health, law, politics, education, business and environmental sciences (Hokowhitu et al. 2020). However, there is significant variability in the extent to which Indigenous voices and the community have been engaged in curriculum development and delivery. Teaching Indigenous health in medicine is an emerging field that has affected the development of medical curricula (Phillips 2004).

There are a variety of educational frameworks and peak bodies in place to support First Nations health

curricula in tertiary courses at universities and postgraduate professional programs for graduating health professionals (Francis-Cracknell et al. 2019; Sivertsen et al. 2017). First Nations health teaching often falls under the banner of public health curricula in many institutions and, as such, focuses primarily on the SDoH and less on Indigenous ways of thinking in health. One of the peak bodies representing public health in universities throughout Australasia is the Council of Academic Public Health Institutions Australasia (CAPHIA), which established its own National First Nations health framework in 2017. CAPHIA's First Nations health curriculum framework was designed in partnership with multiple universities, including the Onemda VicHealth Koori Health Unit of The University of Melbourne as the first author (Taylor et al. 2023); however, it is not always clear how much Indigenous input has been incorporated into the design and ongoing development of these frameworks. Many curriculum frameworks quickly become outdated and lack the resourcing required to update previous versions. For example, the Committee of Deans of Australian Medical Schools (CDAMS) introduced a curriculum framework for Indigenous health studies in all core medical curricula in 2004, which has yet to be updated (Phillips 2004). The CDAMS curriculum framework outlines the identification and demonstration of the impact of social determinants on Indigenous health, including specific health issues that are not commonly experienced by the broader population (Phillips 2004). Since then, universities across Australia have recommended the incorporation of Indigenous knowledges into all university curricula to enhance students' competencies in Indigenous culture and health (Page et al. 2019). Since the theories of cultural competency and decolonising pedagogies for Indigenous studies were introduced by Ellen Grote and Martin Nakata, respectively, there has been a strong push for integration of Indigenous knowledges across curricula rather than being housed within a stand-alone subject or separate area of content (Grote 2008; Nakata et al. 2012). Many recommendations have suggested both horizontal (delivery of subject matter across all aspects of the curricula) and vertical (subject matter linked along the different phases of curricula) integration of Indigenous knowledge into health curricula (Sivertsen et al. 2017). Diffey (2022) and Rasmussen et al. (2011) argue for a fully integrated approach to teaching First Nations health that avoids 'othering' and the perpetuation of prejudices. Evidence shows that processes of 'othering' are ineffective in developing reflexive, culturally safe and 'judgement-safe practitioners'. Horizontal curriculum integration models within master's programs in public health have been shown to engage students and allow for self-directed learning, with new elements interwoven into existing curricula rather than replacing content. While horizontal integration has clear benefits, it does not reduce the importance of vertical integration spanning medical and health sciences curricula, master's programs and vocational training (Phillips 2004). Horizontal approaches instead provide a solid platform in core training that supports subsequent advanced learning (Phillips 2004).

In Australia, some teaching models in health have been revised to respond to national recommendations (Francis-Cracknell et al. 2019). Despite their widespread use, models across Australian universities overlook the relationship between upstream and downstream determinants of health and the positioning of First Nations peoples (Fitzgerald 2019). Research highlights that future models need to take a holistic approach to health (Gee et al. 2014), incorporating Indigenous-specific social determinants of health (Brascoupé and Waters 2009) and avoiding curriculum development in the absence of Indigenous voices.

Holistic perspective on health

Holistic and culturally appropriate training models for health professionals are essential prerequisites to improving primary healthcare for First Nations peoples. Such models should employ an inter-collaborative approach to developing academic curricula, undertaken in partnership with First Nations communities (Godwin et al. 2023). Therefore, optimal health outcomes for First Nations communities can be supported through holistic approaches to primary healthcare and student-centred learning. This approach reflects an understanding of health as a multidimensional experience (physical, mental, spiritual and emotional) shaped by the SDoH (Reading and Wien 2009).

For many First Nations peoples, health is viewed in a holistic and multidimensional way, incorporating physical, spiritual, social, cultural and emotional wellbeing (Gee et al. 2014). Aboriginal health has been defined by the first National Aboriginal Health Strategy as 'not just the physical wellbeing of the individual, but the social, emotional and cultural wellbeing of the whole community' (Anderson 2004). This is a whole-of-life view that includes the cycle of life and death (Anderson 2004). Therefore, the divergence between biomedical colonial and First Nations perspectives of health highlights the importance of having First Nations voices and views driving the development and the delivery of First Nations health curricula (Phillips 2004). First Nations leadership in curriculum development will ensure that the community perspectives on health, which are largely absent in the biomedical and other models used in teaching health, are well represented.

Some teaching models have successfully incorporated social and emotional wellbeing into their frameworks. In Canada, the Two-Eyed Seeing approach is used to train healthcare workers on Indigenous ways of knowing and doing (Calder 2024). Community Elders explain that Two-Eyed Seeing symbolises learning to see with one eye the strengths of Indigenous knowledges and ways of knowing, and with the other eye the strengths of Western knowledge systems. Using both eyes together recognises Indigenous knowledge(s) as distinct and whole, operating independently, but alongside, scientific research. It argues that both sets of knowledge contribute to improved outcomes of all people.

Similar models have been developed in other countries to bring Indigenous cultural values within the provision of healthcare. For example, the Hui Process framework (Lacey et al. 2011) was developed in Aotearoa New Zealand to improve clinician–patient communication with Māori patients. This framework incorporates Māori language and cultural protocols, such as *mihimihi* (greeting), *whakawhanaungatanga* (building relationships), *kaupapa* (clinical purpose), and *poroporoaki* (closing), to improve the responsiveness of provided healthcare. Building on this framework, the Meihana model (Pitama et al. 2017) was created as a clinical assessment framework to guide health professionals in delivering culturally appropriate care to Māori patients. The model is visually represented by the *waka hourua* (double-hulled canoe), which symbolises the Māori patient's journey towards health and wellbeing. Within the *waka hourua* are the elements that a healthcare professional should support when working with a Māori patient: *tinana* (physical body), *hinengaro* (psychological/emotional), *ratonga hauora* (access to quality health services), *wairua* (connectedness) and *taiao* (physical environments). This framework emphasises the importance of cultural competence and the integration of Māori worldviews in clinical practice.

While there is growing national and international research on the protective role of spirituality in both physical and mental health management and interventions, the adoption of Indigenous approaches has been significantly slower. Implementation of culturally specific and spiritual social determinants of health have mainly occurred within mental health frameworks and services, for example through the social and emotional wellbeing (SEWB) wheel (Gee et al. 2014). The SEWB wheel framework was developed to acknowledge First Nations patients' belief systems and cultural values, representing holistic healing and including protective factors that support good mental health for Aboriginal communities (Victorian Aboriginal Community Controlled Health Organisation Inc, 2025). The Victorian Aboriginal Community Controlled Health Organisation Inc, 2025 explains that the foundation of SEWB

> *illustrates an interconnected relationship between the SEWB of individuals, families and communities that is shaped by connection to the body, mind and emotions, family kinship, community, culture, land and spirituality. The disruption of these connections can result in poorer SEWB in Aboriginal people and their communities. The SEWB wheel instils a strength-based approach to mental health care and clinical practice through the restoration and strengthening of these connections for an individual's healing journey*

This framework also incorporates the SDoH specific to First Nations, such as the key political determinants that have strongly influenced health outcomes and the continuation of inequities as a result of intergenerational trauma stemming from racist policies (Menzies 2019). More research is required to explore how medical training models can raise awareness of holistic healing, by accessing Indigenous ways of knowing and drawing on the full spectrum of social determinants of health.

Understanding social determinants of health within curricula

In working with Indigenous peoples, Coffin (2007) describes three levels of learning for students and educators. First is 'cultural awareness', which is described as the ability to explain, interpret and remember information for working with Indigenous peoples. The second level of learning is 'cultural safety', where learners can apply this information into real contexts. The final level is 'cultural security', which involves embedding the learning at a service delivery and institutional level. Brascoupé and Waters (2009) similarly theorised the parallel importance of cultural safety and cultural security, emphasising that the actualisation of cultural safety remains unrealised. The principles underlying cultural safety are particularly important in Australia, where cultural history demonstrates that cultural safety is not an add-on but a necessity embedded across all curricula.

The elimination of racism in healthcare requires strong institutional willpower and multifaceted strategies, including cultural competency training and preparation of undergraduates and health professionals (Durey and Thompson 2012). Such education must challenge students to think and act on the products of colonialism and historical perspectives. This approach to learning aligns with the idea that the role of medical schools is to equip students to be 'enlightened agents of change', rather than being a place to simply build medical knowledge and skills (Francis-Cracknell et al. 2019; Springer et al. 2018). From this perspective, the role of medical schools is to equip doctors to exercise their responsibility to advocate for truth with courage and in service of the common good.

Significant positive impacts of cultural competency training have been noted for patients and physicians. Attending training is linked to improved patient satisfaction and is found to contribute to student self-reflection; discussion in a safe learning environment; transformation of biases, negative assumptions and stereotyping; and improvement in health professionals' knowledge, attitudes and skills (Browne et al. 2021; Merritt et al. 2018; Rissel et al. 2023). Addressing the social determinants of health to close the generational gap requires building capacity among health professionals, including embedding this teaching within health and medical curricula (Commission on Social Determinants of Health 2008; Francis-Cracknell et al. 2019; Godwin et al. 2023). Such measures will strengthen the knowledge base of the healthcare workforce, equipping them to address health disparities and inequities more effectively (Durey and Thompson 2012; Francis-Cracknell et al. 2019; Rissel et al. 2023). Cultural safety training for non-Indigenous people has demonstrated potential to enhance the effectiveness of services for Indigenous communities. Cultural immersion programs are particularly promising, as they raise students' consciousness in confronting racist attitudes by providing placement opportunities to learn on Country and experience Indigenous culture, knowledge and ways (Burgess 2019). Classroom learning about First Nations peoples is limited; in contrast community-based teaching allows students to hear directly from Elders and community members who share their worldviews first-hand (Barden and Cashwell 2013; Burgess 2019; Canfield et al. 2009). Through community-based learning, health students gain critical knowledge and skills to engage with the cultural and social determinants influencing First Nations health.

While successful in improving the quality of care provided to First Nations peoples, this approach cannot be implemented without significant institutional investment. The continuity of training directly influences the quality of care health professionals provide to First Nations peoples. When cultural competency training is treated as a one-off event rather than a life-long process of reflecting on one's own and others' knowledge and culture, professionals may retain biases and perpetuate discriminatory practices, instead of adapting their care to recognise and engage with diverse and evolving knowledge systems and cultures (Lewis 2020). This is reinforced by the reality that health professionals often work in environments where racism remains pervasive, despite institutional efforts to reduce such practices (Awofeso 2011; Elias and Paradies 2021; Kelaher et al. 2014). The persistence of racism is more likely when cultural competency training is delivered as a one-off continuing professional development (CPD), as many healthcare professionals continue to deny its ongoing presence within mainstream healthcare (Johnstone and Kanitsaki 2009). By contrast, these attitudes are less likely to persist when such training is embedded earlier in degree programs and integrated throughout the broader Indigenous health curriculum.

Limitations

This review was limited in scope as it did not include an exhaustive search of all possible evidence on First Nations education, narrowing its focus to teaching directly related to First Nations health and healthcare. The inclusion criteria were designed to answer the research question on teaching approaches, which may have made critical appraisal against strict criteria more challenging (Sukhera 2022). Despite these limitations, the review identified clear themes and recurring approaches that illuminate how First Nations health is currently taught through the lens of the social determinants of health. These findings underscore

both the progress made and the ongoing need for more comprehensive, system-wide integration.

Conclusion

Current literature on curricular approaches to teaching the social determinants of health for First Nations peoples in Australia highlights a proliferation of frameworks, programs and accreditation standards. However, these are applied inconsistently, resulting in significant variability across institutions and the absence of a comprehensive, nationally consistent approach within tertiary health education.

Several common themes were identified, including attention to the ongoing impacts of colonisation, recognition of Indigenous ways of health and healing, centring Indigenous voices, addressing anti-racism, and highlighting health inequities within the healthcare system. While approaches vary across programs, recommended methods include embedding content both horizontally and vertically within core curricula, incorporating holistic views of health, and broadening understandings of the SDoH.

Given the crucial role that practitioners play towards health outcomes of First Nations peoples, curricula redesign with SDoH in mind is essential, using a decolonising framework to raise reflexive and unbiased practitioners (Lewis 2020; Nakata et al. 2012). If health profession courses are committed to addressing inequities in healthcare for First Nations communities, a multidimensional curricular approach is required. This should draw on Aboriginal and Torres Strait Islander definitions of health, public health models of the social determinants, and established decolonising frameworks developed by Indigenous colleagues and communities. Adopting this multidimensional approach empowers students and educators to critically examine their own attitudes and biases through self-reflection. It also ensures Indigenous knowledge and culturally appropriate practices are integrated into core curricula rather than relegated to electives, thereby avoiding further marginalisation of Indigenous voices. The resilience and collective will of First Nation peoples, sustained against a backdrop of racism and injustice, must play a central role in shaping health teaching models. Embedding First Nations holistic perspectives of health within a SDoH framework challenges reductive biomedical emphases on genetics (Vasilevska et al. 2012). Further research is required to identify and evaluate the most effective strategies for incorporating First Nations health and Indigenous healing practices into teaching of the social determinants of health and public health more broadly.

Author contributions

N. Blow conceptualised the study. N. Blow and D. Eghrari designed and wrote the manuscript. All authors reviewed, revised and approved the final manuscript, and had final responsibility for the decision to submit for publication.

Declaration of interests

Ngaree Blow, Madelyne Hudson-Buhagiar and Nicolle Maganga are academics in the Wurru Wurru Health Unit, University of Melbourne. Simona Sterling and Indah Cox-Livingstone are previous students of the Doctor of Medicine program. As academics we have a keen interest in the success of the research project to guide future curricula. We do not have any additional funding to support this work outside of usual employment with the University.

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Dr Ngaree Blow (she/her) is a Quandamooka (Noonuccal), Goreng-Goreng and Yorta-Yorta woman. Ngaree is a medical doctor with the Royal Australasian College of Physicians (RACP), is currently completing her advanced training as a Public Health Physician and has previously worked in paediatrics at the Royal Children's Hospital in Melbourne. Her passion and speciality are in preventative medicine and academia, working as the Director of the Wurru Wurru Health Unit (First Nations Health), Senior Lecturer for medical education at the University of Melbourne. Ngaree is also engaged in various public health projects for health services, government and grassroots First Nations-led organisations.

Madelyne Hudson-Buhagiar (she/her) is a Wiradjuri woman, living and working on Wurundjeri Country. She is currently working as a Senior Lecturer in the Wurru Wurru Health Unit at the University of Melbourne and as a psychologist at the Victorian Aboriginal Health Service (VAHS). In her teaching and research role, she is passionate about supporting the development of health professional students to be able to provide high-quality and culturally appropriate care to First Nations community members.

Donya Eghrari is a non-Indigenous optometrist, public health researcher and a PhD candidate, learning and working across different centres at the University of Melbourne. She has research experience in maternal and youth health, utility of pathogen genomics, and cancer screening participation. Her PhD focuses on reproductive health and rights of refugee women. She is passionate to advance research and curriculum design at the intersection of health and interprofessional education, drawing on qualitative and co-design methods. She hopes to work towards equity and justice for all and has humbly learnt a lot working alongside the Wurru Wurru Health Unit in the past.

Nicolle Chido Maganga is a non-Indigenous researcher working in the Wurru Wurru Health Unit at the University of Melbourne. Her recent research experience and interests are in medical education and curriculum development. She is passionate about understanding how Indigenous knowledge systems can impact medical education and curriculum development. She hopes to grow her research and work in curriculum and Indigenous education as she is currently learning and working in an Indigenous unit at the University.

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