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Y*indyamarra Winhanganha:* a Conduit to Indigenous Cultural Proficiency.

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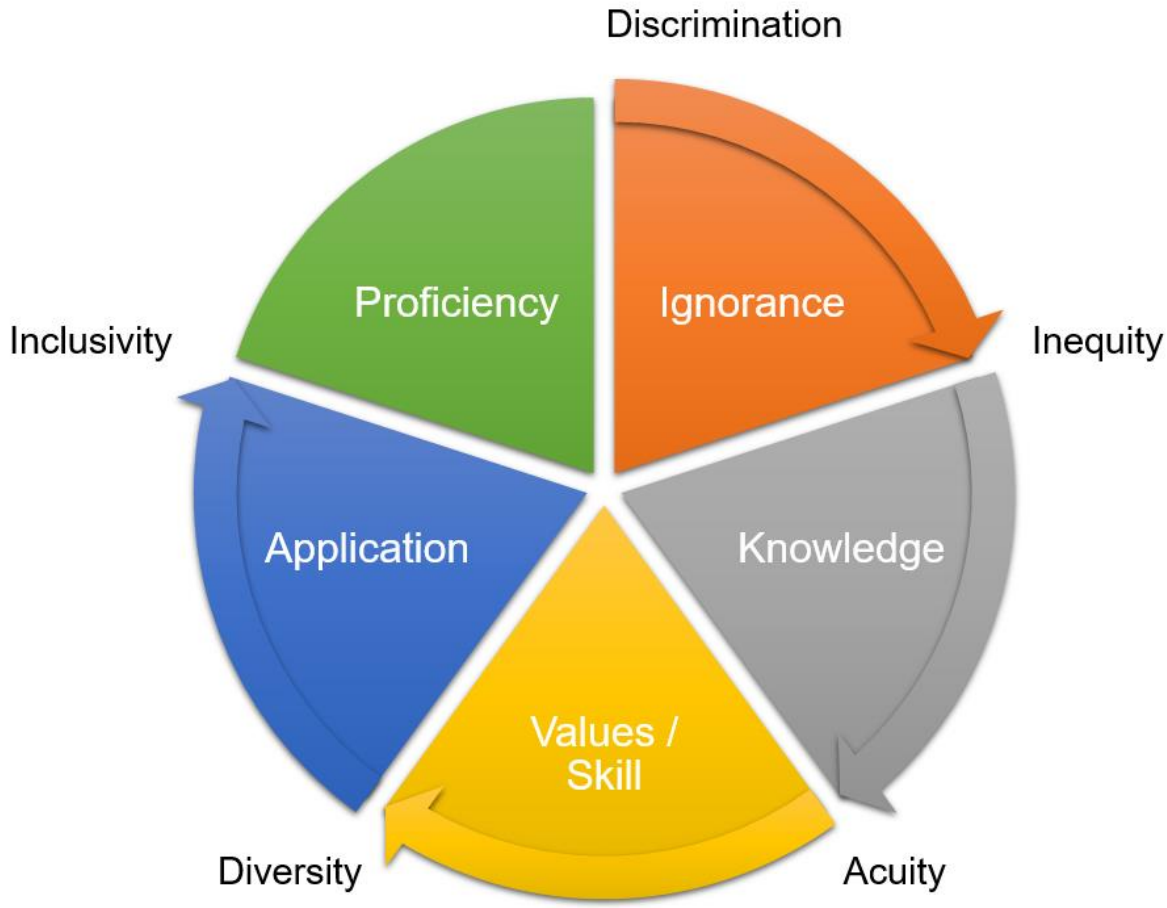
Footline: Indigenous Cultural Proficiency

Key words: nuclear medicine, social asymmetry, Indigenous peoples, diversity, equity, equality, social justice

Abstract

The first nation peoples in the USA, Canada, Australia and around the world are substantially disadvantaged by colonialization including health inequity. For nuclear medicine, cultural competence of staff and cultural proficiency of the institution, are important minimum expectations. This can be achieved through a scaffold of Indigenous cultural training and immersion programs that allow the nuclear medicine department to be a culturally safe environment for Indigenous patients. This requires careful planning and inclusivity of Indigenous people as the key stakeholders but, done appropriately, can positively drive the Indigenous equity pipeline. Central to this is an understanding of Indigenous ways of learning and the nexus of these ways of learning and learning taxonomies. There remain substantial gaps between the most culturally insightful and the least insightful (individuals and institutions) that could be addressed, in part, by rich immersive professional development activities in nuclear medicine targeting cultural proficiency and creating culturally safe clinical environments. The opportunity lies before us to provide leadership in nation building and in *living respectfully while creating a world worth living in*; yindyamarra winhanganha.

Graphical Abstract



Introduction

The *first nation* peoples around the world are substantially disadvantaged by colonialization (*1-4*). The histories of colonization are similar in Australia, New Zealand, Canada and the USA (*5*), however, there are more than 370 million Indigenous people in 70 countries globally (*1*). Inequity manifests in almost all aspects of the Western perceived quality of life, including health and education. Specifically, the average life expectancy across the world is 10 years lower for Indigenous people compared to non-Indigenous people (*2*) while higher suicide rates and poorer general health are characteristic of Indigenous people (*1*). Key social determinants of health for Indigenous people relate to over-crowded housing, homelessness, lower levels of education (westernized), poorer numeracy and literacy, and lower incomes. Central to health care inequity is that the Indigenous people's paradigm (square peg) does not fit the Westernized paradigm of health or education (round hole). In Australia, Indigenous people exhibit disparities compared to non-Indigenous Australians in chronic disease, communicable disease, infant health and mortality, mental health and life expectancy (*6*). This situation reflects social and socioeconomic factors including inequitable access to health services, lack of Indigenous people in the health care workforce leading to delayed attendance and under-utilization of services even when available, and sociocultural factors that combine with geographic and economic factors to decrease accessibility to health care (*6*). A significant cultural issue is that institutionalized medicine provides a western strategy to close the gap that fails to deliver pathways to services that embrace Indigenous beliefs and knowledge (*1*).

Health care inequities are sustained, in part, by implicit and explicit racial bias but are also driven by extrinsic and intrinsic barriers to accessing healthcare services among Indigenous peoples (*2-4*). Cultural competence and Indigenous cultural competence more specifically are critical parts of the curriculum for health care professions, including in nuclear medicine, yet health asymmetry continues to be problematic. This reflects a number of complex processes associated with difficulties in changing engrained culture using a bottom-up approach (ie. student education) and a lack of confidence among non-Indigenous healthcare professionals in meeting the cultural needs of Indigenous patients (*7-9*). It is crucial, therefore, to develop in parallel to curriculum, initiatives to implement cultural competence in professional, continuing

professional development and post-graduate activities. The manner education providers and professional bodies develop and apply cultural competence to enhance understanding of the social, historical and cultural determinants, and then apply this understanding to adapt and implement culturally appropriate healthcare is an important strategy in the move toward cultural proficiency and equity.

Understanding of Indigenous needs and barriers can create *culturally safe* and more productive clinical environments for Indigenous patients, Indigenous colleagues and the broader culturally diverse patient and staff populations. While this discussion focuses on the Indigenous people of Australia, the learnings are readily transferable to other Indigenous peoples across the globe, and more generally to those confronting ethnicity-based social or health care inequity. Indeed, Indigenous people of one land may be displaced geographically (refugee) carrying social asymmetry associated with both their Indigenous and refugee status. The chasm of social and health inequity is deepened and widened by implicit, explicit and historical racial bias. These biases reinforce social injustice weaved through the culture and policies of the “institution” to drive systematic disadvantage to those in most need. *Yindyamarra winhanganha* is Wiradjuri language indigenous to the lands on which many of the Charles Sturt University (CSU) campuses occupy and translates to “living respectfully in a world worth living in”. The phrase promotes “nation” building through respect, equity and unity. Yindyamarra winhanganha provides a sentinel to direct the path toward and a conduit to realize, *Indigenous cultural proficiency*.

Institution refers to the established westernized culture where implicit and explicit attitudes and behaviors are engrained in the policy and practice of an organization, Government or community collective. *Nation* is a community of people who share language, culture and history. This people and planet (the land for which Indigenous people are proud stewards) focused Indigenous context of nation and nation building contrasts the industrial and economic focus of colonized nation building.

Cultural Safety

Recent research identified three key characteristics valued by Indigenous Australians that are important in the nuclear medicine department and, in health care more

generally (*10*). The first relates to accessibility of services. Nuclear medicine departments are not always open, easy to locate or welcoming spaces. Furthermore, the nature of the services provided in nuclear medicine make it difficult to co-locate with other health services (excepting radiology). Secondly, consistent with the principle of personalized medicine and even precision medicine, Indigenous people value health care that is appropriate and responsive to their holistic needs and beliefs. Some cultural norms are not easily accommodated within the nuclear medicine department and this is driven in part due to issues of safety and in part due to a lack of insight into cultural beliefs. Thirdly, Indigenous people value culturally safe places where ethnicity and beliefs are respected. To provide a culturally safe environment requires more than cultural knowledge and awareness, it demands engagement through cultural values and attitudes (figure 1).

Part of cultural safety in nuclear medicine is related to patient education. The unequal power relationships between health practitioners and Indigenous patients contribute to health inequalities and health asymmetry at individual and community level (*5*). Cultural safety must recognize historical and contemporary impacts of colonization on Indigenous people's capacity to trust social, institutional and political structures (*5*).

Cultural Competence

Broadly, cultural competence is the capacity to respond to cultural diversity inside health care systems (*11*). This includes understanding and respecting variations in patient health beliefs, values, preferences, behaviors, symptom recognition, thresholds for seeking care, expectations of healthcare, compliance, and attitudes to diagnostic procedures (*12*). Cultural competence is an important strategy for addressing inequities, including health and education, for Indigenous people but requires more than cultural awareness (*6*). Cultural competence are the attitudes and behaviors, reinforced through policy and practice, that enable effective cross-cultural collegiality and collaboration at the individual and system level (*6*).

Endeavors to instill cultural competence in health care delivery have confronted barriers due to the lack of strategy coherence and because evidence and insight are largely descriptive (*6*). Success in building a culturally competent health workforce is

constrained by a lack of consistent definition and language around cultural competence, and lack of evidence of interventions impact or identifying appropriate performance indicators. Cultural competence requires mastery of the:

- capacity for cultural self-assessment,
- values of diversity,
- management of cultural dynamics,
- cultural knowledge,
- adaptation of actions through cultural understanding, and
- recognition of cultural difference and understand the impact difference makes.

Recognizing cultural difference and understanding the value that those cultural differences bring to a community or team is an important part of cultural competence (figure 1). This quality allows easy demarcation from lower levels of cultural development where cultural differences might be seen as opportunity for exploitation and discrimination, or recognized but either ignored or inappropriately responded to.

Cultural Proficiency

Cultural proficiency requires at individual and institutional levels:

- knowledge and skills to work effectively in cross cultural environments,
- holding all forms of cultural difference in high esteem,
- cultural reflection and self assessment around values, beliefs and bias,
- capacity for cultural humility,
- commitment to and value of diversity and justice,
- capacity to manage cultural dynamics,
- enrich cultural knowledge and learning of cultural practices,
- adapts beliefs, systems, policy and actions through cultural understanding,
- recognize and facilitate bi-directional cultural conduits, and
- knowing how to learn about cultural difference.

Beyond the capabilities of cultural competence, cultural proficiency recognizes cultural differences and is equipped to respond effectively and affirmingly; individually and institutionally (figure 1). Cultural proficiency is a journey, not an end point.

Training in Cultural Competence and Proficiency

There have been initiatives and research outlining the value of stand-alone cultural competence workshops for health care workers. It is often seen as a tick the box mentality that satisfied some tokenistic metric to build awareness. Research undertaken in Australia reported that the majority of industry based Indigenous cultural training was at the "cultural awareness" level; well below the expected level of health care practitioners (*13*). Conversely, university sector Indigenous cultural training tended to provide a foundation of knowledge and awareness that scaffolded to values, attitudes, sensitivity and empathy, and entry level cultural competence (*14*). Even when research indicates participants are now more confident working with Indigenous patients, like medicine generally, confidence should not be mistaken for competence. Indeed, confidence in the absence of competence can produce deleterious and paradoxical effects. More effective programs include cultural immersions because they develop stronger insights into the connection between culture, history, tradition, beliefs and values, and the interplay with health and health behaviors. Through these rich and deep cultural experiences, a better understanding can be gained of barriers to health and health engagement, language and communication styles, and potential strategies to better meet the health promotion, education and safety needs of Indigenous patients.

The journey through cultural awareness to enlightenment and cultural competence or proficiency is tortuous at best and demands commitment, patience, respect, empathy and perseverance. The task for non-Indigenous health professionals is to challenge the ways of knowing with the goal of "decolonizing" their attitudes, beliefs and actions; tortuous and challenging yet rich and revelatory (*1*). There are challenges to confront as a result of historical injury to Indigenous people or cultural incompatibilities. Short term strategies or changes in policy do not instill trust and confidence among Indigenous people. Strategies driven by well-intended white policy makers confronts resistance and overlooks the insights of the Indigenous people. Indeed, the idea that policy makers know what is best to improve the health and wellbeing of Indigenous peoples leaves a sense of tokenism and inevitable failure. Worse is the political point scoring of policy makers that parachute in and disrupt any real progress being made.

Health Care Inequity

Inequity and bias associated with Indigenous health care might manifest as a lack of diversity in the teams of health care professionals. Diversity in the health care team enables creative problem solving and implementation of solutions better suited to the Indigenous patients. Inequity may also manifest from policy developed with homogenous patient data (lacks Indigenous inclusivity). It is critical that data reflects diversity and is inclusive of Indigenous people otherwise there is a significant risk of widening health care inequities for Indigenous populations.

There are numerous examples of bias and inequity that drive the Indigenous health care inequity gap. Implicit bias or intrinsic bias relates to the attitudes and stereotypes that can unintentionally prejudice or bias. Explicit bias or extrinsic bias are our conscious attitudes and stereotypes that intentionally cause prejudice and bias of which racial bias is prominent. Both implicit and explicit bias cause harm in society and health care, and both can be deeply engrained in health care culture and policy. Institutional bias relates to those that are weaved into the culture of the “institution” (western paradigm) and creates a systematic advantage typically to those already enjoying advantage via social asymmetries. Historical biases are a type of institutional bias where implicit or explicit bias have shaped historical records. As a result, when those records are used, the biases are not only learned by health care workers and policy makers, but are reinforced. Cognitive bias is a systematic bias common in human health interactions where observations from the environment around a patient are used in judgement and decision making. These can be discriminatory in nature and rely heavily on intuition which, in turn, is shaped by personal experiences of the observer. Health care is neither neutral nor objective, but embedded in and driven by social, political and economic agendas. Indeed, health care policy is frequently designed with parameters for discrimination and amplification of social inequalities. An essential element of professional development and undergraduate training of nuclear medicine professionals is to develop the capability for critical reflection that reveals intrinsic bias to ensure that Indigenous people not only find nuclear medicine a cultural safe place but they encounter health care professionals who exhibit the attitudes and behaviors of cultural competence. In turn, learning from structured and hidden curricula, and through cultural mentoring will re-engineer the cultural framework of the

institution and produce cultural proficiency. Debugging policy and practice from historical bias.

Indigenous health care, including in nuclear medicine, confronts issues associated with accessibility and opportunity for access when services are available. As previously discussed, many of the barriers are intrinsic to Indigenous people (eg. lower uptake of available services) but it remains an expectation of health care professionals to bridge any divides and work with Indigenous communities to develop culturally safe and appropriate spaces. In turn, this will increase Indigenous access to and utilization of expertise and assets. Inclusive of this is the obligation to make careers in health, including nuclear medicine, attractive and achievable for Indigenous people. In rural and remote Western Australia, the nuclear medicine needs of Indigenous Australians (oncology, cardiology and renal services) are provided using a fly in fly out service to provide access to remote communities. Indigenous people in these communities have a 30 times higher myocardial infarction rate than non-Indigenous people and 50% lower 5-year cancer survival. But the success comes from culturally proficient nuclear medicine teams committed to closing the inequity divide, and who work with the Indigenous community to meet their needs. Accessibility creates equality but equity also demands opportunity. Well thought out strategy by culturally proficient teams are essential to ensure opportunity. Taking the services to the patient in communities who would otherwise not sustain a nuclear medicine service, and using telemedicine overcomes the cultural and socioeconomic barriers to services. A study undertaken in Western Australia showed comparative hospital services between metropolitan and regional communities (900 beds with 5700 staff in the metropolitan hospital and 800 beds with 6000 staff in the regional hospital) and revealed disparities (*15*). In metropolitan services only 0.9% of staff and 0.8% of the patient population were Indigenous. For the regional service 3.7% of staff and 8% of the patient population were Indigenous. While the regional service indicates under-representation of Indigenous people in the workforce, it also signals the lack of cultural preparedness the metropolitan service has for local Indigenous patients and those referred from lower tier regional sites for specialist services. Also of note, health policy, including funding / rebates, are driven by metropolitan teaching hospitals whose data not only

overlooks the unique features of regional and rural communities but, expressly and grossly, under-represent Indigenous people.

The Indigenous Equity Pipeline

Traditionally, health and education institutions have lacked vertical and horizontal diversity and it has only been recent decades that has seen a shift to more inclusivity to overcome barriers to diversity. In health care generally and nuclear medicine specifically the philosophy is to “first do no harm” (non-maleficence) and then improve outcomes (beneficence). To that end, development and implementation of strategy to close the gap for Indigenous health care inequities should not create or potentiate health inequities but rather should actively mitigate inequalities. The equity pipeline can be broken into 6 steps (figure 2):

1. problem identification,
2. supporting evidence,
3. defining outcomes,
4. strategy development,
5. strategy implementation, and
6. evaluation, reflection and refinement.

Problem identification can be driven by political, commercial or economic forces and institutional bias can be engrained in defining the problem, evidence and outcomes. In health care, problem selection, supporting evidence and outcomes are frequently focused on issues associated with the health needs of those already advantaged or privileged. Policy driving data generally reflects a metropolitan major teaching hospital cohort and seldom includes socially or geographically isolated communities. There can also be censoring of data that drives minority under-representation and lack of diversity in the data that demands more considered data curation. Outcomes associated with health care costs, for example, discriminate against patients with higher degrees of morbidity which, in turn, create inequity and bias associated with Indigenous groups with higher levels of morbidity. In essence redirecting resources away from those in most need; perpetuating the *inverse care law*. Strategy and policy development will reflect the diversity, or lack thereof, of the development team and any associated biases. Particular care needs to be exercised to ensure that policies

do not embed and reinforce the lack of neutrality of the intuition and data. There is potential for bias and inequity when lack of objectivity influences performance metrics. Strategy implementation needs careful consideration and ongoing evaluation to ensure appropriateness for Indigenous populations. In the absence of evaluation of post implementation performance and appropriate identification of those performance indicators, significant inequity and social injustice may emerge. Among the 6 steps in the pipeline, a spectrum for both diversity and inequity provides clues to cause and solution (figure 2). Central to the entire Indigenous equity pipeline is the mantra; *nothing about us without us*. Indigenous equity in health care requires key stakeholder engagement and inclusivity; too often the *institution* rather than the *nation* is identified as the key stakeholders.

Indigenous Learning

In nuclear medicine and health more generally, communication with Indigenous people is a key cultural competence skill but is also a valuable tool in creating a cultural safe environment for all patients. Understanding Indigenous learning will drive improved health promotion and patient information dissemination which drives trust, compliance and increased health care engagement. Understanding Indigenous ways of learning or knowing is also valuable insight to help the non-Indigenous health practitioner more deeply understand Indigenous barriers to health and health equity. Reflecting meaningfully on Indigenous ways of learning is a conduit to cultural proficiency. The first principle to consider, perhaps more broadly in health promotion than specifically in nuclear medicine, are the barriers to Indigenous learning. If Indigenous patients do not find hospitals or clinical departments a culturally safe place to allow learning, then health professionals need to venture into culturally safe places to better deliver key messages. At a macro level, that means health promotion programs that engage with Indigenous people in their communities and is helped by inclusivity of Indigenous members of the health care team. At a micro level, this might reflect a health care practitioner exercising their cultural proficiency skills to negate the cultural inappropriate physical space and provide the Indigenous patient with a cultural safe emotional and cognitive environment. In principle, this should be no different to the emotional intelligence and cultural competence skills that health care practitioners use

to create safe places for all patients; each with their own suite of cultural needs. *If they don't learn where we teach, let's teach where they learn*!

Likewise, when the ways of learning or knowing are examined for Indigenous people, it is easy to focus on the unique media for the learning and perhaps the challenges associated with them, rather than appreciate that the core philosophies are largely universal for all learning. Consider the following list of eight ways of learning for Indigenous people (https://www.8ways.online/) and, perhaps with the exception of land links, the remaining seven are all important tools for learning regardless of ethnicity:

1. Story telling uses a narrative to make better connection with the patient and the information being communicated.
2. Learning maps are mind maps that draw on the visual nature of learning to create visual pathways and connections among bits of information.
3. Non-verbal are vital in engagement and conveying importance of information.
4. Symbols are metaphors or images that are used to reinforce understanding of concepts.
5. Non-linear learning accommodates lateral thinking and synthesis of new knowledge.
6. Deconstruction and reconstruction models learning (learning in whole; watch one, do one, teach one) or scaffold learning (learning in parts).
7. Community links uses community to contextualize learning value and a repository to then share the learning within.
8. Land links connect learning to local land, nature and places and is perhaps captured in part by the emphasis on sustainability in general learning.

A valuable insight comes from community engagement and cultural immersion. Australian Indigenous people tell dreamtime stories that survive intact over 1000s of years. Like Indigenous people across the globe, stories are carried in a cultural bubble of song, dance, ceremony, art and family that preserves the integrity of the message. If learning is weaved into cultural significance, then we create a richer understanding and appreciation of the learning but also create a map to guide us back to unremembered learning. Cultural acuity, competence and proficiency are capabilities that health care practitioners and educators alike should develop so that learning can

be crafted into a cultural bubble for enhanced learning and understanding by Indigenous and non-indigenous patients and students.

Taxonomies of Indigenous Cultural Proficiency

The journey to Indigenous cultural proficiency requires deep insights into Indigenous culture, Indigenous ways of learning and one's own ways of learning. The journey is less tortuous through cultural immersion style learning but also in appreciating the impact of learning taxonomies. Bloom's cognitive taxonomy can provide a valuable framework for learning that is widely cited in educational literature. As learning outcomes are developed in university courses, Bloom's cognitive taxonomies are used to scaffold the learning from lower order capabilities like knowing and understanding through to higher order capabilities like evaluation and synthesis. Indeed, the knowledge domain that the cognitive taxonomies apply are also scaled from factual information through to metacognitive. This two-dimensional taxonomy of learning is the very foundation of formal education yet it simply affords early capabilities in the Indigenous equity pipeline (figure 3). In some regards, it is easy to understand why a focus on cognitive and knowledge domains, even collectively, reinforce bias and inequity. Progression to cultural safety and sensitivity (acuity) along the pipeline requires attention on the less often discussed affective domain of Bloom's taxonomy where feelings, attitudes and values are scaffolded from receiving and responding through to internalized values. The step to cultural competence and proficiency requires command of the capabilities of Blooms taxonomies in the psychomotor domain. Here, the emphasis is on behaviors, skills and what individuals actual do and has a scaffold from perception through to adaption and organization (figure 3). The key point here is that overcoming barriers might be viewed as insurmountable, but the decolonized mind easily identifies the synergies between ways of learning and knowing, and the application of westernized education taxonomies. It is not a case of abandoning or re-engineering western approaches to learning but rather a more objective view of similarities to refine and integrate into an approach that is better for all.

The Charles Sturt University Experience

CSU is a culturally proficient organization built on genuine respect for and engagement with our Indigenous communities. At an institutional level, Indigenous culture is authentically and visibly weaved through strategy, philosophy and branding. Indigenous culture is respected during the course of any event, meeting or class. At major University events, Indigenous elders perform a welcome to country address. All meetings whether in person or virtual include a welcome to country and a paying of respect to Indigenous elders and people; past present and future. At its inception, this comprised of the meeting chair reading an approved welcome to country script. Today, meeting chairs deliver their own version of the original welcome that reflects their own values and experiences. This is an authentic insight into the growing of cultural competence and proficiency through personal engagement with Indigenous cultural competence initiatives. The start of each class begins with the same, for some the formally crafted statement and for many others, a personalized welcome that embraces the cultural identity of Indigenous people.

The growth in Indigenous cultural competence of CSU staff is driven intrinsically by the strategy and branding of the University, and by extrinsic programs designed to enrich Indigenous cultural proficiency. At an entry level, CSU offers an online Indigenous cultural competency program for all staff and students focused on the lower order taxonomies of enhancing awareness and sensitivity. The significant impact of this program is the development of CSU as a cultural safe place for Indigenous staff and students. The program decolonizes thinking and provides confidence to individuals to contribute to closing the inequity gap. Beyond this foundation program, a number of staff undergo enrichment through Indigenous cultural immersions. This might be, for example, participation in a traditional smoking ceremony that, for some, provides a cultural epiphany. For others, an overnight or 2-3 day immersion in an Indigenous community provides not only insights for developing cultural proficiency but also insights into barriers Indigenous communities confront that drives social asymmetry. In turn, this arms participants with rich insights to be effective policy makers in health, education and other areas of governance. Students too, in some programs, are afforded the opportunity to undertake enrichment programs as primary health workers or educationalists in Indigenous communities imparting insights, values

and capabilities that can be used to drive change in communities where Indigenous people are minorities.

CSU staff, students or members of our local, national or professional communities can undertake post graduate studies in Wiradjuri language, culture and heritage. The program creates awareness and motivation to reverse the colonization, dislocation, and dispossession of Indigenous people with immersion in and celebration of the Wiradjuri nation. All coursework programs at CSU, undergraduate and post graduate, are mandated to include at least 1 subject (12.5% of an annual fulltime study load equivalent) approved as an Indigenous subject by the Indigenous Board of Studies. This drives awareness in some subjects for students at foundation level (cognitive domain) while other subjects engage more deeply for students already mastering the cognitive foundations. One key performance indicator that speaks to the success of these programs is that CSU has the highest proportion of Indigenous students at any Australian university and, more importantly, the highest retention and completion rates. One observation is that the increase in proportion of students that are Indigenous reflects both absolute increases in Indigenous enrollments but also an increase in students identifying as Indigenous who might otherwise not share that identity. In either case, it speaks to the strategies that create culturally safe environments and reflect institutional cultural proficiency.

CSU has also invested in physical resources that support cultural safety and mirror Indigenous ways of learning that are fantastic for all students and staff. At the Wagga Wagga campus, open native spaces, including a large amphitheater, are often used for outdoor classes. Wagga Wagga campus also hosts an Indigenous food garden that not only provides an education resource but supports biodiversity in a rich habitat. Each campus has a First Nations student center to bring Indigenous students together and provide culturally safe places. The Bathurst campus has a vibrant space dedicated as a meeting place for Wiradjuri elders. On the Port Macquarie campus, outdoor spaces include a lecture space (figure 4 background) and a fire pit that allows meeting and teaching in a *yarning circle* around the fire (figure 4 foreground). The significance of the yarning circle is equity (all facing the center), engagement and open communication.

Conclusion

The divide associated with Indigenous inequities, despite the efforts of individuals, corporations and policy makers, continues to be problematic. This reflects two maxims. The health care system is *only as strong as its weakest link* and unfortunately there is a substantial gap between the most culturally insightful and the least insightful. In turn, this perpetuates the *inverse care law* where those in most need for health care have a disproportionately decreased access / opportunity for it. Indigenous health care without diversity and inclusivity of the workforce, and rich immersive professional development activities targeting cultural proficiency using cognitive, affective and psychomotor taxonomies, is counter-intuitive to the *first do no harm* mantra of western medicine and non-maleficence. More importantly, such immersive Indigenous cultural training and diversity/inclusivity strategies help create culturally safe clinical environments for patients which contributes to the reduction in social and cultural barriers to Indigenous people accessing medical services. The commitment of non-Indigenous health care professionals to developing cultural competence and proficiency is nation building and is *living respectfully in a world worth living in*; yindyamarra winhanganha.

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Figure 1: The Indigenous cultural proficiency pipeline.

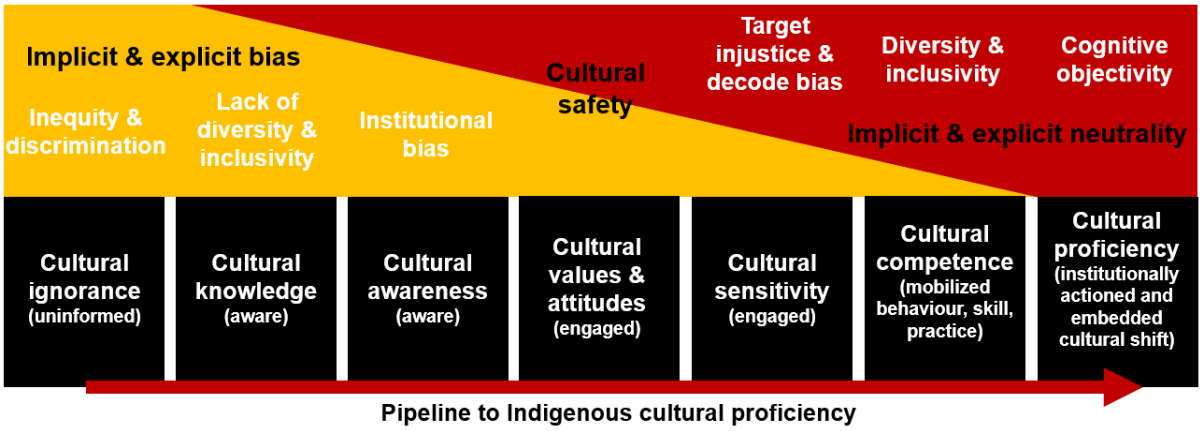

Figure 2: Schematic representation of the focus of bias associated with the AI pipeline, beginning with the underlying problem of diversity in data and development teams and transforming into outcomes of inequity.

Figure 3: Bloom's taxonomy mapped against the Indigenous cultural proficiency pipeline.

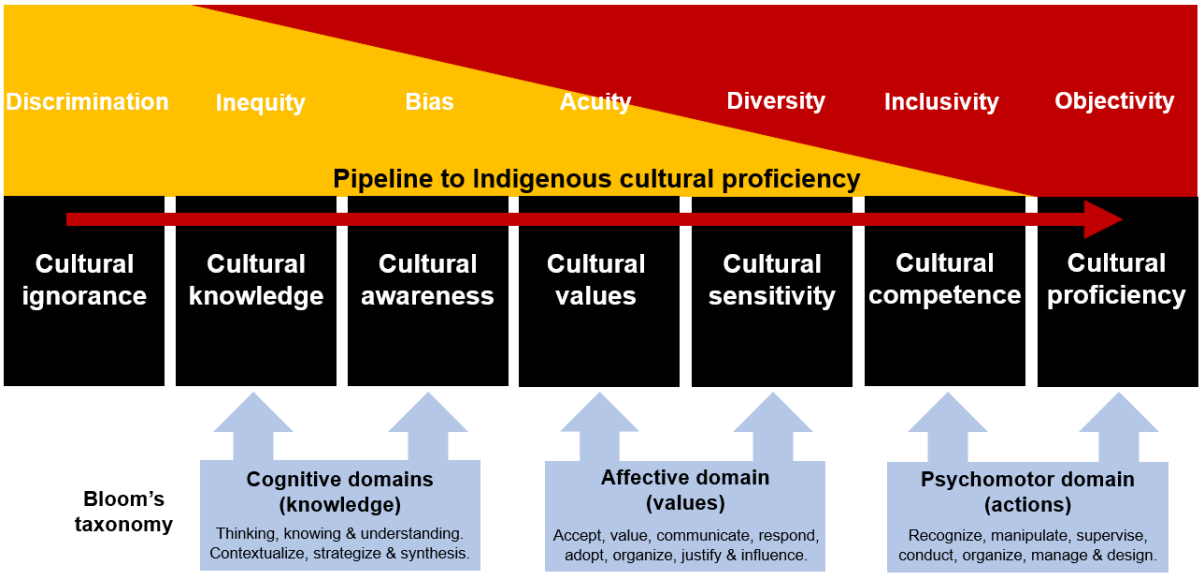

Figure 4: The Port Macquarie campus of CSU outdoor learning space with tiered lecture “theatre” seating in the background and a covered yarning circle around a fire pit for open discussion and meeting in the foreground.