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Students' experiences of placements in urban Indigenous health contexts: developing a culturally responsive workforce

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Abstract

Background A culturally responsive health workforce is essential to ensure the delivery of culturally safe health services that meet Aboriginal and Torres Strait Islander Peoples needs. In partnership with universities, placement providers play an essential role in creating opportunities for immersive experiences that enable students to develop their cultural responsiveness. This study evaluated students' experiences of an innovative student placement model embedded within an urban Aboriginal and Torres Strait Islander Community-Controlled Health Organisation.

Methods Students completed pre and post placement surveys administered using a web-based interface. The surveys involved five-point Likert and open-ended response items exploring students' perceptions of their knowledge, skills development, awareness and self-development, and overall placement experience. Frequencies were calculated for the variables of interest and compared between pre and post surveys. The sign test for matched pairs was used to calculate differences between pre and post surveys, and a one-sided hypothesis test was utilised to determine if the level of agreement increased from pre to post survey. Qualitative data obtained for seven questions were thematically analysed using Groundwater Method, an Indigenous data analysis technique.

Results Between January 1, 2017, and June 30, 2019, 938 students from 32 disciplines were placed within the organisation and its Member services. Survey responses were received from 338 participants pre-placement, and 158 participants post-placement. The matched pre-post group contained 81 students. The results indicate significant positive changes in cultural responsiveness, skills development, awareness, and self-development when comparing pre- and post-placement responses. Students' overall satisfaction with the quality of their placement was positively associated with their intention to work in Aboriginal and Torres Strait Islander health contexts in the future. Key pre-placement themes included competence, cultural skills, support and fear, and key post-placement themes included expertise, cultural responsiveness, learning environment and challenges.

Conclusions Indigenous-led, regionally coordinated placements in urban Indigenous health contexts can support transformative learning and the development of a culturally responsive workforce. Universities should aim to develop reciprocal relationships with Indigenous-led organisations to support students to develop their cultural

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responsiveness and improve the provision of culturally safe care for Aboriginal and Torres Strait Islander Peoples. Future research should explore the longer-term impacts of student placements on cultural responsiveness, attitudes, values, and behaviours, as well as the experiences of Aboriginal and Torres Strait Islander Peoples interfacing with university students on placement in urban settings.

Note We will predominantly use the term 'Aboriginal and Torres Strait Islander Peoples', as opposed to 'Indigenous' or 'First Nations'. When the term 'Indigenous' is used, it largely relates to government policy - except when referring to Indigenisation of curriculum and Indigenous Knowledges - and where 'First Nations' is used, it is in a global context. In addition, we use the term 'Peoples' to signify that Aboriginal and Torres Strait Islander Peoples are not one People or Nation, but a collective of Peoples and Nations.

Keywords Student placement, Indigenous health, Aboriginal and Torres Strait Islander Peoples, Cultural capability

Introduction

In Australia, significant health inequities exist between Aboriginal and Torres Strait Islander Peoples and non-Indigenous peoples and are evident across all social determinants of health [1]. Deeply embedded and structural influences of racism are recognised as an independent determinant of health [2]. One of the factors contributing to the significant discrepancy in health outcomes between Aboriginal and Torres Strait Islander Peoples and non-Indigenous peoples is the lack of cultural safety experienced by many Aboriginal and Torres Strait Islander Peoples in the health system [3]. Cultural safety is defined as “ensuring that those individuals and systems delivering healthcare are aware of the impact of their own culture and cultural values on the delivery of services, and that they have some knowledge of, respect for and sensitivity towards the cultural needs of others” (Page 8) [4]. Aboriginal and Torres Strait Islander Peoples are more likely to access health services where providers communicate respectfully, have some understanding of culture, build good relationships with clients, deliver nurturing holistic care, and where Aboriginal and/or Torres Strait Islander Health Workers are part of the health-care team [5–7]. The Aboriginal Community Controlled Health Sector (ACCHS) are an exemplar model for health service delivery, providing culturally responsive and comprehensive care, reducing experiences of racism and barriers to accessing care, and embodying the right to self-determination [8].

Cultural respect, defined as “the recognition, protection and continued advancement of the inherent rights, cultures and traditions of Aboriginal and Torres Strait Islander Peoples” (Page 7) [9], is essential in delivering health services that are responsive to the health beliefs, practices, and socio-cultural and linguistic needs of people from all backgrounds [3]. This is particularly needed in the context of the inequitable health outcomes experienced by Aboriginal and Torres Strait Islander Peoples [3]. It is widely recognised that health providers attitudes and behaviours towards Aboriginal and Torres Strait Islander Peoples can either undermine or enable positive

health outcomes [3]. As such, the responsibility for quality healthcare should be shared across the health system, not relegated to the Aboriginal and Torres Strait Islander sector or workforce [10]. It is paramount that all university graduates be equipped with the necessary knowledge, skills, cultural capability (“demonstrated capacity to act on cultural knowledge and awareness through a suite of core attributes that are acquired through a lifelong-learning process” (Page 2–22)), and humility to enable them to work across all Australian socio-cultural contexts [3]. This includes influencing the enculturated values, attitudes, behaviours and beliefs of those working within health systems and professional cultures that result in the delivery of culturally unsafe care and compound the health inequities experienced by Aboriginal and Torres Strait Islander Peoples [11].

The critical need to ensure culturally safe care for Aboriginal and Torres Strait Islander Peoples has been acknowledged by including cultural safety into curriculum and updating accreditation requirements for health professional training [12, 13]. In 2014, the Australian Government released the national *Aboriginal and Torres Strait Islander Health Curriculum Framework* (the Framework) which was developed to address the variability among health professions and higher education providers in terms of the nature and extent to which Aboriginal and Torres Strait Islander curriculum and Indigenous Knowledges are being implemented [3]. According to the Framework, higher education providers play a pivotal role in ensuring graduates have the capacity to work effectively and respectfully in Indigenous health contexts [3]. This is particularly relevant to placement providers as they play an important role in creating opportunities for student learning and development, and evaluating student performance [3, 14, 15].

The teaching of cultural competency in relation to Indigenous health is a requirement of all Australian universities offering health programs to broaden student's knowledge and promote culturally responsive care [14]. Cultural competency is defined on page 6 of the *Universities Australia Framework* as “student and staff knowledge

and understanding of Indigenous Australian cultures, histories and contemporary realities, and awareness of Indigenous protocols, combined with the proficiency to engage and work effectively in Indigenous contexts congruent to the expectations of Indigenous Australian peoples” [14]. Content is often taught in isolation from practical experiences, frequently led by non-Indigenous staff, and has the potential to be framed from a place of deficit, promoting only negative aspects of Indigenous health and problematizing Aboriginal and Torres Strait Islander Peoples and health as something to be fixed [16, 17]. As such, the potential to reduce health inequities by including strength-based Aboriginal and Torres Strait Islander health curricula to support a more culturally informed health workforce is strongly recommended by the Framework and recognised in the literature [10, 14, 15, 18–21].

The Framework identifies five interconnected graduate cultural capabilities including: respect, communication, safety and quality, reflection, and advocacy [3]. The development of these cultural capabilities in graduates can enable the delivery of culturally safe and responsive healthcare for Aboriginal and Torres Strait Islander Peoples [3]. Cultural responsiveness differs from cultural competence [22]. Being culturally responsive is to work with Aboriginal and Torres Strait Islander Peoples in a way that is collaborative, relational (develops relationships), respectful, and inclusive of the local context and inherent worldviews “in order to respond to the issues and needs of communities in ways that promote social justice and uphold human rights” (Page 21) [22]. Cultural responsiveness is a constant state of learning in relation to where one is and the local context, with each situation, family and community requiring differing and diverse responses [23].

Contrary to common assumptions, most Aboriginal and Torres Strait Islander Peoples live in urban areas and access mainstream health services, therefore, cultural capabilities are necessary for all health providers, not only for those wanting to work in Indigenous health or in rural and remote contexts [3]. The traditional focus on rural placements driven by government funding has not yet adapted and/or recognised the significant population shift to regional and urban areas, resulting in the misconception that working in Indigenous health equates to living in rural Australia [24]. Additionally, there is limited research on the impacts of student placements in urban Indigenous contexts, with previous research stating that students exposed to community-engaged rural placements have unique learning opportunities to develop their cultural understanding that are not necessarily available to their urban counterparts [25, 26].

The Institute for Urban Indigenous Health (IUIH) is a not-for-profit, Community Controlled Health Organisation (CCHO) which leads the planning, development and

delivery of comprehensive primary healthcare to Aboriginal and Torres Strait Islander Peoples in the South East Queensland (SEQ) region [27]. The IUIH and its four Founding Member ACCHSs: the Aboriginal and Torres Strait Islander Community Health Service (ATSICHS) Brisbane Limited, Kalwun Development Corporation Limited (Kalwun Health Service), Kambu Aboriginal and Torres Strait Islander Corporation for Health, and Yulu-Burri-Ba Aboriginal Corporation for Community Health serve Australia’s second largest, but fastest growing Aboriginal and Torres Strait Islander population [27]. As well as providing a coordination, integration, and leadership role across the region, IUIH directly delivers health, wellbeing, and social support services to the Moreton Bay region through Moreton ATSICHS [27]. The IUIH’s vision is “healthy and strong Aboriginal and Torres Strait Islander children, families and communities”, and its purpose is to provide “leadership in health system reform and provision of a high quality, integrated system of health and social support services” [27].

The IUIH collaborated with a local university (University of Queensland [UQ]) in 2010 to develop an innovative, Indigenous-led model of student placement coordination, establishing a student placement agreement across the entire university. The model aimed to support service and workforce development in CCHOs as well as provide practical experiences that develop students’ cultural responsiveness prior to graduation [28]. This innovative model includes regional coordination of student placements through a university-resourced Student Placement Coordinator based within the IUIH; contextualized clinical education training for supervisors; mutually beneficial placement opportunities; community-led placement projects; and non-traditional placement opportunities such as placements in policy, community legal services and local kindergartens or schools. Opportunities for university student placements were extended to other universities when additional placement opportunities and resourcing became available.

A previous cross-sectional analysis of post-placement survey data from students undertaking placement at the IUIH evaluated students’ perceptions of these placements in developing their capacity to provide culturally responsive care, examining themes around knowledge, skills and intention to work in Indigenous health contexts at the end of their placement [24]. This new study aims to extend the evaluation of students’ perceptions of their placement and development of cultural responsiveness by exploring the impact of the placement through comparing pre- and post-placement survey data across several larger placement cohorts across more disciplines and utilising a longer post-placement survey to enable a more detailed evaluation of students’ placement experiences.

This study provides an evaluation of students' experiences of placement in an urban Indigenous health context, including the development of cultural responsiveness and intention to work in the sector.

Methods

The IUIH student placement model incorporates regional coordination of Indigenous-led, sector driven placements across the IUIH, its four Member ACCHSs, Moreton ATSICHS and a local Aboriginal and Torres Strait Islander Independent Community School (the Murri School), which provides preparatory to Year 12 education. Placement durations for each type of placement varied from one to three days for community events or conferences, to periods longer than two months for clinical service provision or project placements. Placement duration was specified by the university in most circumstances to align with accreditation requirements. The duration of placement for community events or conferences was set by the IUIH based on the duration of the event, and students from any discipline had the opportunity to support community events or conferences. Student's responsibilities varied from participating in clinical service provision, planning, facilitating, or observing preventative health or chronic disease management programs, involvement in specific sector-led projects or research opportunities, or supporting community events or conferences. Most health students hosted by the IUIH

were engaged in interprofessional placements, further enabling the development of their clinical knowledge and skills, professional identity, and cultural responsiveness. For example, speech pathology and occupational therapy students usually delivered clinical service provision together at kindergartens or the Murri school; nursing and medical students worked together at primary health clinics to consult with clients; and allied health students (exercise physiology, psychology, nutrition and dietetics, occupational therapy, pharmacy, podiatry, optometry, and physiotherapy) worked together to facilitate chronic disease prevention or management programs.

The student placement model is underpinned by the IUIH's cultural integrity investment framework, 'The Ways Statement' and guided by the student placement policy which enables mutually beneficial, sector driven placements, and encompasses various processes and supporting activities (Fig. 1). The Ways Statement is a stance or positioning statement that frames the IUIH's approach, providing a framework for aligning all organisational systems and processes with the cultural and philosophical worldview or Aboriginal Ways of seeing, knowing, being, doing and belonging [27]. Most students engaging in placement with the IUIH, its Member ACCHSs, Moreton ATSICHS and the school were centrally coordinated by two staff members at the IUIH (AN and KOJ). This reduced the administrative burden on placement sites, provided centralized support and



Fig. 1 The IUIH student placement model

mentoring to supervisors and students, and enabled contextualised opportunities for workforce development through staff developing their clinical education and supervision skills.

Students attended a two-hour orientation session in which they were provided with an overview of the history of the IUIH and its Member ACCHSs, cultural training underpinned by the IUIH’s ‘Making Connections’ framework [29], as well as general information on the logistics of the placement. The ‘Making Connections’ framework was initially developed to help guide occupational therapists in the art of connecting with Aboriginal and Torres Strait Islander clients and families [29]. Making connections is broader and deeper than typical approaches to building rapport or relationships with clients. The framework is now used across all disciplines to guide relational ways of working with clients and staff within the IUIH [29]. Following the orientation session, students were provided with readings, videos, and reflective learning activities which sought to foster culturally respectful approaches such as understanding your own values and how these impact on practice, building connections with clients, utilising clinical yarning in practice, understanding community-controlled health service delivery, and client autonomy. This aspect of the student orientation process was formalised in 2018 as a five-week student cultural skills program, ‘Propa Ways’ (developed by RB and KOJ) which aimed to help students understand, align, and embed the IUIH’s ‘Ways’ into their practice, and as an opportunity to reflect on and understand their personal lens and journey including how their privilege, social positioning, and potential power imbalances affect practice. Additionally, Aboriginal and Torres Strait Islander and non-Indigenous staff from the IUIH regularly worked in partnership to design, develop and

deliver curriculum for local universities on topics such as Aboriginal and Torres Strait Islander community-controlled health, culturally responsive healthcare, and the systems transformation work of the IUIH and its member services.

A total of 938 students from 32 disciplines and 13 Australian universities engaged in placement at the IUIH and its Member ACCHSs between January 1, 2017, and June 30, 2019. Of these, 91% (n=855) were enrolled at either the UQ or the Queensland University of Technology (QUT), with most students (784 of 855; 92%) studying at the UQ, due to the collaboration agreement. The UQ were offered first right of refusal for all appropriate placement opportunities, and placement opportunities which were not utilised by the UQ were offered to other local universities. Additionally, placement students were sourced from other local universities for programs not offered by the UQ, such as optometry and podiatry. Students enrolled at any university who identified as Aboriginal and/or Torres Strait Islander were generally offered placements at the IUIH and its Member ACCHSs to support the development of the Aboriginal and Torres Strait Islander workforce. The 855 students engaging in placement at the IUIH from the UQ and the QUT were from 28 disciplines, extending beyond the health disciplines in the collaboration agreement (Fig. 2).

Most students were enrolled in Occupational Therapy (n=304, 36%), Medicine (n=117, 14%), Architecture (n=99, 12%), Speech Pathology (n=34, 4%) or Nutrition and Dietetics (n=34, 4%). The number of students placed from each discipline was influenced by the type and mode of placement and is not reflective of the length nor scope of the placements. Students enrolled in Architecture, Business, Engineering, Health Science, Human Services, Mental Health, Pharmacy, Political Sciences,



Fig. 2 Professional background and number of students per discipline placed within urban Indigenous ACCHSs (n=855)

Public Health and Social Science generally completed project placements. Students studying Medicine, Nursing & Midwifery, Dentistry and Allied Health disciplines (Audiology, Counselling, Exercise Physiology, Health, Sport and Physical Activity, Nutrition & Dietetics, Occupational Therapy, Optometry, Pharmacy, Physiotherapy, Podiatry, Psychology, Social Work, Speech Pathology, and Sports Coaching) typically completed clinical placements in which they planned, facilitated or observed clinical service provision to individual clients or groups of clients. Occupational Therapy, Nutrition and Dietetics, Sports Coaching, Social Work and Psychology students also sometimes engaged in project placements. Only Occupational Therapy and Speech Pathology students were placed within the Murri School or Kindergartens. In these settings students provided developmental screenings, play-based therapy and whole-class activities tailored to teacher priorities, such as support with reading, physical activity and/or writing.

Data collection

Student placement experiences were evaluated using pre- and post-placement surveys administered using a web-based interface (SurveyMonkey Inc., Palo Alto, California, USA). The pre-placement survey included demographic questions, 18 five-point Likert items relating to students' perceptions of the learning environment, skills development, awareness, and self-development, and three open-ended response items exploring the aspects students were most looking forward to regarding the placement, how they would like to receive support, and any concerns they had about engaging in the placement (Supplemental File 1). The post-placement survey included demographic questions, 25 five-point Likert items relating to students' perceptions of the learning environment, skills development, awareness and self-development, supervision and feedback, and overall satisfaction of the placement, and two open-ended response items exploring the positive and negative aspects of the placement and how they impacted on learning (Supplemental File 2). Fifteen five-point Likert items included in the pre-placement survey were repeated in the post-placement survey.

The post-placement survey was initially designed based on best practice standards to explore clinical education outcomes beyond cultural responsiveness in isolation by the UQ's teaching and learning evaluation unit [24]. The pre-placement survey was designed by the student placement team at the IUIH (RB, AN and KOJ) and was based on the post-placement survey. The student placement team requested feedback from Aboriginal and Torres Strait Islander staff in 2018 on both surveys. Through a consultation process, several changes were made including the addition of a demographic question regarding

how the university prepared students for placement in an urban Indigenous setting in both surveys, the additional of a five-point Likert item exploring students' intentions to work in the setting in both surveys, a change in the wording of two Likert items from negative to positive phrasing ("*I am afraid of doing/saying something wrong*" to "*I am not afraid of doing/saying something wrong*") in the post-placement survey, and two open-ended response questions providing students with an opportunity to share a really '*deadly*' (awesome or great) story from their placement experience, and suggestions or ideas on how to improve the student placement experience.

Recruitment

Ethics approval was obtained from the UQ's Human Research Ethics Committee (approval number 2011001115), and written approval was obtained from the Executive Dean, Faculty of Health from the QUT to recruit students on placement with the IUIH. Survey data collected from students enrolled at other universities were summarized for internal use only as ethics approval was not sought from all universities.

University students placed with the IUIH were invited via email by the Student Placement Coordinator (KOJ) to complete the pre-placement survey one or two weeks prior to commencing their placement, and the post-placement survey at the end of their placement, usually on their final day of placement or within two weeks of completing placement. No reminder emails were sent. Occasionally, students involved in a specific program, for example, completing a placement at the Murri School or an observational day at a chronic disease management program, were invited to complete the pre- or post-placement survey by an academic at their host university through the learning management system. Upon accessing the survey/s, students were invited to read a preamble and provide voluntary informed consent to participate by ticking 'agree' on a consent question and completing the survey/s. Participation was voluntary, not compensated, and anonymous. Only the first author (KOJ) could reidentify participants if needed to match pre and post surveys by accessing hard copies of their placement paperwork stored in a locked cabinet at the IUIH.

The pre-placement survey was sent to 62% ($n=529$) of the placement cohort, and the post-placement survey was sent to 66% ($n=568$) of the placement cohort from 22 disciplines (Supplemental File 3). The percentage of students from each of the 22 disciplines sent the pre-survey ranged from 10 to 100%, and for the post-survey ranged from 32 to 100%. There were several reasons for surveys not being sent out including: students engaging in a one-day observational placement or community activity which often did not warrant them completing the surveys; and administrative errors such as not sending the

pre-placement survey before placements commenced or academics not disseminating the surveys via the learning management system within an appropriate timeframe.

Data analysis

Data were extracted from the data collection system, aggregated, and cleaned for missing data and any differences in coding between pre and post survey's. Questions were reworded if the Likert scale did not match between pre and post surveys. Likert Scales were aggregated when cross tabs had multiple empty or small cells. A linkage key for survey participants was created using the first three letters of the student's surname, day of birth, gender, and response year. This key was used to identify matched pre and post survey response for individual participants.

Descriptive statistics were generated to report the frequency and type of demographic (age, gender, Aboriginal and/or Torres Strait Islander status, qualification enrolled in, year level) and placement characteristic (engagement length, hours completed, placement location, preparation). These were calculated for the pre, post and linked participant matched survey groups separately. Frequencies were calculated for the variables of interest and compared between pre- and post-placement surveys.

For the linked participant matched survey's, the differences between pre and post survey for the 15 duplicate five-point Likert items were calculated using the sign test for matched pairs in Stata version 17.0/SE (StataCorp, 2021). The sign test measures the equality of matched pairs of observations between the pre and post tests. We used the "signtest" command that tests if the median of the differences between the pre and post tests are equal to zero (null hypothesis). Firstly, we converted the five-point Likert scale to an interval scale so each possible response received a value from 1 to 5 (1 for strongly agree, 2 for agree, 3 for both not applicable and uncertain, 4 for disagree and 5 for strongly disagree). We used a one-sided test where the alternative hypothesis is that the median of the differences between the pre and the post is greater than zero (changes to a higher level of agreement from pre to post) which is testing if the paired post survey responses became more positive in nature compared to the pre survey responses. We rejected the null hypothesis at a significance level of 0.05.

The open-ended responses were checked, corrected, and collated. An Indigenous, qualitative data analysis technique known as the Groundwater Method [30, 31] was used. This technique is defined by Menzel and Yunkaporta (2022) as "*mirroring the thinking and relational processes of walking through a landscape and looking for things that are both seen and unseen*". The method of inquiry is rigorous, requiring 'polyangulation', a process of relating multiple sources of data to verify their

trustworthiness, accuracy, and consistency [30–32]. The Groundwater Method was performed by Indigenous researcher (KM) and non-Indigenous researcher (KOJ) who discussed the collective data from the pre- and post-placement surveys and polyangulated the information. This method allowed both researchers to develop potential themes by reflecting holistically, mindfully and engaging authentically with the data sets to draw upon more complex explanations. From this deep analysis, key themes and subthemes emerged, and representative quotes were identified to illustrate and exemplify the themes and subthemes. Data analysis occurred in Lennox Heads, New South Wales, on the traditional land of the Arakwal Peoples of Bunjalung Nation.

Reflexivity

In the spirit of self-reflexivity and embracing the importance of relationality, this paper has been co-authored by KM, an Aboriginal researcher, pedagogical expert and educator, and the Director of the Aboriginal and Torres Strait Islander Initiative at the Burnet Institute; KOJ, a non-Indigenous researcher and educator, who worked for the IUIH as Student Placement Coordinator from 2017 to 2019; AN, a non-Indigenous researcher and Director of Organisational Development at the IUIH; RB, an Aboriginal researcher and the Cultural Integrity Team Lead at the IUIH; NH, a non-Indigenous researcher and the Manager of Student Placements at the IUIH; and TA, a non-Indigenous researcher and biostatistician from Bond University. The interpretation of findings was informed by authors' expertise, experiences, cultural lens, and familiarity with the study site. The authors recognise the importance of stating our positionality in an effort to identify our social and cultural positioning, describe relationalities, and explain our place, belonging and identity, including the associated power relations [33, 34].

Results

Pre-placement survey responses were received from 338 participants (64% response rate), and post-placement survey responses were received from 158 participants (28% response rate). Fewer participants ($n=81$) completed both the pre- and post-placement surveys, most of which were students from the UQ ($n=59$, 73%) and all students were from health disciplines. Most survey respondents were female, aged 18 to 25 years, did not identify as Aboriginal and/or Torres Strait Islander, were enrolled in an undergraduate qualification, and were in their fourth year or higher of their program (Table 1).

Placements took place across the IUIH head office, the IUIH's network of 19 primary healthcare clinics, local kindergartens, and the Murri school, with students often delivering services across multiple sites. The pre-placement survey data revealed that most students

Table 1 Demographic information from student survey groups

	Pre-survey (n = 338)	Post-survey (n = 158)	Matched (n = 81)
	n (%)	n (%)	n (%)
Age			
< 18	1 (0.3)	0 (0)	0 (0)
18–25	271 (80.2)	111 (70.3)	54 (66.7)
26–33	49 (14.5)	29 (18.4)	16 (19.8)
33–40	10 (3.0)	9 (5.7)	6 (7.4)
40+	7 (2.1)	9 (5.7)	5 (6.2)
Gender			
Female	285 (84.3)	132 (83.5)	69 (85.2)
Male	53 (15.7)	26 (16.5)	12 (14.8)
Do you identify as Aboriginal or Torres Strait Islander?			
Aboriginal	9 (2.7)	6 (3.8)	2 (2.5)
Torres Strait Islander	1 (0.3)	1 (0.6)	0 (0)
Not Aboriginal or Torres Strait Islander	328 (97.0)	151 (95.6)	79 (97.5)
What type of qualification are you currently enrolled in?			
Doctorate	3 (0.9)	0 (0)	2 (2.5)
Graduate / Postgraduate	83 (24.6)	62 (39.2)	25 (30.9)
Undergraduate	245 (72.5)	95 (60.1)	49 (60.5)
Masters	2 (0.6)	0 (0)	2 (2.5)
Unknown/Missing	5 (1.5)	1 (0.6)	3 (3.7)
Which year level best describes your current progress in this program?			
1st year	21 (6.2)	13 (8.2)	8 (9.9)
2nd year	45 (13.3)	32 (20.3)	13 (16.1)
3rd year	51 (15.1)	30 (19.0)	17 (21.0)
4th year or higher	221(65.4)	83 (52.5)	43 (53.1)
Please indicate where you completed your placement:			
Aboriginal and Torres Strait Islander health service	47 (13.9)	47 (29.7)	22 (27.2)
Murri Carnival / Community Day	11 (3.3)	5 (3.2)	2 (2.5)
Murri School / Kindergarten	90 (26.6)	24 (15.2)	9 (11.1)
IUIH	190 (56.2)	82 (51.9)	48 (59.3)
How many hours of placement have you completed in this service in total?			
<= 40 h	155 (45.9)	69 (43.7)	27 (33.3)
>40 h	171 (50.6)	89 (56.3)	54 (66.7)
Missing	12 (3.6)	0(0)	0(0)
How long did you engage in placement with the service?			
1 day	-	18 (11.4)	3 (3.7)
<= 1 week	-	13 (8.2)	6 (7.4)
Up to 4 weeks	-	52 (32.9)	29 (35.8)
5–8 weeks	-	34 (21.5)	21 (25.9)
More than 2 months	-	41 (26.0)	22 (27.2)

were engaged in placements primarily based at the IUIH (56.2%) or the Murri school or local kindergartens (26.6%). The post-placement survey data indicated that most students completed up to four weeks (32.9%), five to eight weeks (21.5%) or more than two months (26%) of placement within the IUIH and its Member ACCHSs, with most engaging in placement for more than 40 hours (56.3%).

For the matched pre-post group (n=81), there was a statistically significant improvement (p<0.001 or p<0.01) in all 15 five-point Likert items evaluating measures of students’ perceptions of the learning environment, their skills development, and their awareness (Fig. 3; Table 2).

The 11 Likert scale items exclusive to the post-placement survey which evaluated students’ perceptions of the learning environment, their awareness and self-development, the supervision and feedback provided, and their overall satisfaction with the placement, received largely positive feedback (Table 3). Students who completed both the pre- and post-placement surveys (n=81) evaluated the learning environment, their awareness and self-development, the supervision and feedback provided, and their overall satisfaction with the placement, slightly more favourably (1.9–5.3% more students selected agree or strongly disagree) than those who only completed the post-placement survey (Table 3).

There was a significant correlation (p<0.001) between students’ overall satisfaction with the quality of their placement, and their intention to work in Aboriginal and Torres Strait Islander health contexts in the future, with students who positively rated their satisfaction with the quality of the placement more likely to want to work in Aboriginal and Torres Strait Islander health contexts in the future.

Qualitative results

Responses to the open-ended pre-placement questions were received from 321 students, and responses to the open-ended post-placement questions received 137 responses. The two questions added to the post-placement survey in 2018 received 51 responses. The key themes from the pre-placement survey and post-placement survey, including subthemes and representative quotes are provided in Table 4. During the analysis, the researchers perceived these themes and subthemes to often be linked and inter-related.

The pre-placement survey responses indicated a mixture of excitement, trepidation, and fear, with four key themes identified: competence, cultural skills, support, and fear. Competence was organised into two subthemes: (1) skills development and (2) broadening experiences. Within this theme, participants spoke of looking forward to the opportunity to gain or consolidate their clinical, research and/or communication skills,



Fig. 3 Pre/Post-Placement Survey: Comparison of Results

and their excitement about the prospect of new experiences and broadening their level of competence. Cultural skills contained three subthemes: (1) developing cultural capability, (2) helping others, and (3) building connections. Within this theme participants described looking forward to working with the Aboriginal and Torres Strait Islander community, learning more about culture and Indigenous health, helping others, and building connections with clients, peers, supervisors, and the community. Support was arranged into two subthemes: (1) guidance to develop cultural responsiveness and (2) needing clear expectations, regular feedback, and open communication. Participants expressed various needs including wanting support to develop their cultural capability and clinical skills, a desire for regular, constructive feedback, open communication, opportunities to ask questions, clear expectations, opportunities to observe others, and guidance from their supervisors. The theme of fear contained two subthemes: (1) saying or doing something wrong, and (2) not feeling concerned. Within this theme, most participants described feeling nervous about saying or doing something wrong or culturally inappropriate during the placement or lacking confidence in their knowledge or clinical skills. Some participants shared that they did not feel concerned about the placement, felt confident that they would be supported during the placement, or expressed feeling expected nervousness about the placement.

The post-placement survey responses were predominantly positive, with four key themes identified including expertise, cultural responsiveness, learning environment and challenges. Expertise was organised

into two subthemes: (1) opportunities for learning and (2) working in an interdisciplinary team. Within this theme, participants described various opportunities to develop their clinical skills, knowledge, and confidence including being empowered to attend programs, events, and visit multiple clinics, and to further extend their expertise through working in an interdisciplinary team. Cultural responsiveness contained two subthemes: (1) developing cultural capability and (2) making connections. Participants described the development of their cultural capability, including opportunities to develop a deeper understanding of Aboriginal and Torres Strait Islander culture, and to make connections with Aboriginal and Torres Strait Islander staff and clients in a safe, supportive learning environment. Some participants commented on the value of the orientation session and materials such as the Propa Ways cultural skills program, in supporting the development of their cultural responsiveness. This theme was closely connected to the succeeding theme, learning environment, which was organised into two subthemes: (1) supportive environment and (2) sense of belonging. Participants described a positive, supportive environment conducive to learning, approachable and knowledgeable supervisors, feeling welcomed and valued by staff, peers, clients, and the community, a sense of belonging, and opportunities to integrate into the team.

A few challenges were shared, including negative experiences of the learning environment, learning opportunities and logistics, however, most students mentioned that these experiences did not overshadow their positive overall experience. The challenges regarding learning environment included experiencing professional hierarchies,

Table 2 Results of sign-test for matched pre-post survey results

Survey Item	N	Mean	Median	SD	Positives	Negatives	Zeros	P-value
Learning Environment								
I feel well prepared by the university for this placement								
Pre	81	2.51	2.0	0.76	35	8	38	<0.0001
Post	81	2.12	2.0	0.91				
Skills Development								
I feel confident about communicating effectively in an urban Indigenous context								
Pre	81	2.42	2.0	0.80	42	4	35	<0.0001
Post	81	1.79	2.0	0.59				
I am confident I have the clinical knowledge to work effectively in an urban Indigenous context								
Pre	81	2.52	2.0	0.84	41	5	35	<0.0001
Post	81	1.94	2.0	0.70				
I am confident I have the clinical skills to work effectively in an urban Indigenous context								
Pre	81	2.49	2.0	0.85	40	6	35	<0.0001
Post	81	1.96	2.0	0.71				
I am aware of evidence-based practice principles for working effectively in an urban Indigenous context								
Pre	81	2.69	3.0	0.86	54	2	25	<0.0001
Post	81	1.69	2.0	0.63				
I feel confident about working about working in an urban Indigenous context								
Pre	81	2.53	2.0	0.82	42	15	24	0.0002
Post	81	2.16	2.0	1.13				
I am not afraid of doing something if I was working in an urban Indigenous context								
Pre	81	3.19	3.0	1.06	42	13	26	0.0001
Post	81	2.44	4.0	1.02				
I am not afraid of saying something if I was working in an urban Indigenous context								
Pre	81	3.17	3.0	1.07	41	9	31	<0.0001
Post	81	2.48	4.0	1.10				
I know where to access resources and tools to support my work in an urban Indigenous context								
Pre	81	2.81	3.0	0.85	43	7	31	<0.0001
Post	81	2.21	2.0	0.83				
I have a network of peers and colleagues I can refer to for support and assistance in my work								
Pre	80	2.47	2.0	0.87	35	9	36	0.0001
Post	80	1.91	2.0	0.73				
Awareness								
I am skilled at being adaptable and flexible								
Pre	81	2.22	2.0	0.71	31	6	44	<0.0001
Post	81	1.88	2.0	0.64				
I have an understanding and appreciation for Aboriginal and Torres Strait Islander cultures and knowledges								
Pre	80	2.41	2.0	0.81	34	2	44	<0.0001
Post	80	1.90	2.0	0.66				
I am aware of health issues faced by Aboriginal and Torres Strait Islander people								
Pre	80	1.95	2.0	0.63	32	2	46	<0.0001
Post	80	1.54	2.0	0.50				
I intend to work in Aboriginal and Torres Strait Islander contexts in the future								
Pre	81	2.44	3.0	0.81	34	11	36	0.0004
Post	81	2.12	2.0	0.80				
I have built good relationships with Aboriginal and Torres Strait Islander people								
Pre	81	2.11	2.0	0.96	31	15	35	0.0129
Post	81	1.85	2.0	0.73				

workplace conflicts, feeling unwelcomed or isolated, not having enough time with, or support from, supervisors, unclear expectations, and reduced learning opportunities due to low attendance rates, observing others, or a

narrow caseload. Some participants expressed a desire for a longer placement or more clinical hours, whilst others shared logistical challenges including a lack of continuity with clients, limited resources, and the hassle

Table 3 Post-placement survey results vs. matched post-survey results

Learning environment		
Q: I received an adequate orientation when I started the placement		
Strongly Agree	78 (49.4)	46 (56.8)
Agree	71 (44.9)	34 (42.0)
N/A	0 (0)	0 (0)
Disagree	0 (0)	0 (0)
Strongly Disagree	0 (0)	0 (0)
Uncertain	7 (4.4)	1 (1.2)
Missing	2 (1.3)	0 (0)
Q: I had access to appropriate resources during the placement		
Strongly Agree	71 (44.9)	43 (53.1)
Agree	70 (44.3)	31 (38.3)
N/A	2 (1.3)	2 (2.5)
Disagree	5 (3.2)	1 (1.2)
Strongly Disagree	0 (0)	0 (0)
Uncertain	7 (4.4)	3 (3.7)
Missing	3 (1.9)	1 (1.2)
Q: My contribution was valued during this placement		
Strongly Agree	73 (46.2)	44 (54.3)
Agree	65 (41.1)	30 (37.0)
N/A	1 (0.6)	1 (1.2)
Disagree	3 (1.9)	1 (1.2)
Strongly Disagree	1 (0.6)	0 (0)
Uncertain	13 (8.2)	5 (6.2)
Missing	2 (1.3)	0 (0)
Q: Overall, the environment was conducive to learning		
Strongly Agree	83 (52.5)	46 (56.8)
Agree	62 (39.2)	30 (37.0)
N/A	2 (1.3)	2 (2.5)
Disagree	3 (1.9)	1 (1.2)
Strongly Disagree	0 (0)	0 (0)
Uncertain	6 (3.8)	2 (2.5)
Missing	2 (1.3)	0 (0)
Awareness and self-development		
Q: I would recommend that other student's complete placement in an urban Indigenous health context		
Strongly Agree	88 (55.7)	49 (60.5)
Agree	63 (39.9)	30 (37.0)
N/A	0 (0)	0 (0)
Disagree	1 (0.6)	1 (1.2)
Strongly Disagree	0 (0)	0 (0)
Uncertain	4 (2.5)	1 (1.2)
Missing	2 (1.3)	0 (0)
Supervision and feedback		
Q: I received sufficient supervision during this placement		
Strongly Agree	74 (46.8)	39 (48.2)
Agree	65 (41.1)	35 (43.2)
N/A	3 (1.9)	1 (1.2)
Disagree	7 (4.4)	3 (3.7)
Strongly Disagree	1 (0.6)	1 (1.2)
Uncertain	6 (3.8)	2 (2.5)
Missing	2 (1.3)	0 (0)
Q: There were sufficient opportunities to receive feedback and discuss my progress		
Strongly Agree	76 (48.1)	43 (53.1)
Agree	58 (36.7)	30 (37.0)

Table 3 (continued)

Learning environment		
N/A	6 (3.8)	2 (2.5)
Disagree	5 (3.2)	2 (2.5)
Strongly Disagree	1 (0.6)	0 (0)
Uncertain	10 (6.3)	4 (4.9)
Missing	2 (1.3)	0 (0)
Q: My educator was a good facilitator of my learning		
Strongly Agree	85 (53.8)	48 (59.3)
Agree	57 (36.1)	28 (34.6)
N/A	7 (4.4)	4 (4.9)
Disagree	4 (2.5)	0 (0)
Strongly Disagree	0 (0)	0 (0)
Uncertain	3 (1.9)	1 (1.2)
Missing	2 (1.3)	0 (0)
Q: I received sufficient support during this placement		
Strongly Agree	86 (54.4)	50 (61.7)
Agree	54 (34.2)	24 (29.6)
N/A	2 (1.3)	1 (1.2)
Disagree	6 (3.8)	3 (3.7)
Strongly Disagree	2 (1.3)	1 (1.2)
Uncertain	6 (3.8)	2 (2.5)
Missing	2 (1.3)	0 (0)
Q: If a suitable position were to be advertised at my placement site, I would apply*		
	Post-survey (n = 61)	Matched Post-Survey (n = 28)
Strongly Agree	36 (59)	16 (57.1)
Agree	17 (27.9)	9 (32.1)
N/A	0 (0)	0 (0)
Disagree	1 (1.6)	0 (0)
Strongly Disagree	1 (1.6)	1 (3.6)
Uncertain	2 (3.3)	1 (3.6)
Missing	4 (6.6)	1 (3.6)
Overall satisfaction		
Q: Overall, I was satisfied with the quality of this placement		
Strongly Agree	79 (50.0)	43 (53.1)
Agree	69 (43.7)	35 (43.2)
N/A	0 (0)	0 (0)
Disagree	5 (3.2)	1 (1.2)
Strongly Disagree	0 (0)	0 (0)
Uncertain	3 (1.9)	2 (2.5)
Missing	2 (1.3)	0 (0)

*This question was added to the post-placement survey in 2018

of travelling to multiple clinics. Finally, suggestions for improvement of placements included improved communication, logistics and planning, clearer expectations, improved supervision and mentoring, providing more opportunities for learning and skills development, and encouragement to continue the placement program for future students.

Discussion

This study evaluated students' experiences of Indigenous-led, regionally coordinated placements within a network of urban ACCHSs, and their perceptions of the

development of their cultural responsiveness. The results of this study indicate that students' perceptions of the learning environment, their skills development, their awareness, and their cultural responsiveness significantly improved because of their placement. Additionally, students' perceptions of their awareness and self-development, the supervision and feedback provided, and their overall satisfaction with the placement were generally positive. Finally, students' overall satisfaction with the quality of their placement was positively associated with their intention to work in Aboriginal and Torres Strait Islander health contexts in the future.

Table 4 Summary of developed key themes, and subthemes with representative quotes from participants

Pre-placement		
Theme	Subtheme	Example quotes (student discipline and year)
Competence	Skills development	<p>"I'm looking forward to learning new skills from being in a new placement situation." (Occupational Therapy 1, 2017)</p> <p>"I'm excited to see how I handle myself and use my clinical skills working [with clients from] a diverse background." (Nursing and Midwifery 1, 2019)</p> <p>"I am looking forward to learning how to communicate well with Aboriginal and Torres Strait Islander People." (Speech Pathology 1, 2018)</p>
	Broadening experiences	<p>"A different experience that will broaden my knowledge and skill set." (Dentistry 1, 2018)</p> <p>"New experiences and unique learning opportunities." (Occupational Therapy 2, 2017)</p>
Cultural skills	Developing cultural capability	<p>"I am most looking forward to understanding the intricacies of working in an Indigenous health clinic, learning how to and expanding my cultural competency, feeling comfortable in providing effective and sensitive healthcare and support, and meeting people that challenge my worldview and push me to reconsider myself." (Medicine 1, 2017)</p>
	Helping others	<p>"I'm most looking forward to making a positive contribution to the organisation and the people it serves." (Nutrition & Dietetics 1, 2017)</p>
Support	Building connections	<p>"Learning about Aboriginal and Torres Strait Islander culture and making lasting connections." (Occupational Therapy 3, 2018)</p>
	Guidance to develop cultural responsiveness	<p>"Guidance as to how we should adapt our consultations to respect any differences in culture." (Optometry 1, 2017)</p> <p>"Support through reading resources, reflection opportunities and being able to ask questions freely." (Occupational Therapy 4, 2017)</p>
	Needing clear expectations, regular feedback, and open communication	<p>"I would like to feel comfortable approaching my colleagues and supervisors with any questions, queries and to receive feedback on my practice." (Psychology 1, 2017)</p> <p>"I would like to be told very clearly and specifically what is expected of me every step of the way." (Political Science 1, 2017)</p> <p>"Lots of observation opportunities and supervised practice with constructive feedback." (Occupational Therapy 5, 2017)</p>
Fear	Saying or doing something wrong	<p>"I am concerned about my own subconscious biases. I have only learned about Indigenous Peoples from non-Indigenous teachers, and I am not confident that this has prepared me for the reality of working with them." (Nursing and Midwifery 2, 2017)</p> <p>"I have some concerns about saying the wrong thing or not showing respect in the appropriate way to the people I am working with." (Occupational Therapy 6, 2017)</p>
	Not feeling concerned	<p>"No concerns as such, just a little bit nervous as I have never worked in a setting like this before." (Pharmacy 1, 2017)</p> <p>"No concerns. I feel confident that I will receive a level of support to assist me during this placement." (Psychology 2, 2017)</p>
Post-placement		
Theme	Subtheme	Example quotes
Expertise	Opportunities for learning	<p>"Varied caseload (paediatrics, adults and project placement) allowed me to develop skills across different Aboriginal and Torres Strait Islander settings." (Occupational Therapy 7, 2017)</p> <p>"I gained a lot of experience and knowledge from my time at IUIH because of the hands-on work I did." (Health Science/Public Health 1, 2017)</p>
	Working in a multidisciplinary or interprofessional team	<p>"Having a strong multi-disciplinary approach to therapy meant I learnt so many new skills from other allied health areas." (Occupational Therapy 8, 2018)</p>
Cultural responsiveness	Developing cultural capability	<p>"The university learning about cross-cultural communication can make you feel a bit anxious about working with Indigenous people, so actually working with people and learning from them directly was immensely helpful in terms of learning skills and developing confidence." (Social Work 1, 2017)</p> <p>"I really enjoyed the exposure to Aboriginal and Torres Strait Islander people within the office. It was a non-threatening environment, and people would have been very understanding had I said or done something they deemed offensive." (Speech Pathology 2, 2018)</p> <p>"The orientation package that outlined the Making Connections and Ways Frameworks gave me confidence in how to approach working Indigenous people, as I was apprehensive about this when entering my placement." (Nutrition & Dietetics 2, 2017)</p>
	Making connections	<p>"It also provided an opportunity to develop relationships with Indigenous community members in a non-formal setting. This was beneficial as it broke down common stereotypes and helped to enhance my own cultural competence." (Nutrition & Dietetics 3, 2017)</p> <p>"Working with the Work It Out [group-based chronic disease management program] clients was amazing. I felt such a connection and it definitely ignited my passion for working with Aboriginal and Torres Strait Islander clients." (Human Services 1, 2018)</p>

Table 4 (continued)

Pre-placement		
Theme	Subtheme	Example quotes (student discipline and year)
Learning environment	Supportive environment	"The supportive and friendly environment which was vastly different to any clinic experience before." (Nursing and Midwifery 3, 2017) "I thoroughly enjoyed becoming a part of the team and feeling like a valued member of the organisation. It increased my confidence in my role as a practitioner." (Psychology 3, 2018)
	Sense of belonging	"I loved how 'uni friends' are received throughout the [Murri] school community especially by the children, so I felt needed and wanted." (Speech Pathology 3, 2017) "All the patients were very supportive of me being involved in their health and were very positive in wanting me to learn from my peers." (Pharmacy 2, 2018)
Challenges	Learning environment	"Some conflict in the workplace, was uncomfortable at times." (Medicine 2, 2018) "Communication was quite poor between our group and our mentor. She was not very responsive to emails." (Speech Pathology 4, 2017)
	Learning opportunities	"High patient failure to attend rates on some days. Less opportunity to learn hands on, but more time to discuss cases with supervisors." (Dentistry 2, 2018) "I observed a lot which can become quite monotonous. It would have been nice to have had a go at doing the skills a little more." (Optometry 2, 2017)
	Logistics	"Only downside was the number of desks available on certain days as there would be little to no room." (Pharmacy 3, 2017) "At times it felt slightly disorganised and we had to rearrange our schedules last minute, however I understand that is just part of working within a community and being a flexible clinician so it wasn't necessarily a negative." (Speech Pathology 5, 2017) "The travel time to each site was the only small negative I had, but there is not much that can be done about that! The overall experience of going to different sites made the travel time less of an impact." (Exercise Physiology 1, 2017) "The only negative would be the limited time frame of four weeks - a longer placement block would have allowed for more experiences." (Nutrition & Dietetics 4, 2019)

Aspects of the student placement model that likely influenced the positive placement outcomes from its commencement in 2010 include the regional coordination of student placements and support available to staff from a dedicated resource funded by the university and based within the CCHO, opportunities for students to engage with and learn from Aboriginal and Torres Strait Islander clients and staff, and to engage with staff and peers from various professions, and curriculum development and delivery into local universities to support the preparation of students for placement in an urban Indigenous health context. The regional coordination model through a university-resourced Student Placement Coordinator based within the organisation is as an innovative approach to placements which enables the identification of mutually beneficial placement opportunities, enables placement projects to be community-led, reduces the administrative and supervisory pressures on organisations and clinicians, and ensures students are better prepared and supported throughout their placements [3, 35]. Traditionally, placement coordinators are employed by, and based within, universities [3]. Embedding the placement coordinator within the organisation facilitates the development of strong relationships resulting in the effective coordination and support of a large number of placements based on a deep understanding of the needs of the ACCHSs [3]. Supervising students in health settings can be complex and stressful for clinical educators,

particularly when supervising students in need of additional support [36]. This innovative student placement model may reduce stress on supervisors through support provided by the Student Placement Coordinator, contextualised training and skills development, and a positive workplace culture regarding student placements [36].

The results of this study indicated that students appreciated the opportunity to develop a deeper understanding of Aboriginal and Torres Strait Islander culture, and to make connections with Aboriginal and Torres Strait Islander staff and clients in a safe, supportive learning environment. Previous research indicates that situated learning through student placements enables students to learn directly from Aboriginal and Torres Strait Islander Peoples, and can increase graduates' empathy, compassion for, and personal connection with Aboriginal and Torres Strait Islander Peoples and communities [37, 38]. Service-learning experiences in urban Indigenous contexts are shown to equip the emerging workforce with supportive networks, experience in culturally responsive service provision, and supported opportunities to develop ways of thinking, doing, and partnering with Aboriginal and Torres Strait Islander Peoples towards optimising health and well-being [24]. Appropriate cultural awareness training provided within the university environment with complementary, localised, and authentic learning experiences in the placement environment can support students to feel more confident and engaged,

can enable the consolidation of their knowledge, and support them to challenge their assumptions [21, 39]. Student placements situated within Indigenous health contexts offer a unique opportunity for transformative learning in which students encounter new experiences and through a reiterative process of reflection, exploration and support, the way they see the world or make meaning in the world is changed, initiating greater and longer lasting changes than university-based learning experiences alone [40–42].

In the qualitative post-placement survey responses, participants described being supported by approachable and knowledgeable supervisors, feeling welcomed and valued by staff, peers, clients, and the community, a sense of belonging, and opportunities to integrate into the team. Placements within ACCHSs provide unique opportunities for students to experience cultural supervision and culturally responsive supervision [3]. According to Bessarab (2012), cultural supervision is “*embedded in an Aboriginal/ Indigenous space that is supportive and culturally safe for Aboriginal and non-Aboriginal (staff and students) to engage in and reflect on cultural issues emerging in their practice/ research*” (Page 76) and can be provided by Aboriginal and Torres Strait Islander staff [43]. Culturally responsive supervision reflects respectful collaborative relationships with Aboriginal and Torres Strait Islander Peoples and recognises the centrality of Indigenous knowledges in understanding clients’ situation [43]. Cultural supervision is important in ensuring that students are supported to understand and reflect on their practice from Aboriginal and Torres Strait Islander and non-Indigenous perspectives, assisting them to develop cultural responsiveness [22, 44]. Placements within ACCHSs enable students to identify their own assumptions, self-reflect, debrief, and examine their prior assumptions in a supportive learning environment, enabling transformative learning [41].

Often students’ first interaction with the IUIH was through the delivery of curriculum on Aboriginal and Torres Strait Islander health within their university courses. This approach is supported by the *Aboriginal and Torres Strait Islander Health Curriculum Framework* which encourages universities to engage Aboriginal and Torres Strait Islander community members to participate in curriculum development and delivery, enabling students to be exposed to Aboriginal and Torres Strait Islander contexts regularly throughout their studies [3]. Providing curriculum that supports student learning to enable them to work with people from different cultural backgrounds is essential to improve patient health outcomes [45]. Health professionals report experiencing anxiety or inadequacy when working in Indigenous health [46]. Previous research has identified characteristics to support non-Indigenous health professionals to practice

in Indigenous health contexts, including an awareness of cultural identity, reflection on one’s own position, and an awareness of Aboriginal and Torres Strait Islander history [46]. These concepts should be incorporated into university training for future health professionals [46]. However, providing opportunities to learn about Indigenous health, history and the invasion and colonisation of Australia without a framework of follow-up support or discussion about ways to deal with new and emerging awareness of these issues can result in increased fragility, guilt, anxiety and fear, and may discourage future health professionals from working in Indigenous health [46–49]. The findings from this study indicate that placement in a positive environment which enabled supported opportunities to discuss and make sense of new learnings and uncomfortable feelings, assisted in reducing anxiety and fear, and increased intention to work in Aboriginal and Torres Strait Islander health settings.

There was a substantial decrease in the number of students who reported feeling afraid of doing or saying something wrong when working in an urban Indigenous context from the pre- to post-placement surveys. A previous qualitative study exploring dietetic student experiences of a rural Indigenous health placement supported these findings, indicating that students felt more confident working with Aboriginal and Torres Strait Islander Peoples as a result of the placement [37]. Building personal connections with staff, clients and the community in a safe, supportive learning environment seemed to enable students to develop empathy, understanding, and cultural competence. Furthermore, the engagement of students from 32 disciplines enabled interprofessional engagement opportunities throughout the placement, including with students from non-health backgrounds. Students appeared to value these opportunities and the benefits of understanding their role within a broader health system. Interprofessional practice is a valuable approach to addressing complex health challenges such as the disparities that exist due to the ongoing effect of colonisation [50, 51].

The significant increases in students’ skills development, awareness and self-development, indicate that regionally coordinated placements within urban ACCHSs support the development of cultural responsiveness. This is further supported by the significant increases in understanding and appreciation of Aboriginal and Torres Strait Islander cultures and knowledge, awareness of the health issues faced by Aboriginal and Torres Strait Islander Peoples, and building good relationships with Aboriginal and Torres Strait Islander Peoples. A culturally responsive health professional is reflexive about their own identity and positioning, their biases, history, and the theories and skills that they bring to their practice [23]. The Propa Ways cultural skills program appeared to support this

kind of reflection by encouraging university students on placement in an urban Indigenous health setting to develop their cultural responsiveness through critically reflecting on whether their own values, beliefs and practices promote or compromise the health of Aboriginal and Torres Strait Islander Peoples [52].

When asked if students intend to work in Indigenous health contexts in the future, 69% agreed or strongly agreed, a substantial increase from the 40% who agreed or strongly agreed in the previous study. Importantly, almost all students (96%) in the current study reported that they would recommend other students' complete placement in an urban Indigenous health context, and when asked if they would apply if a suitable position were to be advertised at their placement site, most agreed or strongly agreed (87%). Previous research has indicated that providing positive placement experiences in rural and remote Indigenous health contexts influences graduates' intentions to work in this setting and may contribute to workforce supply over time [53–55]. A systematic review published in 2017 which narratively synthesized 14 studies, found that placements in rural Indigenous health increased understanding and awareness of Aboriginal culture, promoted deeper understanding of the complex determinants of health for Aboriginal Peoples, increased awareness of the racism towards Aboriginal Australians, and enhanced desire to work in Aboriginal health [56]. Furthermore, a qualitative study published in 2019 found that placements in rural settings can support students to build their cultural capabilities and foster their interest in working with Aboriginal communities [57]. There is limited research on the impacts of student placements in urban Indigenous contexts, however this study indicates that urban Indigenous health placements increase students desire to work with Aboriginal and Torres Strait Islander Peoples. As such, these placements support the development of a culturally responsive workforce in urban settings where most Aboriginal and Torres Strait Islander Peoples reside, which may provide value to ACCHSs and mainstream health services.

The results of this study indicate further improvements to the student placement program when compared to the previous cross-sectional analysis of post-placement survey data from 241 students undertaking placement at the IUIH between January 2011 and December 2016 [24]. In the previous study, 77–87% of students reported that they received adequate orientation, believed that the environment was conducive to learning, received adequate supervision and sufficient opportunities to receive feedback, and felt that their clinical educator was a good facilitator of their learning [24]. Whilst in the current study, 85–94% of students agreed or strongly agreed with these statements. In the previous study, most students were satisfied with the quality of their placement

(83%) [24], whilst in the current study almost all students reported that they were satisfied with the overall quality of their placement (94%). When compared with the previous study, more students in the current study felt confident that they had the clinical skills to work in an urban Indigenous context (79% vs. 70%) and had a good understanding and appreciation of Aboriginal and Torres Strait Islander cultures and knowledges (88% vs. 80%) [24]. In both studies, the same proportion of students reported feeling that their contribution was valued (87%), and 100% of the students reported that they were aware of the disproportionate health disadvantage faced by Aboriginal and Torres Strait Islander Peoples [24].

The improved perceptions of students regarding the learning environment, supervision and their overall experience between the previous and current studies are likely due to several factors, including quality improvements in the coordination and facilitation of student placements such as preferencing placing students nearing the end of their studies to enable a focus on developing their cultural skills, contextualised clinical education and supervision training for staff, and informal mentoring from the Student Placement Coordinator to build staff capacity to supervise students well, improvements to the student orientation process including guidance on practising in a culturally responsive way, and the development of the Propa Ways cultural skills program, and expansion of curriculum development and delivery into additional disciplines and local universities.

The responsibility for developing culturally responsive health professionals should be shared by universities and placement providers and should not overburden ACCHSs. It is essential that non-Indigenous health professional students are adequately prepared for placements to enable them to work safely within Indigenous health contexts [58]. Students who are not adequately prepared by their university for placement in an Indigenous health setting may lack confidence and cultural capability, requiring more time, guidance, support, cultural supervision, or culturally responsive supervision from placement supervisors. The broad implementation of the Framework within universities will ensure that students are better prepared for their placements in ACCHSs with a greater understanding of the Indigenous health context, and the impacts of the health system and health service delivery on Aboriginal and Torres Strait Islander Peoples [3]. Universities should prioritise building mutually beneficial, reciprocal relationships with ACCHSs to develop placement opportunities, and ensure that curriculum is reflective and responsive to the real-world context of Indigenous health service delivery [3]. Utilising an Indigenous-led placement model in which universities resource ACCHSs, enabling them to establish and implement student placements aligned with

community needs and values can improve outcomes and cultural responsiveness.

Limitations

There are several limitations to the study. The change in wording of survey questions between years from negative phrasing to positive phrasing may have influenced the way in which students responded to the questions. Some students who completed placements before the end of the study period may have only received the post-placement surveys after data collection for this study ended. There were limited matched responses in the survey data, and we did not collect data on whether students were involved in direct clinical patient care or not. No reminders were sent to students to complete the surveys, and some surveys were not sent to all students as email addresses for the students were not always provided to the organisation by the university. The post-placement survey response rate was 28%, whilst in the previous study, the response rate was 20% [24]. As with any survey, there is a potential for sampling bias or participant bias based on the characteristics of those who chose to respond, versus those who did not. Additionally, there may have been issues with the survey questions. Finally, no validated measures of cultural responsiveness were used as a validated measure suitable for use in Australian First Nations contexts was only developed and validated with health professional students in 2018 [59].

Conclusion

Regionally coordinated, Indigenous-led placements in urban Indigenous health contexts can support transformative learning and the development of a culturally responsive workforce. Universities and ACCHSs should aim to develop reciprocal relationships to support students to develop their cultural responsiveness and improve the provision of culturally safe care for Aboriginal and Torres Strait Islander Peoples. Future research should utilise validated measures of cultural responsiveness and should explore the longer-term impacts of student placements on cultural responsiveness, attitudes, behaviours, and practice. Additionally, future research should explore the experiences of Aboriginal and Torres Strait Islander Peoples interfacing with university students on placement in urban settings.

Abbreviations

ACCHS	Aboriginal and Torres Strait Islander Community Controlled Health Service
CCHO	Community-Controlled Health Organisation
IUIH	Institute for Urban Indigenous Health
UQ	University of Queensland
QUT	Queensland University of Technology
SEQ	South East Queensland

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12909-024-06432-9>.

Supplementary Material 1

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Author contributions

KOJ contributed to the design of the work, the acquisition, analysis, and interpretation of the data and drafted the manuscript. AN contributed to the design of the work, the acquisition and interpretation of the data, and revision of the manuscript. RB contributed to the design of the work, the acquisition and interpretation of the data, and revision of the manuscript. NH contributed to the interpretation of the data, and revision of the manuscript. TA contributed to the analysis and interpretation of the data, and revision of the manuscript. KM contributed to the analysis and interpretation of the data, and revision of the manuscript. All authors read and approved the final manuscript.

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Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

Ethics approval was obtained from the University of Queensland's Human Research Ethics Committee (approval number 2011001115). Written approval was obtained from the Executive Dean, Faculty of Health from the Queensland University of Technology (QUT) to recruit students on placement with the Institute for Urban Indigenous Health (IUIH). Upon accessing the survey/s, students were invited to read a preamble and provide voluntary informed consent to participate by ticking 'agree' on a consent question and completing the survey/s. Participation was voluntary, not compensated, and anonymous. Only the first author could reidentify participants if needed to match pre and post surveys by accessing hard copies of their placement paperwork stored in a locked cabinet at the IUIH.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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