Zhou *et al. BMC Health Services Research* (2025) 25:1488
https://doi.org/10.1186/s12913-025-13634-4

BMC Health Services Research

RESEARCH **Open Access**

Patterns in the access, utilisation and budget allocation of National Disability Insurance Scheme (NDIS) psychosocial support for Aboriginal and Torres Strait Islander peoples with mental health needs: a case study from South East Queensland

Xiaoyun Zhou[1,2*], Claudia Pagliaro[1,2], Manuel Wailan[1,2], Carmel Nelson[3,4], Shuichi Suetani[1,3,5,6], Randall Frazer[3], Tamsyn Borton[3], Rayno Potgieter[3], Tabinda Basit[7], Hayley Williams[4,7], Yan Liu[8,9], Lihong Zhang[8], Xiang-Yu Hou[10], Roxanne Bainbridge[11], Harvey Whiteford[1,2] and Sandra Diminic[1,2]

Abstract

Background Equity in access to disability support services is critical for addressing health disparities faced by Aboriginal and Torres Strait Islander peoples (hereafter respectfully referred to as Indigenous Australians) in Australia. Since its rollout in 2016, the National Disability Insurance Scheme (NDIS) has faced criticism for limited access among Indigenous Australians. While systemic barriers have been identified, the extent of disparities and factors influencing access and funding remain unclear. We examined NDIS psychosocial support access and utilisation among Indigenous Australians in South East Queensland (SEQ), focusing on disparities and determinants of access and budget allocation.

Methods This study analysed Australian Bureau of Statistics Personal Level Integrated Data Asset, 2021 Census, 2021 NDIS and Medicare datasets. We examined the sociodemographic and service-related factors that were associated with access rates and budget allocation for NDIS support for psychosocial disability as primary disability among Indigenous Australians with mental health needs. Multivariate logistic regression and linear regression were used to assess associations with access and budget allocation, respectively.

Results Indigenous Australians in SEQ accessed NDIS psychosocial support at higher rates than non-Indigenous Australians (1.75% versus 0.88%, $p < 0.001$), though budget allocations were comparable ($94,310.90 versus $86,371.78 per capita, $p = 0.062$). Access varied within Indigenous Australians based on sociodemographic factors, health service regions, and levels of need. Stable housing, lower income, and higher mental health needs were associated with

---

*Correspondence:
Xiaoyun Zhou
Xiaoyun.zhou@uq.edu.au

Full list of author information is available at the end of the article

greater access, whereas post-secondary education and chronic conditions were associated with lower access. Budget allocation was higher for those in group/lone households and those with greater functional impairment. However, 88% of individual level utilisation data were missing, and only 69.57% of Indigenous participants were correctly identified as Indigenous in NDIS data.

Conclusions In SEQ, Indigenous Australians demonstrated higher access to NDIS psychosocial support. Differences in access to and budget allocation of NDIS psychosocial support benefit those most in need. Nonetheless, systemic challenges remain including under-identification of Indigenous status, missing data on utilisation, and barriers associated with housing instability. Addressing these issues and strengthening culturally safe processes are critical to improving access to psychosocial disability support for Indigenous Australians.

Keywords Aboriginal and Torres Strait Islander, Indigenous health, Psychosocial disability, NDIS, Psychosocial support, Mental health

Introduction

Aboriginal and Torres Strait Islander peoples (hereafter respectfully referred to as Indigenous Australians) have demonstrated remarkable resilience, underpinned by strong cultural identity, kinship and holistic views of health and well-being [1]. However, intergenerational trauma, systemic inequities, and social determinants of health shaped by historical and ongoing discrimination have led to disproportionate burden of psychosocial disabilities—functional impairment arising from mental health conditions [2]. Mental health conditions, including anxiety and depression, schizophrenia, personality disorders, and harmful substance use, are among the leading causes of disability burden for Indigenous Australians [3]. A recent survey [4] found that 46.5% of Indigenous Australians were affected by mental health conditions or substance use, with anxiety and mood disorders 1.6–3.3 times more prevalent than among non-Indigenous Australians [5]. About 31% report high or very high psychological distress—over twice the rate of the non-Indigenous population [6]. Psychosocial disability differs from physical and intellectual disabilities in its fluctuating course, complex diagnosis, and close link with mental health conditions [2]. Despite these challenges, Indigenous-led programs, such as the social and emotional well-being (SEWB) framework, have been instrumental in promoting culturally responsive mental health care and empowering individuals to seek support [7, 8]. Culturally safe and responsive support is therefore vital to enable equitable participation and address persistent inequities.

To address disability-related disadvantages, the Australian Government rolled out the National Disability Insurance Scheme (NDIS) to fund services that enhance independence, skills, and social inclusion for people affected by disabling conditions, including psychosocial disability [9, 10]. However, since its rollout in 2016, the NDIS has suffered from criticisms that it fails to provide equitable access to Indigenous Australians [11]. This criticism mirrors the inequities in the utilisation of many other mental health services for Indigenous Australians [12, 13]. Indigenous participants face cultural and systemic barriers such as inappropriate service design, complex eligibility processes, and limited availability of culturally safe providers [14, 15].

South East Queensland (SEQ) provides an optimal setting to understand NDIS psychosocial access by Indigenous Australians. It contains one of Australia's largest and fastest growing Indigenous populations [16]. It is also a major NDIS market: as of 31 March 2025, Queensland had 154,686 active NDIS participants, including 16,606 First Nations participants (10.7%) [17]. Moreover, because approximately 85% of Indigenous Australians live in non-remote areas nationally (41% in major cities), SEQ's mix of major-city and regional contexts provides a useful case study with broader applicability for the majority of Indigenous Australians [18]. Yet, SEQ communities face severe housing stress, rising living costs, and limited access to psychosocial and mental health services [19, 20]. Fragmented pathways across health, disability, housing, and justice systems further disrupt recovery and continuity of care [15].

While there are studies exploring Indigenous people's experience with NDIS support generally [21], studies exploring NDIS psychosocial support for Indigenous Australians on a population level are limited. Social inequities, and lack of cultural consideration, such as the shortage of Aboriginal and Torres Strait Islander-led support, create barriers to accessing such support [22]. Understanding the sociodemographic and service-related factors associated with NDIS access and utilisation among Indigenous Australians is essential to identify subgroups facing greater barriers and promote equity. We focus on psychosocial disability because it imposes a growing and preventable burden influenced by modifiable determinants such as racism, intergenerational trauma, housing instability, and lack of culturally safe care [23, 24]. Our research addressed this research gap by leveraging national Medicare (Australia's universal, publicly funded health insurance system that provides residents with free or subsidised access to medical services such as general practice, specialist care, and public hospital treatment) data, Census, and NDIS data to explore: [1] the access rates, defined as the proportion of Indigenous and non-Indigenous Australians with mental health needs who received NDIS support for psychosocial disability, and [2] the sociodemographic and service-related characteristics that were associated with Indigenous Australians' access rates, and budget allocations of NDIS support packages for psychosocial disability. This study is part of a larger project aimed at improving access to mental health services (i.e., whether services were used) and utilisation patterns (i.e., how services were used) among Indigenous residents in South East Queensland, Australia [25].

Methods

Sense-making process

Sense-making was integral to this study, aligning with Indigenous research principles by incorporating collaboration and contextual understanding. This process informed all stages of the research, from identifying key variables to interpreting findings. An advisory group, including Indigenous Elders, clinicians, service providers, planners, researchers, and a community advisor, played a crucial role. Their insights guided the study design, data interpretation, and result framing, ensuring cultural relevance and alignment with community priorities. This engagement strengthened the research by embedding Indigenous perspectives and lived experiences, leading to a more nuanced and culturally responsive analysis.

Andersen's behavioural model [26] was applied, and we used the sense-making process to adapt its domains to the Indigenous and SEQ context. Specifically, we: (i) reviewed available variables in the linked datasets and mapped them onto Andersen's predisposing, enabling, need, and service-related factors; (ii) sought feedback from the advisory group and Indigenous health service partners, sharing variable lists by email and discussing their appropriateness in meetings; and (iii) ensured that interpretation was guided and reframed by Indigenous health providers and advisory group members so that findings were situated within cultural, social, and systemic determinants of health, rather than individual deficits. This ensured that while Andersen's model provided a useful organising structure, the analysis and interpretation remained grounded in Indigenous perspectives and service realities.

Data source, setting and study population

This study used data from the Australian Bureau of Statistics (ABS) Personal Level Integrated Data Asset (PLIDA), a deidentified, linked national dataset [27]. PLIDA integrates demographics, Indigenous (Aboriginal and/or Torres Strait Islander) identifiers, Census data, and data from the NDIS and Medicare. We obtained residence locations, durations and Indigenous identifiers from the PLIDA Modular Product, sociodemographic and mental health history from the 2021 Australian Census, Medicare mental health items from 2021 Medicare data to identify Medicare mental health service access, and 2021-22 NDIS participants data for NDIS service variables. Because NDIS participant data were stored in subsequent updates, the 2022 NDIS data were used to retrieve 2021 utilisation records. Linkage was conducted by the ABS using a statistical linkage key derived from personal identifiers (e.g., name, date of birth, sex, residential address), which were separated from content data and replaced with unique linkage IDs (i.e., Person Linkage Spine) [28]. These IDs enabled the first author (XZ) to integrate the datasets at the individual level. Although both PLIDA and the NDIS include information on Indigenous (i.e., Aboriginal and/or Torres Strait Islander) status, we used the PLIDA identifier in this study because it is standardised across linked datasets, derived from multiple sources, and subject to ABS quality assurance processes, providing a more consistent and reliable measure. Meanwhile, we compared Indigenous identification in the NDIS participant dataset with PLIDA to assess the accuracy of Indigenous status reporting within the NDIS.

In the current study, SEQ was defined by using ABS statistical area level 2 (SA2), which is a geographic unit used in Australia's statistical framework to represent communities with a population of 3,000 to 25,000, providing a standardised basis for analysing data such as demographics, health, and economy. SEQ comprises four Hospital and Health Services (HHSs), which are statutory authorities responsible for planning, funding, and delivering public hospital and community mental health care within defined geographic catchments. Each HHS has distinct service configurations, partnerships with Aboriginal community-controlled health organisations, and referral pathways into psychosocial support, creating observable variation in access, assessment, and continuity of care. Accounting for HHS in our analysis allows us to capture this structural heterogeneity (e.g., provider density, workforce capacity, urban–regional mix, and local commissioning priorities) that can independently shape NDIS access and plan quality for First Nations peoples (see Supplementary file 1 for HHSs and SA2s included in SEQ). Furthermore, SEQ accounts for 11% of Australia's and 38% of Queensland's Indigenous population [29] and the majority of the population reside in urban areas (Table 1). The study population included only individuals who met both criteria: residing in SEQ for the entirety of 2021 and having mental health needs. Population with mental health needs was defined as individuals who either (i) self-reported in the 2021 Census

Table 1 Sociodemographic and service-related characteristics of people who had mental health needs in 2021

Characteristics (total *n* = 441,527)	**Indigenous (*n* = 19,695; 4.46%)**	**Non-Indigenous (*n* = 421,832; 95.54%)**	***P* values for X2 and T-test**	**T/chi-square**
Demographic variables				
Female (%; count)	59.42% (11,702)	60.76% (256,300)	< 0.001	14.22
Age (years old) (mean; SD)+	32.68 (17.23)	39.53 (19.38)	< 0.001	-48.69
ASGS Major cities (%; count)	89.29% (17,585)	93.28% (393,496)	< 0.001	555.63
Household income percentile below 40% (%; count)	65.00% (11,856)	45.69% (180,191)	< 0.001	3,400.00
Married (registered or de facto marriage) (%; count)	26.10% (5,140)	41.36% (174,472)	< 0.001	2,100.00
Post-secondary degree (%; count)	37.32% (7,351)	51.27% (216,291)	< 0.001	2,100.00
Employed (%; count)	38.15% (7,513)	53.65% (226,316)	< 0.001	2,200.00
Has mental health history (%; count)[1]	65.25% (12,851)	57.89% (244,210)	< 0.001	465.70
Percentage accessing NDIS support for primary psychosocial disability (among SEQ mental health needs sample)	1.75% (345)	0.88% (3,707)	< 0.001	157.68
Service-related variables among NDIS psychosocial disability subgroup (*n* = 4,052)	**Indigenous (*n* = 345; 8.51%)**	**Non-Indigenous (*n* = 3,707; 91.49%)**	**P values**	**T/chi-square**
NDIS plan utilisation in AUD for year 2021 per person [2] (mean; SD)+	$84,765.81 (148,320.3)	$79,035.41 (89,660.19)	0.716	0.36
NDIS plan utilisation in AUD per day per person[2] (mean; SD)+	$232.48 (406.25)	$221.86 (245.34)	0.805	0.25
NDIS plan utilisation percentage in year 2021 per person[2] (mean; SD) +	71% (24%)	75% (22%)	0.346	-0.94
Number of missing values in plan utilisation per day/in 2021 (%; count)	88.12% (304)	88.48% (3,280)	0.839	-0.04
NDIS plan budget in AUD made in 2021[3] (mean; SD) +	$94310.90 (84215.5)	$86371.78 (74768.77)	0.062	1.87

Note: [1] defined by Census to have ever been diagnosed by a mental health professional to have a mental health condition(s)

[2] only includes people who had utilisation values, where total n = 468; Indigenous = 41; non-Indigenous = 427

[3] only includes people who had budget allocation values, where total *n* = 4049; Indigenous = 345; non-Indigenous = 3704

+ denotes results derived from t-tests; variables without this symbol were obtained using chi-square analyses

being diagnosed with a mental health condition by a doctor or nurse, or (ii) accessed any Medicare mental health items in 2021 (Supplementary file 2). The population that accessed NDIS psychosocial support was defined as participants recorded in the NDIS administrative data having psychosocial disability as their primary disability during the 2021 calendar year.

Demographic data were obtained from the Census rather than the NDIS datasets. This approach was adopted to ensure consistency and comprehensiveness in demographic information, as Census data provide a standardised and complete representation of population characteristics. Furthermore, the NDIS patient records reflected the NDIS plans for each individual, including details on primary disability, NDIS plan budget, start date, end date, and utilisation. These records were updated either quarterly or annually, which could result in some participants having multiple entries in the NDIS dataset. Because the NDIS plan end dates were often recorded as “December 9999”, we adjusted the end date of each record using the start date of the next updated plan record. This adjustment allowed for a more accurate determination of the actual plan period for each participant.

Variables

This study focused exclusively on access to NDIS psychosocial disability support among people with mental health needs. Presence of an NDIS plan for psychosocial disability was identified from NDIS administrative records, where eligibility was determined through functional assessment of mental health–related conditions rather than researcher-determined diagnoses; those with NDIS plans are likely only a subset of the total population with a psychosocial disability. The outcome variables included NDIS psychosocial support access rates (defined as the proportion of population identified as NDIS participants with a primary psychosocial disability among those with mental health needs), plan budget (the total Australian dollar amount allocated to each participant’s current NDIS plan), and plan utilisation in AUD (the total Australian dollar amount utilised by each NDIS psychosocial participant). Participants often had more than one NDIS plan record spanning 2021, as plans were renewed or reviewed at different times. Each NDIS plan is holistic and covers all funded supports under a single budget. However, plan start, and end dates frequently straddle calendar years (e.g., February 2020–February 2021, followed by February 2021–February 2022), making it impossible to identify a single budget or utilisation figure that applied strictly to January–December 2021. To address this, we calculated the average budget and the average utilisation across all plans active during 2021. This approach was chosen to prevent overestimation (which would occur if budgets or utilisation were summed across overlapping plans) and provide a conservative estimate of each participant's typical level of support in that year. For example, plan utilisation in Australian dollars (AUD) in 2021 was determined using the following formula:

(1) Plan utilisation in AUD = Days in 2021 with NDIS support for psychosocial support * Average utilisation per day.

where:

(2) Average utilisation per day = Mean $\left(\frac{\text{Utilisation in AUD for each record}}{\text{Duration days for that record}}\right)$.

Unadjusted access rates to NDIS for the whole SEQ population were examined for three primary disability categories: (i) psychosocial disability; (ii) autism, developmental delay (including global developmental delay), and intellectual disability; and (iii) other disabilities. Furthermore, based on the International Classification of Diseases (ICD) classification of their disabilities (as recorded in NDIS dataset), NDIS participants were categorised into three groups: (i) psychotic disorders-related disabilities, including F20 (Schizophrenia), F25.9 (Schizoaffective disorder), and F31 (Bipolar affective disorder); (ii) other mental health disabilities, including F11 (Alcohol dependency), F32 (Major depressive illness), F41 (Other anxiety disorders), F42 (Obsessive-compulsive disorder), F43 (Post-traumatic stress disorder), F60.3 (Borderline personality disorder), F90 (Attention deficit hyperactivity disorder), F91.9 (Conduct disorder), F99 (Other psychosocial disorders), and R63 (Anorexia); and (iii) other disabilities including all other ICD classifications as recorded in NDIS dataset.

The independent variables were chosen based on Andersen's behavioral model for health services utilisation [26] (Supplementary file 3 for variables), including predisposing factors (sex, age, Aboriginal and/or Torres Strait Islander language at home use at home, household composition, marital status, and highest education attainment), contextual factors (remoteness of residence and number of residence locations), enabling factors (household income percentile and employment status), need factors (mental health history based on self-report in the Census being diagnosed with a mental health condition, number of chronic health conditions, and level of function), and health service factors (HHSs). Variables were chosen to align with these domains and reflect both prior literature [4, 23, 30] and the availability of relevant measures in the linked datasets.

Statistical analysis

Descriptive analyses were performed to summarise demographic and service-related characteristics, reporting counts, percentages and chi-square statistics for categorical variables and means with standard deviations and t statistics for continuous variables. To estimate whether NDIS psychosocial support successfully identified Indigenous Australian participants, we also examined the percentage of Indigenous participants identified in the NDIS data (using the NDIS Indigenous status) whose status was correctly recorded by comparing it with the Indigenous identifier in PLIDA.

To explore the equity in access to NDIS psychosocial support between Indigenous and non-Indigenous Australians, multivariate logistic regression analyses were conducted controlling for sociodemographic variables. To explore the factors associated with access to and budget plan (i.e., mean budget plan in 2021) of NDIS psychosocial support within Indigenous Australian participants, multivariate regression models were built. To determine which predictors to be included in the regression models, multicollinearity was assessed using Variance Inflation Factors (VIF) and a VIF of higher than 5 was deemed to indicate high multicollinearity and dropped from the models. Multivariate logistic regression analyses were employed to estimate the adjusted odds ratios (ORs) and 95% CIs for rates of access in relation to demographic factors. Multivariate linear regression analyses were employed to estimate coefficients and 95% CI for plan budget in relation to demographic and service-related factors. To deal with non-linearity and heteroscedasticity in linear regression models, square root transformed outcomes were used. Children (< 18 years) were excluded from the regression analyses because of small sample size ($n < 10$). In accordance with ABS confidentiality protocols, which require suppression of cell counts below 10 to minimise any risk of re-identification, we did not report results for groups with $n < 10$. Consequently, while both adults (≥ 18 years) and children were included in descriptive analyses, only adults were included in regression analyses. For the multivariate linear regression models, all selected independent variables were entered simultaneously, with categorical predictors coded as dummy variables. Model diagnostics were assessed, including linearity, normality, homoscedasticity, and multicollinearity (using variance inflation factors). To address heteroscedasticity, we applied a square root transformation to the outcome variable. For the non-Indigenous linear regression model, robust standard errors were also used. Marital status and number of chronic health conditions were excluded from multivariate linear regression models of plan budgets due to collinearity with household composition and mental health history, respectively, but were retained in logistic regression models of access. To address the multicollinearity issues associated with age as a categorical variable, the numeric variable of age was used for linear regression (budget) analyses.

Stata version 18 was used to undertake the analyses in the ABS DataLab, a secure remote-access computer facility for analysis of linked data.

Missing data

A large proportion of missing values were identified in the NDIS plan utilisation variable. Among participants who accessed NDIS psychosocial disability support ($n = 4{,}052$), 3,584 (88.45%) had all their plan records missing utilisation. The proportion of missing data did not differ significantly between Indigenous and non-Indigenous participants (88.12% vs. 88.48%, $p = 0.839$). For demographic variables, missing responses were retained in analyses by coding them as "not stated." For service-related dependent variables, participants with missing values were excluded from regression models ($n = 4$ for the plan budget variable). Person-level utilisation was therefore calculated only for those with at least one record containing non-missing utilisation; individuals with all records missing were excluded from utilisation analyses. Finally, Indigenous Australian participants with "not applicable" on the remoteness variable were excluded from regression analyses for Indigenous Australians, as the small cell size could raise confidentiality concerns.

Ethics declaration

This study was exempted from ethics approval by The University of Queensland (UQ) Human Ethics Office (#2023/HE001992), as a secondary analysis of de-identified data. Data access was approved by the Australian Government Departments of Social Services and Health and Aged Care, and ABS, with all analyses conducted under ABS confidentiality protocols. The study design and interpretation of results were reviewed and refined in consultation with the advisory group for the overall project.

Results

Sociodemographic and service-related characteristics

A total sample of people with mental health needs residing in SEQ was 441,527. Among them, 4.46% were Indigenous and 95.54% were non-Indigenous. Significant sociodemographic differences were observed between Indigenous and non-Indigenous populations with mental health needs (Table 1). A larger proportion of the Indigenous Australians were younger and resided outside major cities. They were also more likely to belong to the lowest household income quintiles (0–40%), be unmarried, have lower education, or not in the labour force. Furthermore, Indigenous Australians had higher rates of reported mental health diagnosis history compared with their non-Indigenous counterparts. Additionally, a total number of 4,052 SEQ residents (8.51% Indigenous) accessed NDIS psychosocial support.

Indigenous Australians demonstrated higher access to NDIS psychosocial support in both those with identified mental health needs (1.75% vs. 0.88%, $p < 0.001$) and among the total SEQ population (Table 2; 0.51% vs. 0.17%, $p < 0.001$). After adjusting for sociodemographic variables (Supplementary file 4), Indigenous Australians with mental health needs remained significantly more likely than their non-Indigenous counterparts to access NDIS psychosocial support (OR = 1.30, $p < 0.001$). Beyond psychosocial support, Indigenous participants showed higher rates of NDIS support for autism, developmental delay and intellectual disabilities (3.08% vs. 1.06%, $p < 0.001$), and other disabilities (0.98% vs. 0.56%, $p < 0.001$) (Table 2). Indigenous Australians also had higher rates of access to NDIS support for both disability groups after controlling for differences in age between Indigenous and non-Indigenous populations (OR = 1.97; $p < 0.001$ and OR = 1.75; $p < 0.001$ respectively).

No significant differences were found in the plan budgets allocated for NDIS psychosocial support between Indigenous and non-Indigenous populations (Table 1; \$94,310.90 AUD vs. \$86,371.78 AUD, t(466) = 1.87, $p = 0.062$). Among participants with plan budgets, 88.45% lacked utilisation data in the available dataset, leaving 11.55% with analysable data. Analysis of this data revealed

Table 2 Access rates for different disabilities of all the people living in South East Queensland

NDIS access rate by primary disability (total $n = 2{,}494{,}381$)	Indigenous ($n = 74{,}430$; 2.98%)	Non-Indigenous ($n = 2{,}419{,}951$; 97.02%)	*P* values	Chi-square
Psychosocial disability	380(0.51)	3996(0.17)	< 0.001	491.96
Autism, developmental delay, intellectual disability[1]	2289(3.08)	25,574(1.06)	< 0.001	2,700.00
Other disabilities except for above two disabilities[2]	729(0.98)	13,578(0.56)	< 0.001	221.62

Footnote: 1 Logistic regression controlling for age showed that Indigenous participants had significantly higher odds of accessing this service compared with non-Indigenous participants (OR = 1.97, $p < 0.001$). This adjustment was undertaken to account for potential confounding by age, as service access rates may otherwise reflect age distribution differences

2 Logistic regression controlling for age showed that Indigenous participants had significantly higher odds of accessing this service compared with non-Indigenous participants (OR = 1.75, $p < 0.001$). This adjustment was undertaken to account for potential confounding by age, as service access rates may otherwise reflect age distribution differences

no significant differences between Indigenous and non-Indigenous Australians in annual utilisation ($84,765.81 AUD vs. $79,035.41 AUD, t(466) = 0.36, $p = 0.716$), daily utilisation ($232.48 AUD vs. $221.86 AUD, t(466) = 0.25, $p = 0.805$), or budget utilisation percentages (71% vs. 75%, $p = 0.346$). Additionally, the proportion of missing utilisation data did not differ significantly between Indigenous and non-Indigenous populations (88.12% vs. 88.48%, $p = 0.839$).

Further analysis of populations who accessed NDIS psychosocial support revealed distinct diagnostic patterns. Indigenous participants were more likely to have an ICD classification of psychotic disorders (69.84% vs. 64.12%, $p < 0.001$) but were less likely to have an ICD classification of non-mental health conditions (2.48% vs. 3.30%, $p < 0.001$) and other mental health disabilities (26.87% vs. 33.40%, $p < 0.001$). Notably, among Indigenous NDIS participants with psychosocial disabilities in this study, only 69.57% were correctly identified as Indigenous in the NDIS participant dataset when using the PLIDA combined Indigenous identifier.

Factors associated with access to NDIS psychosocial support among Indigenous Australian adults

Predisposing factors

Age, Aboriginal and/or Torres Strait Islander language spoken at home, household composition, marital status, and educational attainment were significantly associated with access to NDIS psychosocial support among Indigenous Australian adults (Table 3). Those aged 25 years or older were more likely to access NDIS psychosocial support compared with the 18–25 age group, with the highest rates observed in the 40–54 age group (OR = 5.48, $p < 0.001$), followed by 25–39 (OR = 4.05, $p < 0.001$) and 55 + years (OR = 2.51, $p = 0.004$). Indigenous Australian adults who spoke an Aboriginal and/or Torres Strait Islander language at home also had higher access rates (OR = 1.99, $p = 0.045$). Household composition played a role—individuals in group households (OR = 1.70, $p = 0.015$) or lone households (OR = 3.21, $p < 0.001$) were more likely to access support than those in family households (one or multiple family households). Additionally, unmarried Indigenous Australian adults were more likely to access services (OR = 2.12, $p = 0.001$). However, those with post-secondary education had lower access rates compared to those with education levels below year 10 (OR = 0.64, $p = 0.003$).

Contextual factors

Housing instability was significantly associated with access rates. Indigenous Australian adults who moved more than once in 2021 had lower access rates (OR = 0.69, $p = 0.028$) than those with stable housing (i.e., did not move at all). In contrast, remoteness of residence was not significantly associated with access among Indigenous Australian adults. However, among non-Indigenous adults (Table 4), remoteness was significantly associated with access, with those in regional or remote areas having lower access rates (OR = 0.47, $p < 0.001$).

Enabling factors

Household income and labour force status were significant. Indigenous Australian adults in the 40%+ household income quantile were less likely to access NDIS psychosocial support (OR = 0.67, $p = 0.049$), meanwhile, those who were unemployed or not in the labour force were more likely to access the support (OR = 6.04; $p < 0.001$). These patterns were consistent with findings for non-Indigenous Australian adults.

Need factors

Mental health history and chronic health conditions were significantly associated with access. Indigenous Australian adults with a mental health history were more likely to access services (OR = 4.63, $p < 0.001$), while those with one chronic health condition were less likely to access support compared to those with no chronic conditions (OR = 0.59, $p = 0.001$). Similarly, these factors also impacted non-Indigenous adults.

Service-related factors

The HHS region where Indigenous Australian adults resided was not significantly associated with their access rates. However, this was a significant factor for non-Indigenous adults, with those in Metro North and West Moreton HHS accessing services at higher rates (OR = 1.17, $p = 0.002$ and OR = 1.22, $p = 0.003$, respectively).

Factors associated with NDIS plan budgets for primary psychosocial disability support among Indigenous Australian adults

Only household composition (a predisposing factor) and functional level (a need factor) were associated with the size of allocated plan budgets (Table 5). Indigenous Australian adults in group households (coefficient = 49.58, $p = 0.019$) or lone households (coefficient = 33.06, $p = 0.020$) had higher budgets than those in family households. Similarly, individuals with low functional levels on the NDIS staff-rated level of function measure received higher budgets (coefficient = 70.66, $p < 0.001$) than those with moderate or high functional levels. For non-Indigenous adults (Table 6), additional factors were associated with allocated plan budgets, including sex, age, educational attainment, remoteness, household income, and labour force status.

Table 3 Results of logistic regression model of NDIS primary psychosocial disability support access for Indigenous Australian adults with identified mental health needs ($n = 14{,}893$)

Access to NDIS psychosocial support	OR	*P* value	95% CI lower	95% CI upper
Predisposing factors				
Sex				
Male	1.00			
Female	0.95	0.701	0.75	1.21
Age group				
18–24	1.00			
25–39	4.05	< 0.001	2.32	7.07
40–54	5.48	< 0.001	3.12	9.64
55 and older	2.51	0.004	1.35	4.68
Aboriginal and/or Torres Strait Islander language at home use at home				
Aboriginal and/or Torres Strait Islander language at home not used at home	1.00			
Aboriginal and/or Torres Strait Islander language at home used at home	1.99	0.045	1.02	3.91
Not stated[1]	1.72	0.087	0.92	3.21
Household composition				
One or multiple family household	1.00			
Group household	1.70	0.015	1.11	2.62
Lone household	3.21	< 0.001	2.39	4.32
Not applicable	7.50	< 0.001	4.02	13.99
Marital status				
Married (registered or de facto)	1.00			
Not married	2.12	0.001	1.39	3.24
Not applicable	2.24	0.013	1.19	4.21
Highest education attainment				
Below year 10	1.00			
Year 11 or 12	0.95	0.752	0.69	1.30
Post-secondary degree/certificate	0.64	0.003	0.48	0.86
Not stated[1]	0.77	0.296	0.47	1.26
Contextual factors				
Remoteness				
Major cities	1.00			
Regional or remote	1.03	0.872	0.70	1.51
Number of residence locations				
One location	1.00			
Two and more locations	0.69	0.028	0.49	0.96
Enabling factors				
Household income percentile				
Below 40%	1.00			
Above 40%	0.67	0.049	0.45	1.00
Not stated[1]	0.56	0.053	0.32	1.01
Employment status				
Employed	1.00			
Unemployed or not in the labour force	6.04	< 0.001	3.79	9.63
Need factors				
Mental health history				
No history	1.00			
Has mental health history	4.63	< 0.001	2.84	7.54
Number of chronic health conditions				
No condition				
One condition	0.59	0.001	0.43	0.80
Two or more conditions	0.86	0.302	0.64	1.15
Service-related factors				
Hospital Health Service region (HHS)				

Table 3 (continued)

Access to NDIS psychosocial support	OR	*P* value	95% CI lower	95% CI upper
Gold Coast HHS	1.00			
Metro North HHS	1.17	0.407	0.81	1.71
Metro South HHS	0.76	0.172	0.52	1.13
West Moreton HHS	1.08	0.718	0.70	1.66

Note: [1] people who did not answer the question

Discussion

This study examined equity in access to, and utilisation of NDIS psychosocial disability supports among people with mental health needs living in SEQ in 2021. Indigenous Australians had higher access rates than their non-Indigenous counterparts, both before and after adjustment for covariates. In contrast, no statistically significant differences were observed between Indigenous and non-Indigenous Australians in plan budgets or utilisation of budgets, although analyses relating to utilisation of budgets were limited by a high proportion of missing data (88%), with results based on the 12% of records with available data.

Access to NDIS psychosocial disability support among Indigenous Australians

Previous national statistics have suggested higher prevalence rates of psychosocial disability but lower access rates to NDIS psychosocial support among Indigenous Australians [11, 31]. In contrast, our study found that Indigenous Australians in SEQ demonstrated higher access rates to NDIS psychosocial support. This could be attributed to the presence of local Indigenous health services, such as the Institute for Urban Indigenous Health, which likely support and improve access in SEQ relative to other regions [32]. Meanwhile, this result needs to be interpreted cautiously. First, the higher access rates do not necessarily indicate access equity. The denominator used in our study—people with mental health needs—was based on those who either self-reported a diagnosis of mental health conditions in the Census or had ever used MBS mental health items in 2021. Meanwhile, Both the Census and Medicare data sources have significant limitations in accurately capturing the mental health needs of Indigenous Australians [33, 34], potentially leading to an underestimation of the Indigenous population with mental health needs. Second, despite higher access rates in SEQ, many Indigenous Australians continue to face substantial barriers to obtaining NDIS psychosocial supports, including the limited availability of culturally appropriate and affordable services [15].

The study also revealed that Indigenous Australian participants receiving NDIS psychosocial support were more likely to have ICD diagnoses of psychotic disorders, while fewer had diagnoses of common mental health conditions such as depression or anxiety. This suggests that Indigenous Australians might engage with the NDIS primarily when experiencing severe or complex mental health conditions, reflecting higher eligibility thresholds [35]. Although higher access rates were observed, they could correspond to greater levels of need or disability, warranting cautious interpretation in the absence of comprehensive data.

Accurately identifying Indigenous status is essential for 'Closing the Gap' in health outcomes between Indigenous and non-Indigenous Australians [36]. This study found that only 69.57% of Indigenous NDIS psychosocial support recipients were correctly identified in the NDIS participant dataset. Under-identification often results from mistrust of government institutions, fear of discrimination, or perceptions that self-identification is irrelevant to service provision [37]. Additionally, administrative shortcomings, such as non-standardised forms and culturally insensitive language, likely contribute to this issue. Addressing these gaps is crucial to delivering culturally appropriate psychosocial support and ensuring equitable service provision. Without improved identification processes, the NDIS risks perpetuating disparities and failing to meet the needs of Indigenous Australian communities effectively.

Factors associated with access to NDIS psychosocial disability support

This study identified several factors associated with access to NDIS psychosocial support among Indigenous Australian adults in SEQ. It is worth noting that we applied Andersen's behavioural model as an organising heuristic to group available variables, acknowledging the limited availability of culturally specific measures. These identified factors from the statistical models were not intended to predict individual access based on personal characteristics, but rather, to identify structural inequities in service access. Additionally, these factors should not be interpreted as determinants or risk factors for developing psychosocial disability among Indigenous Australians. The analysis suggests that predisposing and enabling factors—such as being middle aged, living in lone or group households, being unmarried, unemployed or not in the labour force, having lower income, and lower educational attainment—may serve as proxies for support needs. These groups demonstrated higher access rates, indicating that NDIS psychosocial support

Table 4 Results of logistic regression model of NDIS primary psychosocial disability support access for non-Indigenous adults with identified mental health needs ($n = 358{,}542$)

Access to NDIS psychosocial support	OR	*P* value	95% CI lower	95%CI upper
Predisposing factors				
Sex				
Male	1.00			
Female	0.83	< 0.001	0.78	0.89
Age group				
18–24	1.00			
25–39	4.59	< 0.001	3.77	5.59
40–54	7.26	< 0.001	5.97	8.82
55 and older	2.10	< 0.001	1.71	2.58
Household composition				
One or multiple family household	1.00			
Group household	1.34	< 0.001	1.17	1.53
Lone household	2.57	< 0.001	2.36	2.80
Not applicable	3.75	< 0.001	3.06	4.59
Marital status				
Married (registered or de facto)	1.00			
Not married	3.18	< 0.001	2.83	3.58
Not applicable	3.03	< 0.001	2.48	3.70
Highest education attainment				
Below year 10	1.00			
Year 11 or 12	0.97	0.600	0.89	1.07
Post-secondary degree/certificate	0.74	< 0.001	0.68	0.80
Not stated	0.84	0.013	0.73	0.96
Contextual factors				
Remoteness	1.00			
Major cities	1.00			
Regional or remote	0.47	< 0.001	0.40	0.56
Not applicable	0.48	0.008	0.28	0.83
Number of residence locations				
One location	1.00			
Two and more locations	0.95	0.308	0.86	1.05
Enabling factors				
Household income percentile	1.00			
Below 40%	1.00			
Above 40%	0.54	< 0.001	0.49	0.60
Not stated	0.75	< 0.001	0.65	0.88
Employment status				
Employed	1.00			
Unemployed or not in the labor force	12.10	< 0.001	10.54	13.90
Not stated	9.23	< 0.001	6.59	12.93
Need factors				
Mental health history				
No history	1.00			
Exist history	6.13	< 0.001	5.31	7.08
Number of chronic health conditions				
No condition	1.00			
One condition	0.81	< 0.001	0.75	0.88
Two or more conditions	0.73	< 0.001	0.66	0.80
Service-related factor				
HHS				
Gold Coast HHS	1.00			
Metro North HHS	1.17	0.002	1.06	1.29

Table 4 (continued)

Access to NDIS psychosocial support	OR	*P* value	95% CI lower	95%CI upper
Metro South HHS	1.06	0.235	0.96	1.17
West Moreton HHS	1.22	0.003	1.07	1.39

was effectively reaching those most in need. National statistics show that middle-aged Indigenous Australians experience the highest rates of psychosocial disability [38]. Additionally, Indigenous Australian adults from lone or group households, or those who were unmarried, accessed services at higher rates, suggesting that the absence of informal caregiving networks increases reliance on formal disability support [39]. Similarly, individuals from low-income households, those unemployed or not in the labour force, and those with lower education levels faced greater financial hardship, driving higher access to NDIS services. These findings highlight the role of the NDIS psychosocial support program in addressing both psychosocial and financial vulnerabilities.

The study also identified other factors influencing NDIS access. Aboriginal and/or Torres Strait Islander language use at home—indicative of strong cultural identity—emerged as a significant enabler for accessing NDIS psychosocial support. This result is consistent with previous research [23, 40], and further support the positive role of cultural identity in enhancing service engagement and willingness to seek support.

Conversely, housing instability was a notable barrier to accessing NDIS psychosocial support. Indigenous Australian adults who experienced multiple relocations within a year were less likely to access NDIS psychosocial support, reflecting how unstable housing disrupts continuity of care and limits service access [41]. This is particularly concerning given the disproportionate burden of inadequate housing within Indigenous communities [42]. Targeted interventions addressing housing stability are critical to ensuring equitable access to NDIS psychosocial support. An alternative explanation is that individuals with significant disabilities and higher support needs may be placed in disability or public housing, providing more stable accommodation and contributing to this pattern [43].

Furthermore, HHS and geographic remoteness—used as proxies for regional availability of NDIS psychosocial support—were not associated with access among Indigenous adults, diverging from patterns observed in non-Indigenous populations [22]. This suggests that, in the data records we used, geographic location or HHS did not predict NDIS access, possibly due to different enabling and predisposing factors experienced by Indigenous peoples. It is important to note that the experience of geographic remoteness can vary widely even within the same ABS remoteness category. For example, Stradbroke Island in SEQ, although classified as Outer Regional Australia, has greater proximity to urban centres and better service availability than more isolated areas like Central Australia [44]. Such regional differences should be considered when interpreting the relationship between regional availability of services and access among Indigenous Australians.

Need factors also played a role, with mental health history significantly associated with higher access rates. Indigenous Australian adults with diagnosed mental health conditions were more likely to meet NDIS eligibility criteria for psychosocial support. In contrast, individuals with chronic health conditions had lower access rates. This finding should not be interpreted as reduced need, but rather as reflecting systemic and structural barriers, potentially due to stigma, competing health priorities, or negative past experiences with healthcare providers [45]. Alternatively, those with chronic health conditions may receive NDIS support through pathways related to other primary disabilities, limiting their engagement with psychosocial programs.

NDIS plan utilisation and budget allocation for psychosocial disability among Indigenous Australians

Our study found that there was no statistically significant difference in either plan utilisation or budget allocation of NDIS plan between Indigenous and non-Indigenous Australians. While this finding is encouraging, it should be interpreted with caution. Firstly, 88% of utilisation data for psychosocial support were missing in the NDIS dataset. Therefore, actual utilisation of the NDIS plan by Indigenous Australians remains unknown. Access to mental health services through the NDIS, particularly for Indigenous Australians, has been challenging due to factors like cultural safety, knowledge gaps, and the complexity of the NDIS system, leading to underutilisation of plans and potentially unsafe services [46]. According to a recent report, Indigenous Australians were 28% less likely to actually receive care compared with non-Indigenous Australians [11] and it is pivotal to strengthen the interface between mental health systems and the NDIS [15]. Secondly, service utilisation does not necessarily indicate quality of care for Indigenous Australians, as billing and administrative barriers can limit the types and extent of services they receive. Challenges such as the complexity of NDIS funding processes, inappropriate billing practices, and inflexible service models have been reported to disproportionately affect Indigenous participants [47].

This study found that few factors were significantly associated with NDIS plan budget allocations for

Table 5 Results of linear regression model of budget allocation of NDIS primary psychosocial disability support for Indigenous Australian adults with identified mental health needs (*n* = 336)

Square root of budget allocation in 2021	Coefficient	*P* value	95% CI lower	95% CI upper
Predisposing factors				
Sex				
Male	Reference			
Female	10.81	0.342	-11.56	33.17
Age (continuous variable)	-0.36	0.494	-1.39	0.67
Aboriginal and/or Torres Strait Islander language at home use at home				
Aboriginal and/or Torres Strait Islander language at home not used at home	Reference			
Aboriginal and/or Torres Strait Islander language at home used at home	-8.85	0.788	-73.55	55.86
Not stated	65.02	0.016	12.24	117.80
Household composition				
One or multiple family household	Reference			
Group household	49.58	0.019	8.21	90.94
Lone household	33.06	0.020	5.30	60.81
Not applicable	6.48	0.699	-26.45	39.40
Highest education attainment				
Below year 10	Reference			
Year 11 or 12	20.68	0.174	-9.21	50.57
Post-secondary degree/certificate	-13.64	0.335	-41.47	14.18
Not stated	-11.23	0.622	-55.93	33.48
Contextual factors				
Remoteness				
Major cities	Reference			
Regional or remote	5.68	0.757	-30.44	41.80
Number of residence locations				
One location	Reference			
Two and more locations	-19.24	0.230	-50.73	12.26
Enabling factors				
Household income percentile				
Below 40%	Reference			
Above 40%	7.00	0.707	-29.69	43.70
Not stated	-4.50	0.866	-57.01	48.00
Employment status				
Employed	Reference			
Unemployed or not in the labour force	24.05	0.286	-20.27	68.38
not stated	35.89	0.419	-51.40	123.18
Need factors				
Mental health history				
No history	Reference			
Exist history	3.34	0.893	-45.61	52.30
Mental health history	-22.67	0.623	-113.17	67.83
Level of function[1]				
Moderate or high function	Reference			
Low function	70.66	< 0.001	45.27	96.04
Service-related factor				
HHS				
Gold Coast HHS	Reference			
Metro North HHS	4.00	0.827	-31.88	39.87
Metro South HHS	11.62	0.543	-25.93	49.16
West Moreton HHS	1.95	0.926	-39.30	43.20

Note: [1] Level of Function for NDIS participants is a NDIS staff-rated measure on a 15-point scale. Moderate or high function includes scores of 10 and less, while low function includes scores between 11 and 15

Table 6 Results of linear regression model of budget allocation of NDIS primary psychosocial disability support for non-Indigenous adults with identified mental health needs (*n* = 3,693)

Square root of budget allocation in 2021	Coefficient	*P* value	95% CI lower	95% CI upper
Predisposing factors				
Sex				
Male	Reference			
Female	13.48	< 0.001	7.25	19.72
Age (continuous variable)	-0.31	0.029	-0.60	-0.03
Household composition				
One or multiple family household	Reference			
Group household	67.87	< 0.001	52.24	83.49
Lone household	30.35	< 0.001	23.37	37.33
Not applicable	17.67	< 0.001	9.42	25.92
Highest education attainment				
Below year 10	Reference			
Year 11 or 12	-8.09	0.078	-17.08	0.91
Post-secondary degree/certificate	-17.81	< 0.001	-25.11	-10.51
Not stated	5.16	0.467	-8.74	19.06
Contextual factors				
Remoteness				
Major cities	Reference			
Regional or remote	-19.61	0.010	-34.47	-4.75
not applicable	-36.60	0.041	-71.68	-1.51
Number of residence locations				
One location	Reference			
Two and more locations	7.35	0.119	-1.89	16.60
Enabling factors				
Household income percentile				
Below 40%	Reference			
Above 40%	-8.28	0.040	-16.18	-0.38
Not stated	16.94	0.020	2.66	31.22
Employment status				
Employed	Reference			
Unemployed or not in the labor force	23.15	< 0.001	12.73	33.57
not stated	7.08	0.602	-19.56	33.72
Need factors				
Mental health history				
No history	Reference			
Exist history	-1.31	0.860	-15.80	13.19
Not sated	0.42	0.982	-37.10	37.95
Level of function				
Moderate or high function	Reference			
Low function	80.42	< 0.001	72.27	88.57
Service-related factor				
HHS				
Gold Coast HHS	Reference			
Metro North HHS	4.32	0.327	-4.32	12.95
Metro South HHS	4.20	0.344	-4.50	12.90
West Moreton HHS	-12.90	0.039	-25.13	-0.67

Indigenous Australian adults. The most notable factor was level of functioning, with lower functional capacity associated with higher budget allocations, reflecting appropriate targeting of resources based on need. Household composition also played a role, with individuals living alone or in group households receiving higher budgets, likely due to greater needs and the absence of informal caregiving networks. While these patterns suggest that budget allocation aligns with functional impairment, caution is warranted. Both functional assessments and budget decisions are made by NDIS staff, raising questions about how accurately these assessments reflect actual needs from the perspective of individuals or their healthcare providers [48]. The lack of significant associations between budget allocations and broader socioeconomic or contextual factors among Indigenous Australians contrasts with findings for non-Indigenous groups. This suggests that budget distribution within Indigenous Australian communities is relatively equitable, driven more by psychosocial and support needs than by demographic differences.

Strengths, limitations, and future directions

A key strength of this study is its comprehensive analysis of sociodemographic, contextual, and enabling factors associated with access to and budget allocation of NDIS psychosocial support among Indigenous Australians. This was achieved using a more robust Indigenous identifier from the PLIDA dataset and detailed demographic data from the Australian Census, ensuring greater accuracy in identifying Indigenous Australian participants and their sociodemographic characteristics.

However, several limitations warrant consideration. First, access rates were estimated based on individuals with a history of mental health conditions and those who utilised Medicare mental health items in 2021. This approach lacked detailed information on mental health diagnoses and severity, and it is important to note that not all individuals with mental health needs qualify for psychosocial disability support under the NDIS, as eligibility criteria require a substantial and permanent functional impairment. Second, the large volume of missing data on service utilisation limited the ability to accurately assess the actual use of allocated budgets. This data gap raises concerns about the completeness and reliability of NDIS administrative data and may obscure key insights into how services are accessed and whether they meet participants' needs. Addressing the missing data issue and incorporating a more comprehensive range of determinants could enhance the equity and effectiveness of resource allocation. Furthermore, we used HHS and ABS remoteness classifications as proxies for the availability of NDIS psychosocial support services, which is a limitation as these measures do not directly capture the actual distribution or accessibility of providers. Importantly, the analysis relied on data related to participants' primary disabilities, potentially excluding individuals with psychosocial disabilities classified as secondary conditions. Additionally, as this study relied on quantitative analyses, the findings identify statistical associations but cannot capture the deeper cultural and contextual meanings of access for Indigenous Australians. Future research should be guided by Indigenous-specific frameworks, such as the social and emotional well-being framework, as datasets evolve to better capture cultural and community-level determinants. Furthermore, assessment and identification of psychosocial disability may be influenced by cultural and linguistic barriers, particularly for Indigenous peoples who do not speak English as their first language, which could lead to misclassification.

Implications

This study highlights that NDIS psychosocial support was relatively accessible and equitable for Indigenous Australians in SEQ, driven mostly by psychosocial and financial needs rather than other factors. Meanwhile, accurate Indigenous identification through standardised, culturally sensitive processes is needed to address the under-identification of Indigenous participants. Also, targeted strategies to mitigate barriers, such as housing instability and limited access for older adults, are critical.

Conclusions

This study shows that NDIS psychosocial support addresses some unmet mental health needs among Indigenous Australians in SEQ, with budgets generally aligned to functional impairment. However, challenges remain, including under-identification of Indigenous status in administrative data, missing utilisation records, and access barriers associated with housing instability and sociodemographic factors. Priority groups requiring targeted attention include Indigenous people with unstable housing, older adults, and those with chronic health conditions who face reduced access despite need. It is also critical to address structural barriers including NDIS data quality issues, under-identification of Indigenous populations, and fragmented pathways across housing, health, and disability services to guide more tailored approaches to improve access. These findings apply to urban and regional SEQ and should not be generalised to remote areas where NDIS services are limited.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12913-025-13634-4.

Supplementary Material 1

Acknowledgements

We are sincerely grateful to the Centre of Excellence for Indigenous Futures and the Institute for Urban Indigenous Health for their guidance and support throughout the study.

Author contributions

The contribution of XZ included conceptualisation, formal analysis, and first draft preparation. SD was involved in conceptualisation, supervision, reviewing and editing the draft. CP, MW, CN, SS, RF, TB, RP, TB, HW, YL, LZ, XH, RB, HW were involved in conceptualization, interpretation, validation, and reviewing and editing the draft. All authors read and approved the final manuscript.

Funding

This study was funded by the National Health and Medical Research Council (NHMRC) of Australia under the Medical Research Future Fund scheme (grant number 2017915).

Data availability

The data supporting the results of this study can be accessed through the Australian Bureau of Statistics (ABS) DataLab. As requested by the ABS, the following statement has been copied and pasted to outline the data use and confidentiality arrangements: The results of these studies are based, in part, on data supplied to the ABS under the Taxation Administration Act 1953, A New Tax System (Australian Business Number) Act 1999, Australian Border Force Act 2015, Social Security (Administration) Act 1999, A New Tax System (Family Assistance) (Administration) Act 1999, Paid Parental Leave Act 2010 and/or the Student Assistance Act 1973. Such data may only used for the purpose of administering the Census and Statistics Act 1905 or performance of functions of the ABS as set out in Sect. 6 of the Australian Bureau of Statistics Act 1975. No individual information collected under the Census and Statistics Act 1905 is provided back to custodians for administrative or regulatory purposes. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes and is not related to the ability of the data to support the Australian Taxation Office, Australian Business Register, Department of Social Services and/or Department of Home Affairs' core operational requirements. Legislative requirements to ensure privacy and secrecy of these data have been followed. For access to PLIDA and/or BLADE data under Section 16 A of the ABS Act 1975 or enabled by Sect. 15 of the Census and Statistics (Information Release and Access) Determination 2018, source data are de-identified and so data about specific individuals has not been viewed in conducting this analysis. In accordance with the Census and Statistics Act 1905, results have been treated where necessary to ensure that they are not likely to enable identification of a particular person or organisation.

Declarations

Ethics approval and consent to participate

As a secondary analysis of de-identified data, this study was exempted from ethics approval by The University of Queensland (UQ) Human Ethics Office (#2023/HE001992). Data access was approved by the Australian Government Departments of Social Services and Health and Aged Care, and the Australian Bureau of Statistics. The study design and interpretation of results were reviewed and refined in consultation with the advisory group for the overall project. This advisory group included both Aboriginal and Torres Strait Islander and non-Indigenous clinicians, service providers, service planners, researchers and a community advisor.

Positionality statement

It is crucial to declare the positionality of the research team to ensure transparency, acknowledge potential biases, and affirm the cultural integrity and accountability of Indigenous health research. XZ, CP, MW, CN, SS, TB, RP, TB, YL, LZ, XH, Harvey W, and SD are non-Indigenous researchers based in Meanjin (Brisbane), committed to advancing health equity and supporting Indigenous self-determination. Their expertise in quantitative analysis and public health methodologies is guided by principles of cultural safety, reciprocity, and respect for Indigenous Knowledge Systems. RB, an Aboriginal researcher from the Gunggari and Kunja Nations, Hayley W, an Aboriginal researcher from the Gamilaroi nation, and RF, an Aboriginal health provider from the Bidjara Nation, played pivotal roles in the research by contributing essential methodological and cultural insights. Their connection to communities and lived experiences ensured that the study authentically reflects Indigenous perspectives and values, grounding the work in cultural integrity and relevance. The authors acknowledge potential power dynamics, aim to minimize bias through reflexivity and close collaboration with the Institute for Urban Indigenous Health (IUIH), whose leadership and guidance strengthen the study's commitment to advocating for systemic change that benefits Indigenous communities.

Competing interests

The authors declare no competing interests.

Author details

[1]Queensland Centre for Mental Health Research, Brisbane, QLD, Australia
[2]School of Public Health, The University of Queensland, Brisbane, QLD, Australia
[3]Institute for Urban Indigenous Health, Brisbane, QLD, Australia
[4]Poche Centre for Indigenous Health, Brisbane, QLD, Australia
[5]Queensland Brain Institute, The University of Queensland, Brisbane, QLD, Australia
[6]School of Medicine and Dentistry, Griffith University, Southport, QLD, Australia
[7]School of Psychology, The University of Queensland, Brisbane, QLD, Australia
[8]School of the Environment, The University of Queensland, Brisbane, QLD, Australia
[9]Department of Geography and Resource Management, The Chinese University of Hong Kong, Hong Kong SAR, China
[10]Broken Hill University Department of Rural Health, Susan Wakil School of Nursing and Midwifery, Faculty of Medicine and Health, The University of Sydney, Sydney, NSW, Australia
[11]Centre of Excellence for Indigenous Futures, The University of Queensland, Brisbane, QLD, Australia

Received: 28 April 2025 / Accepted: 15 October 2025

References

1. Gee G, Dudgeon P, Schultz C, Hart A, Kelly K. Aboriginal and Torres Strait Islander social and emotional wellbeing. Working Together: Aboriginal Torres Strait Islander Mental Health Wellbeing Principles Pract. 2014;2:55–68.
2. Henderson G, Bryan WV. Psychosocial aspects of disability. Charles C Thomas; 2004.
3. Australian Institute of Health and Welfare & National Indigenous Australians Agency. Measure 1.14 Disability, Aboriginal and Torres Strait Islander Health Performance Framework website Canberra: Australian: Institute of Health and Welfare & National Indigenous Australians Agency. 2023 [Available from: https://www.indigenoushpf.gov.au/measures/1-14-disability
4. Ferrari A, Basit T, Santomauro D, Chambers TK, Shadid J, Lindstom A, et al. The staying deadly survey: the Queensland urban indigenous mental health survey report. 2023.
5. Page IS, Ferrari AJ, Slade T, Anderson M, Santomauro D, Diminic S. Estimating the difference in prevalence of common mental disorder diagnoses for aboriginal and Torres Strait Islander peoples compared to the general Australian population. Epidemiol Psychiatric Sci. 2022;31:e44.
6. Thurber KA, Brinckley M-M, Jones R, Evans O, Nichols K, Priest N, et al. Population-level contribution of interpersonal discrimination to psychological distress among Australian aboriginal and Torres Strait Islander adults, and to Indigenous–non-Indigenous inequities: cross-sectional analysis of a community-controlled first nations cohort study. Lancet. 2022;400(10368):2084–94.
7. Calma T, Dudgeon P, Bray A. Aboriginal and Torres Strait Islander social and emotional wellbeing and mental health. Australian Psychol. 2017;52(4):255–60.
8. Queensland Mental Health Commission. Social and emotional wellbeing program outcomes 2024 [Available from: https://www.qmhc.qld.gov.au/awareness-promotion/first-nations-wellbeing/social-and-emotional-wellbeing-program-outcomes
9. NSW Health. What is psychosocial disability? 2023 [Available from: https://www.health.nsw.gov.au/mentalhealth/psychosocial/foundations/Pages/psychosocial-whatis.aspx
10. National Disability Insurance Agency. What is the NDIS? 2023 [Available from: https://www.ndis.gov.au/understanding/what-ndis
11. Deloitte. Options to improve service availability and accessibility for First Nations people with disability. 2023.
12. Pulok MH, van Gool K, Hall J. Inequity in healthcare use among the Indigenous population living in non-remote areas of Australia. Public Health. 2020;186:35–43.
13. Australian Institute of Health and Welfare & National Indigenous Australians Agency. Measure 3.10 Access to mental health services, Aboriginal and Torres Strait Islander Health Performance Framework website [Internet]. Canberra: Australian Institute of Health and Welfare & National Indigenous Australians Agency. 2023 [Available from: https://www.indigenoushpf.gov.au/measures/3-10-access-to-mental-health-services

14. Hussain HZ, Diminic S, Pagliaro C. Understanding NDIS support for Aboriginal and Torres Strait Islander individuals with psychosocial disabilities: a scoping review to inform policy and practice [under review]. Community Ment Health J. 2025.
15. Commonwealth of Australia Department of the Prime Minister and Cabinet. Working together to deliver the NDIS - Independent Review into the National Disability Insurance Scheme: Final Report. 2023.
16. Australian Bureau of Statistics. Queensland: Aboriginal and Torres Strait Islander population summary [Internet]. Canberra: ABS;2022 [cited 2025 August 11]. Available from: https://www.abs.gov.au/articles/queensland-aboriginal-and-torres-strait-islander-population-summary
17. National Disability Insurance Agency. Explore data 2025 [cited 2025 August 11]. Available from: https://dataresearch.ndis.gov.au/explore-data
18. Australian Institute of Health and Welfare & National Indigenous Australian Agency. Aboriginal and Torres Strait Islander Health Performance Framework - Summary report 2025 [cited 2025 August 11]. Available from: https://www.indigenoushpf.gov.au/Report-overview/Overview/Summary-report/2-Demographic-and-social-context
19. Queensland Government MSH. Brisbane South Joint Regional Needs Assessment (JRNA) 2025–2027 2025 [cited 2025 August 12]. Available from: https://www.metrosouth.health.qld.gov.au/about-us/strategies-and-reports/brisbane-south-joint-regional-needs-assessment
20. Australian Institute of Health and Welfare. Closing the Gap targets: key findings and implications. 2025.
21. Veli-Gold S, Gilroy J, Wright W, Bulkeley K, Jensen H, Dew A, et al. The experiences of people with disability and their families/carers navigating the NDIS planning process in regional, rural and remote regions of australia: scoping review. Aust J Rural Health. 2023;31(4):631–47.
22. Mellifont D, Hancock N, Scanlan JN, Hamilton D. Barriers to applying to the NDIS for Australians with psychosocial disability: A scoping review. Australian J Social Issues. 2023;58(2):262–78.
23. Basit T, Toombs M, Santomauro D, Whiteford H, Ferrari A. Correlates of mental disorder and harmful substance use in an Indigenous Australian urban sample: an analysis of data from the Queensland urban Indigenous mental health survey. Soc Psychiatry Psychiatr Epidemiol. 2025;60(1):201–13.
24. Cunningham J, Paradies YC. Socio-demographic factors and psychological distress in Indigenous and non-Indigenous Australian adults aged 18–64 years: analysis of National survey data. BMC Public Health. 2012;12(1):95.
25. Poche Centre for Indigenous Health, Queensland Centre for Mental Health Research. Multidisciplinary co-design of innovative, client-centred models for Indigenous mental health services in South East Queensland 2021 [cited 2024 26 September 2024]. Available from: https://poche.centre.uq.edu.au/research/projects/multidisciplinary-co-design-innovative-client-centred-models-indigenous-mental-health-services-south-east-queensland
26. Andersen R. A behavioral model of families' use of health services. 1968.
27. Australian Bureau of Statistics. Person Level Integrated Data Asset (PLIDA) 2023 [cited 2024 30 November]. Available from: https://www.abs.gov.au/about/data-services/data-integration/integrated-data/person-level-integrated-data-asset-plida
28. Australian Bureau of Statistics. Person Linkage Spine 2025 [cited 2025 August 25]. Available from: https://www.abs.gov.au/about/data-services/data-integration/person-linkage-spine
29. Australian Bureau of Statistics. Estimates and projections, Aboriginal and Torres Strait Islander Australians 2024 [cited 2024 18 December]. Available from: https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/estimates-and-projections-aboriginal-and-torres-strait-islander-australians/2011-2031#remoteness-areas-and-indigenous-regions
30. Whelan S, Wright DJ. Health services use and lifestyle choices of Indigenous and non-Indigenous Australians. Soc Sci Med. 2013;84:1–12.
31. Australian Bureau of Statistics. 4430.0 - Disability, Ageing and Carers, Australia: Summary of Findings, 2015 2017 [cited 2024 27 November]. Available from: https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4430.0Main+Features802015?OpenDocument#:~:text=When%20compared%20with%20non%2DIndigenous,of%20non%2DIndigenous%20people).
32. NACCHO. Annual report 2023–2024. Canberra: National Aboriginal Community Controlled Health Organisation,; 2024.
33. Australian Indigenous HealthInfoNet. Limitations of the sources of Aboriginal and Torres Strait Islander health information 2025 [cited 2025 07 April]. Available from: https://healthinfonet.ecu.edu.au/learn/health-facts/latest-information-and-statistics/limitations-of-the-sources-of-aboriginal-and-torres-strait-islander-health-information/#:~:text=There%20are%20significant%20gaps%20in,are%20unable%20to%20be%20calculated
34. Kehoe H, Schütze H, Spurling G, Lovett R. Medicare policy changes to primary health care funding for australia's Indigenous peoples 1996–2023: a scoping review. Int J Equity Health. 2024;23(1):245.
35. National Advisory Mental Health Council. Health care reforms for Americans with severe mental illness: report of the National advisory mental health Council. Am J Psychiatry. 1993;150:1447–505.
36. Australian Institute of Health and Welfare. Aboriginal and Torres Strait Islander identification 2024 [cited 2024 27 November]. Available from: https://www.aihw.gov.au/reports-data/population-groups/indigenous-australians/indigenous-identification
37. Durey A, Thompson SC. Reducing the health disparities of Indigenous australians: time to change focus. BMC Health Serv Res. 2012;12:1–11.
38. Australian Institute of Health and Welfare. Measure 1.14 Disability - Data findings, Aboriginal and Torres Strait Islander Health Performance Framework website. 2023 [cited 2024 1226]. Available from: https://www.indigenoushpf.gov.au/measures/1-14-disability
39. Trounson JS, Gibbs J, Kostrz K, McDonald R, Peters A. A systematic literature review of aboriginal and Torres Strait Islander engagement with disability services. Disabil Soc. 2022;37(6):891–915.
40. Verbunt E, Luke J, Paradies Y, Bamblett M, Salamone C, Jones A, et al. Cultural determinants of health for aboriginal and Torres Strait Islander people–a narrative overview of reviews. Int J Equity Health. 2021;20:1–9.
41. Reid KW, Vittinghoff E, Kushel MB. Association between the level of housing instability, economic standing and health care access: a meta-regression. J Health Care Poor Underserved. 2008;19(4):1212–28.
42. Australian Institute of Health and Welfare & National Indigenous Australians Agency. Measure 2.01 Housing, Aboriginal and Torres Strait Islander Health Performance Framework 2023 [cited 2024 11 December]. Available from: https://www.indigenoushpf.gov.au/measures/2-01-housing
43. Australian Institute of Health and Welfare. People with disability in Australia: housing assistance 2024 [cited 2024 29 December]. Available from: https://www.aihw.gov.au/reports/disability/people-with-disability-in-australia
44. Australian Institute of Health and Welfare, Canberra. Australian Institute of Health and Welfare2024 [Available from: https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health
45. Rheault H, Coyer F, Bonner A. Chronic disease health literacy in first nations people: A mixed methods study. J Clin Nurs. 2021;30(17–18):2683–95.
46. Upton P, Ford L, Wallace R, Jackson S, Richard J, Upton D. Improving Indigenous mental health outcomes with an Indigenous mental health workforce. 2021.
47. Gilroy J, Dew A, Lincoln M, Hines M. Need for an Australian Indigenous disability workforce strategy: review of the literature. Disabil Rehabil. 2017;39(16):1664–73.
48. National Disability Insurance Agency. Independent Assessment Framework August 2020. 2020.

Publisher's note