Aust N Z J Obstet Gynaecol 2023; 63: 234–240

ANZJOG

DOI: 10.1111/ajo.13641

ORIGINAL ARTICLE

Accurate identification and documentation of First Nations women and babies attending maternity services: How can we 'close the gap' if we can't get this right?

Fiona E. McLardie-Hore[1,2], **Helen L. McLachlan**[1,3], **Michelle S. Newton**[1,3], **Gina Bundle**[2], **Tanya Druce**[4], **Marika Jackomos**[5] and **Della A. Forster**[1,2]

[1]Judith Lumley Centre, School of Nursing and Midwifery, La Trobe University, Bundoora, Victoria, Australia

[2]The Royal Women's Hospital, Parkville, Victoria, Australia

[3]School of Nursing and Midwifery, La Trobe University, Bundoora, Victoria, Australia

[4]Sunshine Hospital, Western Health, St Albans, Victoria, Australia

[5]Mercy Hospital for Women, Heidelberg, Victoria, Australia

Correspondence: Fiona E. McLardie-Hore, Judith Lumley Centre, School of Nursing and Midwifery, La Trobe University, Level 3, George Singer Building, Bundoora, Vic. 3086, Australia. Email: f.mclardie-hore@latrobe.edu.au

Conflict of Interest: The authors report no conflicts of interest.

Received: 27 July 2022;
Accepted: 24 November 2022

Background: Policies and strategies addressing the health inequities experienced by First Nations peoples are critical to ensuring the gap in outcomes between First Nations and non-Indigenous peoples is closed. The identification of First Nations peoples is vital to enable the delivery of culturally safe and sensitive health care. Complete and accurate health data are essential for funding and evaluation of such initiatives.

Aims: To describe the processes used and accuracy of identification and documentation of First Nations mothers and babies during the period of the implementation of a culturally responsive caseload model of maternity care at three major metropolitan maternity services in Melbourne, Australia.

Materials and methods: A cross-sectional study was conducted using administrative and clinical data.

Results: There was variation in when and how First Nations identification was asked and documented for mothers and babies. Errors included 14% of First Nations mothers not identified at the first booking appointment, 5% not identified until after the birth and 11% of First Nations babies not identified in the Victorian Perinatal Data Collection documentation. Changes to documentation and staff education were implemented to improve identification and reduce inaccuracies.

Conclusions: To improve disparities in health outcomes, mainstream health services must respond to the needs of First Nations peoples, but improved care first requires accurate identification and documentation of First Nations peoples. Implementing and maintaining accuracy in collection and documentation of First Nations status is essential for health services to provide timely and appropriate care to First Nations people and to support and grow culturally appropriate and safe services.

KEYWORDS

Aboriginal, First Nations, identification, perinatal, Torres Strait Islander.

INTRODUCTION

Aboriginal and Torres Strait Islander (hereafter referred to as First Nations) peoples experience a disproportionate burden of poorer health than non-Indigenous Australians. First Nations peoples experience higher rates of chronic illness, including renal disease, cardiac disease, hypertension, cancers and diabetes,[1] all impacting quality and length of life. Health inequities experienced in the perinatal period include substantially higher rates of maternal mortality, low birthweight babies, preterm births, perinatal death and infant mortality.[2] Breastfeeding rates are considerably lower, with 64% of First Nations children aged 0–2 years in Victoria ever breastfeed, compared to 92% of non-Indigenous children.[3] There has been some improvement in perinatal morbidity and mortality, but more rapidly for non-Indigenous people, resulting in a widening of the gap between outcomes for First Nations women and babies and their non-Indigenous counterparts.[4] Targeted, committed policies and strategies to address these health inequities are critical to close the gap.

Many government policies, including the National Agreement on Closing the Gap,[4] aim to work with First Nations communities to address these inequities.[5,6] Complete and accurate health data identifying First Nations peoples are essential for evaluation of the effectiveness of such initiatives.[7] Accurate administrative and clinical data are vital for evidence-based decision-making, appropriate resourcing of services and development of targeted programs and policies. In Victoria, acute health services receive a 4% loading for First Nations patients to support clinical costs and a cultural safety grant commensurate with the size of the health service and patient demand.[8] To improve collection and recording of First Nations identification (identification) across health services, the Australian Institute of Health and Welfare (AIHW) released the 'National best practice guidelines for collecting Indigenous status in health data sets'[9] providing guidance in asking the identification question and recording responses. Further, in 2015, the Aboriginal Newborn Identification Project, as part of the Victorian government's *'Koolin Balit' Aboriginal health strategy*,[5] developed resources to support health services in identifying all First Nations mothers and babies. Identifying mothers and babies early in pregnancy, when care pathways are developed, allows the most appropriate model of care and cultural supports to be provided throughout pregnancy.

In Australia, each state and territory reports pregnancy and birth data to the National Perinatal Data Collection, with an annual report submitted to the AIHW's National Perinatal Epidemiology and Statistics Unit. First Nations status of the mother was included for the first time in the National Perinatal Data in 2005. The identification status of the baby was collected across all jurisdictions by 2012,[10] enabling reporting on First Nations status of all babies, including those born to non-Indigenous mothers. Recent reports show that 4.9% of births in Australia are to First Nations mothers (up from 4% in 2012[11]) with 6.2% of babies born identified as First Nations.[12]

The quality of reporting of First Nations status in health data has been problematic, with underreporting in some health data sets of up to 40%.[7,13,14] In 2019, the AIHW reported that 2.3% of women giving birth in Australia and 1.5% in Victoria were recorded as 'not stated' to the First Nations identification question.

In 2017, researchers from La Trobe University, in collaboration with the Victorian Aboriginal Community Controlled Health Organisation, undertook a large research translation study aimed at improving outcomes for First Nations mothers and babies through continuity of midwife care – the *Baggarrook Yurrongi* (Woiwurrung language meaning 'woman's journey') project. Three tertiary maternity providers in Melbourne, Australia (on Wurundjeri country) were the partner study sites – the Women's, Joan Kirner Women's and Children's (Western Health) and the Mercy Hospital for Women (Heidelberg). Mothers identifying themselves as First Nations, and non-Indigenous mothers pregnant with a First Nations baby, were proactively offered culturally responsive midwife-led continuity (caseload midwifery care) from one main midwife (and one or two 'backup' midwives) throughout pregnancy, labour, birth and the early postnatal period.[15] There was a very high uptake (90%) among women offered the model as a care option.[15] To ensure eligible women were offered the culturally responsive model of care, research midwives at each site reviewed the processes for identifying and documenting First Nations status of mothers and unborn babies presenting for maternity care.

Aims

The aim of this study is to describe the processes, time points and accuracy of identifying and documenting the First Nations status of women and babies at the three study sites. Secondary aims are to report on system modifications to address the errors.

MATERIALS AND METHODS

Study design

A cross-sectional study design was undertaken using administrative and clinical data.

Data collection

Between March 2017 and December 2020, as part of the Baggarrook Yurrongi project, research midwives were employed at each site to collect data and recruit women to the embedded evaluation exploring women's views and experiences.[15] To ensure all eligible women were identified and proactively offered care in the caseload model, data collection forms were developed to record women who identified as First Nations, or non-Indigenous women birthing a First Nations baby. Data were collected from a range of sources such as hospital referrals, clinic booking schedules, patient administration systems (iPM) and patient records (Birthing Outcome System (BOS), Victorian Maternity Record

(VMR), Maternity Clinical Information System (MCIS)). Where an individual's identification status differed between data sets, or if there was a mismatch between mother and baby (such as mother identified as Aboriginal and baby identified as 'Neither Aboriginal and Torres Strait Islander'), further checking was conducted against patient referrals and records, caseload midwives' records and Aboriginal Hospital Liaison Officer (AHLO) records. If identification status could not be ascertained, clinicians were asked to confirm directly with the woman.

Data analysis

Individual patient data were collected and recorded, with data cleaning conducted by site, including doing range and logic checks and checking missing data. Site data were then combined, with site identifiers applied (Sites 1, 2, 3) to maintain site anonymity. Cleaning and analysis of data were undertaken using Stata 17.[16] Quantitative data were summarised using frequencies and percentages.

Ethics

Ethics approval was received from St Vincent's Hospital (16\SVHM\233), the only approver of research with First Nations Australians in the state of Victoria. Part of the approval process of this HREC included a consultation process with Aboriginal and Torres Strait Islander experts and key representatives, La Trobe University (HREC 195/16) and partner organisations. The study was conducted in accordance with National Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Research.[17]

RESULTS

Time points for identification, including who asks the question, and where First Nations status is documented during the maternity care pathway at the three sites, are shown in Figure 1.

Identification prior to first appointment

Women could be identified as First Nations prior to their first appointment. First Nations status should be included as part of General Practitioner (GP) referrals, yet of the 90% of women referred by a GP very few were identified before their first appointment. Of those women identified prior to their appointment most were referred directly by an Aboriginal Health Service. All sites provided an Aboriginal and Torres Strait islander status question on their booking forms for mothers to self-identify, with no site using the question as set out by the national guidelines.[9]

Identification at first appointment

Clinicians at Sites 2 and 3 routinely asked mothers the identification question during the antenatal period; however clinicians at Site 1 did not, relying solely on patient registration data for the mothers' First Nations status. Asking the baby's identification at the first appointment was not a routine practice at any site.

Changes to identification at first appointment

Booking forms for clinicians at Site 1 were adapted within the first year of the project to include identification for mother and baby, and the staff were educated in asking the question at maternity booking appointments.

Staff at Sites 1 and 2 could record the First Nations status of the baby's father (a proxy for baby's status) in BOS, but the VMR at Site 3 had no place to document the baby's identification. To ensure that all women birthing a First Nations baby (including non-Indigenous women) were offered the culturally responsive model, the research midwives and AHLOs conducted staff education about the need to ask and document the baby's First Nations status at the first visit, recording the status in BOS or free text in the VMR and offering appropriate referrals.

Identification at the time of birth

All births are registered in the Patient Administration system (iPM), including date and time of birth, sex and baby's First Nations identification. At Site 1 birth registration information was communicated by midwives to clerks via telephone with baby identification not included in the communication. At Sites 2 and 3, neither mother nor baby identification was recorded on the birth registration forms (used by clerks to register the baby), with clerks employing various methods to ascertain the baby's status, such as relying solely on the mother's documented status, or the recorded next of kin status (who may or may not have been the father of the baby).

Changes to identification at the time of birth

Site 1 introduced a birth registration form, and documentation of First Nations identification for mother and baby was added to the birth registration forms at all sites within the first year of the project, with clerks instructed to use this information for the baby's registration.

Identification and errors

Table 1 shows the number of First Nations mothers and fathers identifying at each of the sites, by Aboriginal and/or Torres Strait Islander status. Of 1040 women identified as having a First Nations baby, 70% identified themselves as First Nations, mostly Aboriginal (92%). The First Nations status of fathers was documented at two sites, with 24% identifying as First Nations, 24% non-Indigenous and 52% unknown (Site 3 did not record father's identification status).

Multiple errors in how First Nations status was documented were identified (Table 2). Identification status of 14% of First

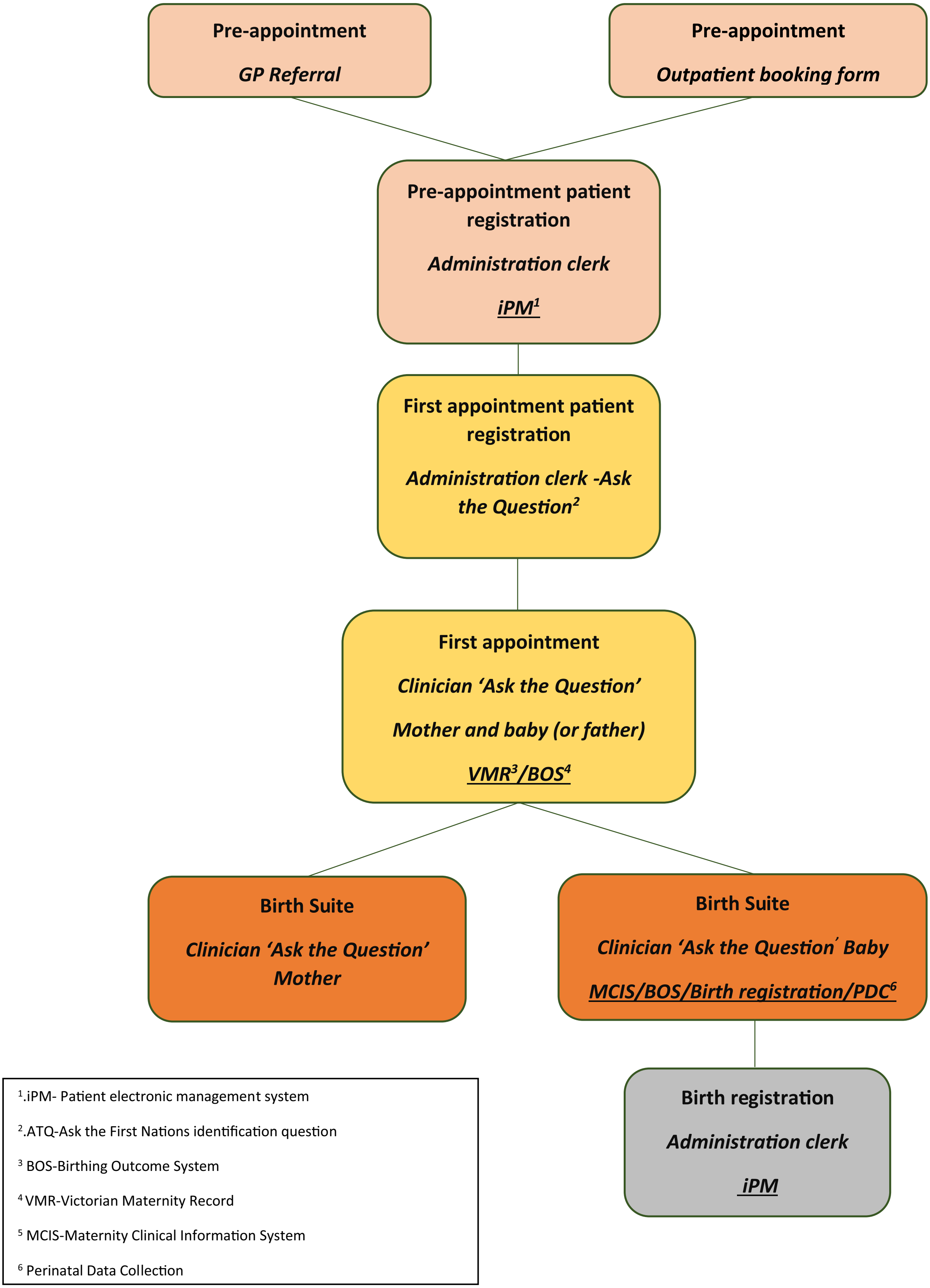

FIGURE 1 Time points for identification.

TABLE 1 Identification of Australian First Nations mothers and fathers†

Identification status	*n* (*n* = 1040)	%
Mother		
Mother identifies as First Nations	731	70.2
Mother is Aboriginal	670	91.7
Mother is Torres Strait Islander	24	2.3
Mother is both Aboriginal and Torres Strait Islander	37	3.6
Mother identifies as neither Aboriginal nor Torres Strait Islander	309	29.8
Father‡		
Father identifies as First Nations	246	23.7
Father is Aboriginal	224	91.1
Father is Torres Strait Islander	9	3.7
Father is both Aboriginal and Torres Strait Islander	13	5.3
Father identifies as neither Aboriginal nor Torres Strait Islander	250	24.0
Father's status not documented	544	52.3

†Identified from hospital records.
‡Father's identification information not routinely collected at one site.

Nations women was not documented in iPM at the first appointment, a time when models of care are discussed and allocated, and referrals made. These women were identified only due to research midwives cross-checking multiple points of documentation. Further, 2% of women were identified as First Nations but incorrectly identified in terms of being either Aboriginal and/or Torres Strait Islander. Another 2% of non-Indigenous women who were having a First Nations baby were documented as being First Nations. Other errors included mother's First Nations status not being documented until after the birth (4.4%) and First Nations baby's status not being documented in the electronic birth summary (11%), which is the data source for the state-wide Victorian Perinatal Data Collection.

Site 3 reported numerous errors in non-Indigenous babies being incorrectly documented as 'both Aboriginal and Torres Strait Islander' in iPM. These data errors were due to accidentally scrolling and entering 'BOTH …' instead of 'NOT …' as options were listed alphabetically. These errors were rectified and further prevented by changing the order of response options. Errors were found in mothers' identification in the MCIS data (completed in Birth Suite) which provides data to VPDCU. Numerous changes to the mother's identification to 'Torres Strait Islander' were made after birth, found to be due a 'double-click' error on data entry. This was rectified by including a blank space under identification options to allow for an accidental 'double click'.

During the project, Site 3 collected data on non-Indigenous women incorrectly identified as First Nations. Eighty-one women were incorrectly identified, with 84% documented as both Aboriginal and Torres Strait Islander, 12% Aboriginal and 4% Torres Strait Islander.

DISCUSSION

Improving access to culturally safe models of maternity care is vital in addressing the disproportionately poorer perinatal health outcomes experienced by First Nations mothers and babies. A key issue in the Baggarrook Yurrongi project was being able to correctly identify women having a First Nations baby to enable the model to be offered. Poor identification and underreporting of First Nations status is recognised as a major barrier to providing care.[13,18,19] In this study, we found multiple errors in the identification of First Nations families and documentation. Other studies have also found significant underreporting in large routine data sets,[20] emphasising the importance of continued efforts to improve recording of First Nations people in administrative data and addressing barriers to self-identification.[20] A study in NSW found significant underreporting of First Nations status, identification not being documented in routine databases and database set-up (with fields defaulting to 'blank') to be contributing factors.[18] In addition to suboptimal systems impacting on poor identification and recording, a lack of staff understanding of the need and importance of identifying First Nations status exists, and some work environments do not encourage or promote identification.[19]

Despite national guidelines outlining when to ask the question, we found inconsistency across the sites, with one site initially relying solely on pre-booking documentation, potentially leading to inaccurate or non-recording of First Nations status. Heffernan[7] found that the accurate recording of First Nations status was impacted by staff not asking the question and that most First Nations people were very proud to identify and never withheld their identification status. Our findings are disappointing given that before this project, in 2015, the Victorian government funded a range of measures to improve identification in Victorian maternity services, through a range of measures including updating the 'BOS' to include data fields to improve asking about First Nations status of the baby at the first pregnancy appointment and after birth; Aboriginal and/or Torres Strait Islander status to be more prominent in the computer program; and an alert when 'question unable to be asked' or 'patient refused to answer' entered in previous session.[21]

Outcomes of babies born to First Nations mothers are often compared to babies born to non-Indigenous mothers; however, First Nations babies born to non-Indigenous mothers also experience poorer outcomes compared to non-Indigenous babies.[22] The identification of First Nations babies at the start of pregnancy, when care pathways are developed and appropriate care and supports offered, may lead to improved outcomes. In this study two sites were reliant on asking the question about the father's identification to determine the baby's status. It has been suggested that using this question as an indirect method of determining the

TABLE 2 Errors in First Nations identification documentation

	Site 1 *n* = 242		Site 2 *n* = 387		Site 3 *n* = 411		Total *n* = 1040	
Errors noted	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
Mother identification errors at 1st presentation to hospital	46	19.0	90	23.3	46	11.2	182	17.5
Mother identification not documented as First Nations	43	17.8	74	19.1	30	7.3	147	14.1
Documented as neither Aboriginal and/nor Torres Strait Islander, but identifies as First Nations	43	17.8	51	13.2	29	7.1	123	11.8
Mother who identifies as First Nations not asked identification question	0	0	23	5.9	1	0.2	24	2.3
Mother identified as First Nations but how she identifies incorrectly documented	0	0	10	2.6	9	2.2	19	1.8
Documented as Aboriginal, but is Torres Strait Islander	0	0	1	0.3	0	0	1	0.1
Documented as Aboriginal, but is both Aboriginal and Torres Strait Islander	0	0	2	0.5	1	0.2	3	0.3
Documented as both Aboriginal and Torres Strait Islander, but is Aboriginal	0	0	5	1.3	8	1.9	13	1.3
Documented as both Aboriginal and Torres Strait Islander, but is Torres Strait Islander	0	0	1	0.3	0	0	1	0.1
Documented as Torres Strait Islander, but is Aboriginal	0	0	1	0.3	0	0	1	0.1
Mother neither Aboriginal and/nor Torres Strait Islander but incorrectly documented as First Nations†	3	1.2	6	1.6	7	1.7	16	1.5
Mother documented as Aboriginal, but is neither	3	1.2	6	1.6	6	1.5	15	1.4
Mother documented as both Aboriginal and Torres Strait Islander, but is neither	0	0	0	0	1	0.2	1	0.1
Ongoing and other identification errors								
Mother not identified as First Nations until after birth	17	7.1	7	1.8	28	6.8	52	5.0
Mother's First Nations status not documented in database linked to hospital government funding (*n* = 242, *n* = 387, *n* = 347, total *n* = 976)	34	14.0	57	14.7	27	7.9	118	12.1
Baby's First Nations status not documented and recorded in state-wide Perinatal Data Collection (*n* = 211, *n* = 304, *n* = 356, total *n* = 871)‡	33	15.6	34	11.2	26	7.3	93	10.7

†Mother pregnant with baby identifying as Aboriginal and/or Torres Strait Islander.
‡Not all women birthed at hospital sites and 99 yet to birth at the time of data collection completion.

baby's identification could be problematic, as the response could vary depending on the relationship with the father.[23]

Site 1 was the only hospital to routinely check and correct identification documentation errors, with an AHLO taking on this responsibility as part of their role. These checks were performed retrospectively and were often too late to offer culturally appropriate care and support or referrals to services in the community. Health services must implement best practice processes and audits to ensure both data integrity and delivery of appropriate clinical care. While AHLOs may be well placed for this task,[7] there remains an organisational responsibility to ensure correct procedures are in place and followed. We recommend services work to improve data collection systems and undertake ongoing and contemporaneous audits and check the accuracy of identification and documentation of First Nations patients, and that this is done in collaboration with their First Nations health units. For over two decades, Australian governments have stated that mainstream services must be more responsive to the needs of First Nations people; however, improved care first requires the accurate identification and documentation of First Nations people. Without implementing and maintaining best practice guidelines in the collection and documentation of First Nations status, and ensuring accurate documentation, health services will fail to deliver timely and appropriate care to First Nations people, and any progress in reducing health inequities will not be accurately known or measured. Funding of initiatives and policies based on inaccurate data could lead to inadequate service provision and see the health system continuing to fail in closing the gap in health disparities.

ACKNOWLEDGEMENTS

Partnership Grant (# 1110640), Australian National Health and Medical Research Council and La Trobe University. Open access publishing facilitated by La Trobe University, as part of the Wiley - La Trobe University agreement via the Council of Australian University Librarians.

DATA AVAILABILITY STATEMENT

Data, including de-identified individual data and a data dictionary defining each field in the set, will be made available for use by other researchers for further analysis if this analysis is not specified in the Baggarrook Yurrongi publication plan. These data will be provided with investigator support, after ethical approval including scientific review of a proposal, and with a signed data access agreement.

REFERENCES

1. Australian Institute of Health and Welfare. *Aboriginal and Torres Strait Islander Health Performance Framework 2020 Summary Report*. Canberra: Australian Institute of Health and Welfare, 2020.
2. Australian Institute of Health and Welfare. *Pregnancy and Birth Outcomes for Aboriginal and Torres Strait Islander Women 2016–2018*. Canberra: Australian Institute of Health and Welfare, 2021.
3. Australian Bureau of Statistics. Aboriginal and Torres Strait Islander Health Performance Framework, 2008. Available from URL: https://indigenoushpf.gov.au/measures/2-20-breastfeeding-practices.
4. Department of the Prime Minister and Cabinet. Closing the Gap Prime Minister's Report 2021. Canberra, 2021.
5. Victorian Department of Health. *Koolin Balit Victorian Government Strategic Directions for Aboriginal Health 2012–2022*. Melbourne: Department of Health, 2012.
6. Australian Government. In: Department of Health and Ageing, ed. *National Aboriginal and Torres Strait islander health plan 2013–2023*. Canberra: Australian Government, 2013.
7. Heffernan B, Iskander D, Freemantle J. *The History of Indigenous Identification in Victorian Health Datasets, 1980–2011: Initiatives and Policies Reported by Key Informants*. Melbourne, Australia: The Lowitja Institute, 2012.
8. Department of Health and Human Services. *Aboriginal Health Funding Changes. WIES Loading and Strengthening Aboriginal Cultural Safety*. Melbourne: Victorian Government, Department of Health and Human Services, 2020.
9. Australian Institute of Health and Welfare, Al-Yaman F, Gourley M. *National Best Practice Guidelines for Collecting Indigenous Status in Health Data Sets*. Canberra: Australian Institute of Health and Welfare, 2010; vi, 25 p.
10. Australian Institute of Health and Welfare National Indigenous Australians Agency. *Aboriginal and Torres Strait Islander Health Performance Framework: Data Sources and Quality*. Canberra: Australian Institute of Health and Welfare, 2021. Available from URL: https://www.indigenoushpf.gov.au/resources/technical-appendix/data-sources-quality.
11. Hilder L, Zhichao Z, Parker M *et al*. *Australia's Mothers and Babies 2012*. Canberra: Australian Institute of Health and Welfare, 2014.
12. Australian Institute of Health and Welfare. *Australia's Mothers and Babies*. Canberra: Australian Institute of Health and Welfare, 2022. Available from URL: https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies.
13. Jackson Pulver LR, Bush A, Ward J. Identification of aboriginal and Torres Strait islander women using an urban obstetric hospital. *Aust Health Rev* 2003; **26**(2): 19–25.
14. Simon H, Todd A. Improving the identification of aboriginal and Torres Strait islander peoples in health-related information collection systems in NSW. *NSW Public Health Bulletin* 2000; **11**(12): 204–206.
15. McLachlan HL, Newton M, McLardie-Hore FE *et al*. Translating evidence into practice: implementing culturally safe continuity of midwifery care for first nations women in three maternity services in Victoria. *Aust Clin Med* 2022; **47**: 101415.
16. StataCorp. *Stata Statistical Software: Release 16*. College Station, TX: StataCorp LLC, 2019.
17. National Health and Medical Research Council. *Ethical Conduct in Research with Aboriginal and Torres Strait Islander Peoples and Communities: Guidelines for Researchers and Stakeholders*. Canberra: National Health and Medical Research Council, 2018.
18. Xu F, Sullivan EA, Madden RC *et al*. Improvement of maternal aboriginality in NSW birth data. *BMC Med Res Methodol* 2012; **12**: 8.
19. Schutze H, Jackson Pulver L, Harris M. What factors contribute to the continued low rates of indigenous status identification in urban general practice?—a mixed-methods multiple site case study. *BMC Health Serv Res* 2017; **17**(1): 95.
20. Nelson MA, Lim K, Boyd J *et al*. Accuracy of reporting of aboriginality on administrative health data collections using linked data in NSW, Australia. *BMC Med Res Methodol* 2020; **20**(1): 267.
21. Victorian Government Aboriginal Newborn Identification Project. In: Department of Health, Victorian Government, ed. *Improving Identification of Aboriginal and Torres Strait Islander Babies in Victorian Maternity Services Resource Guide*. Melbourne, Australia: Department of Health, 2014.
22. Kennedy B, Cornes S, Martyn S *et al*. *Measuring Indigenous Perinatal Outcomes – Should we Use the Indigenous Status of the Mother, Father or Baby?* Queensland: Health Statistics Centre, 2009.
23. Aboriginal Newborn Identification Project Reference Group. In: Department of Health, Victorian Government, ed. *Improving Identification of Aboriginal and Torres Strait Islander Babies in Victorian Maternity Services*. Melbourne: Department of Health, 2015.