

Indigenous (and all) students' school attendance: Investigating data collection methods

Lindy P. Baxter and Noel M. Meyers

La Trobe University, Australia

Indigenous students, a subgroup of the Australian student population, produce poorer educational outcomes and continue to produce persistently lower attendance rates than non-Indigenous peers. Currently, governments collect and monitor student attendance as an indicator of students' educational achievement and a key performance measure of schools for attributing school funding, and to inform future educational policy and practice. Researching urban Indigenous students' attendance, we sought comparative attendance data from previous research and government collections. Reaching back 30 years, the investigation identified a lack of complete, valid data with verified integrity at all levels of data aggregation, providing researchers with sources of often incomplete, unsuitable, or compromised attendance data. While Australian schools collect students' attendance every school day, the national attendance collection continues to collect and aggregate part-year attendance samples. Improvements in the national attendance collection are urgently needed from which robust analyses and evaluations can accurately inform policy and practice.

Introduction

Australia's Aboriginal and Torres Strait Islander students attain lower school attendance rates than non-Indigenous peers and the disparity has been deemed problematic since at least the 1980s (Gray & Beresford, 2002), warranting a "range of policies initiatives and reviews in the area of Indigenous education" (Mellor & Corrigan, 2004, p. 4). Studies have reported an Indigenous student attendance rate at 84% (Bourke, Rigby & Burden, 2000; Zubrick et al., 2006a) while their non-Indigenous peers attained 93% attendance (Bourke et al., 2000). Wider disparities have been recorded. For example, in some Northern Territory schools, located in remote and very remote regions of Australia, the gap can be as wide as 21 percentage points (Australian Government, 2015). While the Indigenous students' attendance rates decline over the compulsory school years (Bourke et al., 2000; Gray & Partington, 2003; Hancock, Shepherd, Lawrence & Zubrick, 2013), the absence rate remains approximately twice that of their non-Indigenous peers (New South Wales Aboriginal Education Consultative Group Inc & New South Wales Department of Education and Training, 2004).

Recent government reports show the low attendance trend persists irrespective of school sector, jurisdiction and geo-location (ACARA, 2016b, 2017b, 2018b, 2019b). The government initiative to improve school attendance and outcomes for Indigenous students, the *Closing the Gap* strategy, has achieved little success because Indigenous students' attendance rates have remained low and stable over the past decade (Australian Government, 2018). The *Closing the Gap* attendance rate targets were not met in 2018 (Council of Australian Governments, 2018), leading to a call for a review of *Closing the Gap* strategies, and to "realign our collective efforts" (Australian Government, 2018, p. 7).

Individual schools, implementing strategies or programs to encourage students to attend more often however, have reported some success (Baxter & Meyers, 2016; Dockery, 2017; Fernandes, 2018; Murphy, O'Loughlin & Parkin, 2007; Schwab, 2015; Social Ventures Australia, 2012). To ascertain the success of attendance programs and strategies at school or national level, accurate counting of students' attendance is important.

Governments count attendance and focus on reducing the attendance disparity based on the tenet that the more often students attend school, the more learning opportunities they experience, which in turn, increases the potential for improved educational outcomes (Hancock et al., 2013). Increasing attendance is one way for governments to ensure Indigenous students are better placed to produce educational outcomes that match their non-Indigenous peers. Whether at school, school sector, jurisdiction, or national level, governments and researchers rely on the accuracy and completeness of students' daily school attendance to measure and monitor students' attendance.

All Australian schools collect Indigenous (and all) students' attendance within government mandated student data that inform federal, state and territory governments of school performance and for allocation of school funding. Attendance data are reported for each year at sector-level and jurisdictional-level in the *National Report on Schooling in Australia* (hereafter, *National Report*) (Australian Curriculum and Reporting Authority (ACARA), 2011; 2012a, 2015b, 2016a; Standing Council on School Education and Early Childhood (SCSEEC), 2007a; 2008). The *My School* website¹ (ACARA, 2017a) provides attendance and other school data on each schools' webpage. National attendance data, collected for the Australian Curriculum Assessment and Reporting Authority (ACARA), together with findings from research projects, influence governments' education policies and practices. School appraisals, performance indicators, and future planning directions develop from analysis of attendance and other key performance measures (KPMs) and associated data. These data are used to identify schools and regions for specific projects, such as the *Remote Schools Attendance Strategy* (O'Brien Rich Research Group, 2016), and also to inform school-based strategies for improvement.

Current understanding of Indigenous (and other) students' attendance rests almost entirely on Australia's national collection. The *National Reports* (2011, 2015b; ACARA, 2018b; SCSEEC, 2007a) indicate Indigenous students enrolled at remote region schools continue to produce lower school attendance rates than their urban counterparts. With high numbers of Indigenous enrolments, particularly in remote and very remote regions, Northern Territory schools report the lowest Indigenous student attendance rates of all Australian jurisdictions each year (2011, 2015b; ACARA, 2018b; SCSEEC, 2007a). Research shows low Indigenous student attendance occurs in remote region schools

¹The *MySchool* website is administered by the Australian Curriculum and Assessment Authority to provide a resource for parents, educators, and the community to find information about Australia's schools. The site contains data such as each school's student profile and financial information, as well as enrolment numbers and attendance rates. (ACARA, 2019c)

across Australia (Guenther, 2013a; Hancock & Zubrick, 2015; Osborne, 2014; Silburn, McKenzie, Guthridge, Li & Li, 2014).

Research over the past 25 years has discerned attendance disparities for Indigenous students' attendance rates (e.g., Ainley & Lonsdale, 2001; Mander-Ross, 1995; Zubrick et al., 2006a) that are similar to those reported in each school sector and jurisdiction in the national collection today. The 1993 Western Australian Child Health Survey found that "compared with non-Aboriginal students, Aboriginal students miss[ed] significantly more school" (Zubrick et al., 2006a, p. 113). By 2010, Purdie and Buckley (2010) reported a 10-percentage point attendance disparity that increased as students progressed through school. This trend continues today (ACARA, 2017a; Guenther, 2013b; Ladwig & Luke, 2014). The need to count Indigenous (and other) students' attendance continues as governments strive for attendance rate parity with non-Indigenous students (Australian Government, 2018).

It is important Indigenous (and other) students' attendance data are accurate because research seeks to redress previous failures of the education system, rather than continue to support the inadequate, insufficient, and inequitable schooling experienced by previous generations of Indigenous students. At any level, reporting inaccurate attendance rates leads to wrongly targeted strategies, and contributes to the already substantial *education debt* (Ladson-Billings, 2006, p. 3) we owe Indigenous students and their families. A first step towards reducing the education debt is counting Indigenous students' attendance accurately. However, the standard of attendance collections have frustrated researchers (Ainley & Lonsdale, 2001; Bourke et al., 2000) because the attendance data were less robust and complete than anticipated, reducing the ability to report accurate attendance rates. The call for improved attendance data collection began at the end of last century (Ainley & Lonsdale, 2001; Guenther, 2013b; Withers, 2004) and has continued. This research forms part of a project exploring urban Indigenous students' attendance. We identify how Indigenous students' attendance has been counted and analysed, and the source of attendance data collected, so we can be sure we are counting what counts now and into the future.

Method

To produce accurate attendance rates for each student, we collected Indigenous (and non-Indigenous) students' daily attendance data for complete school years (4 school terms of 10 weeks each). We sought equivalent attendance data contemporaneously, with which to compare our data. While not claiming to be an exhaustive list, our research provides a comprehensive compilation of Indigenous students' attendance collection and research for more than 30 years.

Searches were conducted using various combinations of a range of relevant search terms: attendance; non-attendance; absence; Indigenous; Aborigine; Aboriginal; school; education; retention; participation; Australia. Database searches were conducted through (although not limited to) La Trobe University's subscriptions to online education

databases including *A+ Education* and *Informat*, and *Google Scholar*. Grey literature included (although was not limited to) government reporting of school attendance, databases reporting Indigenous students' attendance such as *Closing the Gap Clearinghouse*, and other reports available online. Indigenous education research with an alternate focus that referenced Indigenous students' attendance was also evaluated to identify the source of attendance data reported.

Expecting to find comparative data quickly and easily, the original search covered the years 2005-2016. The assumption that reported attendance data represented annual attendance, based on students' attendance records, however, was ill-conceived. As the investigation progressed, optimism to identify such attendance data evaporated, so the collection period was extended to eventually reach back to 1986.

Results

In a direct attempt to provide ease of interpretation and clarity, we categorise the results of our search according to three main sources: surveys, school-level attendance collection, and centralised attendance collections. We attend to each category separately and identify the characteristics of each source in order of collection years.

Surveys collecting Indigenous students' attendance data

2000-2002

Between 2000 and 2002, the Western Australian Aboriginal Child Health Survey (Zubrick et al., 2006c) constructed independent surveys that included school attendance questions, which were completed by school principals and students' caregivers in all Western Australian school sectors. The principal's questionnaire (Zubrick et al., 2006b) required attendance data from students' school records. The data collection consisted of part-year attendance samples with varying collection timing spanning "three academic years: 2000, 2001 and 2002" (Zubrick et al., 2006c, p. 29). As school surveys proved "a highly complex undertaking" (Zubrick et al., 2006c, p. 29), there were many Western Australian schools that declined participating in the study.

2001 and 2006

In both population census years, the Australian Bureau of Statistics (ABS) collected Indigenous students' national participation (not attendance) rates in education. The 2001 census reported enrolment at an educational institution for students over 15 years of age and their highest level of schooling (ABS, 2003). In 2006, the census included a school attendance section that applied to preschool, primary school, and secondary school. Indigenous students' "attendance at pre-school or primary school was similar for Indigenous and non-Indigenous children" (ABS, 2010b, para 1). Again the response once again referred to students' school participation (school enrolment). While the ABS warned that "attendance data presented may not be directly comparable with data collected from administrative records held by educational institutions" (ABS, 2010a, p. 47), it related to enrolment rather than daily attendance rate.

2002 and 2006

National Aboriginal and Torres Strait Islander Social Surveys (NATSISS) were Australia-wide Indigenous-specific multidimensional social surveys conducted in 2002 and 2006. Attendance rate information relied on the responses of students' caregivers to questions about the number of days students had attended school in the week prior to the interview and reasons for any absences (ABS, 2004, 2010c). Interviews were completed at different times, so surveys collected attendance data for various attendance periods.

2008 and 2009

Biddle (2014) accessed attendance data over these years from several Australian Government surveys: NATSISS; Longitudinal study of Australian Children (LSAC); Longitudinal study of Indigenous Children (LSIC); and Longitudinal study of Australian Youth (LSAY). Attendance frequency was included in all three surveys. LSAY respondents were asked, "whether they missed two or more consecutive months of primary or secondary school" (Biddle, 2014, p. 10). LSAC asked, how many days in "the previous four weeks was the child absent?" (Biddle, 2014, p. 11) and LSIC asked whether the child went to school every day in the previous week.

2008-2016

LSIC data are collected annually for the *Footprints in Time* project, and the ninth wave was in 2016. In that collection, teachers were asked: "Approximately what per cent (%) of school days would you say Study Child has attended since the start of this year?" (Department of Social Services (DSS), 2016b, p. 2). The study child was asked how many days he/she had been absent (with and without permission) in the previous two weeks (DSS, 2016a)

School-level attendance collections

Australian schools have always collected school-level attendance data each school day, which provides the most accurate record of students' attendance. Manually recording attendance has been superseded in all schools by electronic entries into each school's administrative database. The change to electronic collection has improved access and analysis of data. To evaluate Indigenous students' individual and cohort attendances, aggregating attendance data to students' Indigenous status can now be done with ease. Recording attendance electronically has also enabled schools to comply with government directives to supply school-level averaged attendance rates.

1986-1994

Mander-Ross (1995) reported the earliest school-level Indigenous students' attendance data collected. The data were aggregated to school terms for almost 9 years from one secondary school's manually recorded and collated attendance rolls. She noted that a "few rolls were missing and ... on some occasions the rolls may well have been incorrectly recorded" (Mander-Ross, 1995, p. 30).

1997 and 1999

Rothman (2001) accessed attendance data from urban and remote region government primary schools in South Australia that monitored student attendance electronically. Attendance data for full-time students enrolled for the whole term were collected for one term (10 weeks). Data were disaggregated to Indigenous status for comparison, and subsequently reported.

2005-2015

Baxter & Meyers (2016) accessed three complete academic years (2009-2011) of individual student attendance records from one primary school database. Data were aggregated to Indigenous status and school years. A subsequent study collected similar data for the years 2005-2015 (Baxter & Meyers, 2019).

2006-2014

Briggs (2017) accessed school the attendance records of 58 senior secondary school Indigenous students enrolled at two NSW schools from 2006-2014 as part of a study focusing on student outcomes and evaluation of research initiatives.

2014-2018

Together with other school-related data, the *My School* website publishes school attendance data-disaggregated to students' Indigenous status when students number 5 or more, from the national collection on each Australian school's landing page (ACARA, 2019a). Semester 1 attendance data was published in 2014 and since 2015, Term 3 attendance has also been published.

Centralised attendance collections: State and territory level

Education departments in various states and territories have collected centralised attendance data from government schools for many years. While jurisdictions collected attendance data using varied definitions, methodology, and collection periods, the data provided each state and territory with a source of attendance data for Indigenous (and other students) enrolled at government schools.

1995-1999

During these years, the Prime Ministers Youth Pathways Taskforce accessed school-level centralised attendance data from government schools in five jurisdictions. Jurisdictions collected part-year attendance samples disaggregated to Indigeneity. The way data was collected varied between school sectors in attendance periods, collection timing, and recording formats. Ainley and Lonsdale (2001) explained that different definitions used to compile aggregations and the rigour of the data reported to central authorities varied between systems.

1996-1998

Bourke, Rigby and Burden (2000) accessed the attendance of Indigenous students enrolled at government schools from the Department of Education Training and Youth Affairs between 1996 and 1998. Some jurisdictions were unable to provide or did not collect

attendance data. Non-government schools data were also collected, however were excluded from analysis due to data inconsistencies: varying definitions, methodologies, recording inconsistencies, and data disaggregation (Bourke et al., 2000). Part-year attendance samples that varied between one week and one year were collected and analysed. Bourke et al. (2000) also collected attendance data from the students who completed questionnaires. They reported Semester 2 attendance data (approx. 20 weeks) “provided by a State Education Department” (Bourke et al., 2000, p. 13).

2008-2015

Silburn et al. (2014) accessed data for 6448 Indigenous and non-Indigenous government school students living in the Northern Territory's larger remote communities for the period 2008 and 2012 other student data from the SA-NT DataLink facility. They analysed “complete individual school attendance histories ... over their school career” (Silburn et al., 2014, p. 95) from data collected twice a term for four school terms. More recently, attendance and related factors were analysed using similar SA-NT DataLink data for the compulsory years of school (Years 1-10) for 64966 students enrolled in government schools between 2005 and 2014 (He, Su, McKenzie & Schurer, 2018).

Several other studies sourced attendance data disaggregated by Indigenous status for primary and secondary government school students from the Western Australian Department of Education (Bell et al., 2017; Hafekost et al., 2017; Hancock et al., 2013; Zubrick, 2014). Individual students' attendance records from 2008-2012 were linked with other population-based data. Some studies investigated reasons for student absences (Hancock, 2019; Hancock et al., 2013) and they used only Semester 1 data due to potential inconsistencies in following-up the reasons for absences in Semester 2. Absence rates for both semesters in 2015 were however, reported by Hancock (2019).

Centralised attendance collections: National level

Attendance data, centralised at the national level, has been collected for over a decade. Schools collect students' attendance data and report school-level attendance rates for Indigenous students (and all students). The national collection provides the data to measure schools' attendance key performance measures and more generally, informs our understanding of Indigenous students' attendance across Australia. Attendance rates are reported widely, and Indigenous students' data are reported in the Prime Minister's annual *Closing the Gap* reports (Australian Government, 2014, 2015, 2016, 2017).

2007-2016

The first national attendance collection in 2007 included government and participating non-government schools. The 2007 and 2008 collections comprised each school's average attendance rate, calculated from attendance records for students in Years 1-10. A “single consistent time period” (Standing Council on School Education and Early Childhood (SCSEEC), 2007b, p. 5) for collection was used: “first Semester as defined by each State and Territory's school calendar ... but must include at least the last 20 days in May” (SCSEEC, 2007b, p. 8). The national attendance measure was defined as “the number of actual full-time equivalent ‘student days’ attended as a percentage of the total number of

possible student days attended over the period” (SCSEEC, 2007b, p. 5). Collection methodologies and the capability of technological systems varied between jurisdictions and school sectors. Data reports were accompanied by the caution: “variations by sector, State, Territory and year level may be partly explained by differences in data collection methodology” (SCSEEC, 2007c, p. 9) with an additional caution for interpreting Indigenous student data because “the data may represent regular attendance at school by a small number of students” (SCSEEC, 2007a, p. 5).

In 2009, the collection period was extended to Semester 1 for government schools, although Tasmania was an exception (Term 1 only), and for non-government schools the time period remain unchanged (ACARA, 2011, p. 49). The national attendance measure, Schools’ Key Performance Measure (KPM) 7(b), was refined as “the number of actual full-time equivalent student-days attended by *full-time students* in Years 1 to 10 as a percentage of the total number of possible student-days attended over the period” [emphasis added] (ACARA, 2011, p. 78). For Indigenous student attendance (and for the for collections more generally), the 2009 to 2011 *National Reports* carried the following caution:

... definitions and methodologies used by jurisdictions and sectors to collect [current year] (*and previous years*) data are not uniform, [so] accurate comparisons between jurisdictions and sectors cannot currently be made. Nor can the data collected in [the current year] be aggregated or averaged to calculate KPM 7(b) at the national level [italics added] (ACARA, 2013a, p. 101).

The 2009 *National Report* specified though, that attendance rates for government schools previously collected by states and territories “can be compared within a jurisdiction over time” (ACARA, 2011, p. 78) although definitions used in jurisdictions and school sectors remained “in development and not agreed” (ACARA, 2011, p. 49). Aggregating or averaging attendance data at the national level to calculate KPM 7(b) in the 2011 collection remained impossible (ACARA, 2013a). However, by 2011, all jurisdictions and school sectors - government, Catholic, and independent, had collaborated and agreed to the standardisation of subsequent attendance collections. The national agreement for standards, to ensure consistent and comparable KPM reporting of attendance across all sectors and jurisdictions, was to begin in the 2013 data, and precipitated the publication of *National Standards for Student Attendance Data Reporting* (ACARA, 2015b). Meanwhile, the 2012 national attendance collection presented the same challenge for consistency and comparability as previous collections (ACARA, 2015b), including the caveat for interpreting Indigenous students’ attendance when there were few students enrolled in a school (ACARA, 2015b, p. 99).

The 2013 collection saw schools in all sectors and jurisdictions adopt the new standard for a common reference period of Semester 1. The *Data Standards Manual: Student Background Characteristics and the National Standards for Student Attendance Data Reporting*, guided schools to achieve “nationally consistent parameters for collection and reporting of education information” (ACARA, 2016a, p. 35). Most schools complied with key components of the standards for attendance collection. However, residual differences in definitions and methodology between sectors and jurisdictions remained in the 2013 collection,

preventing aggregation or averaging 2013 attendance data at the national level (ACARA, 2016a). Exceptions to the agreed components persisted and were documented.

The 2014 attendance collection period extended by a further school term to encompass Semester 1 and Term 3. Forecasts suggested the national standards would “enable consistent and comparable reporting of attendance rates ... for government, Catholic and independent schools in Australia ... for the 2014 data collection period and onwards” (ACARA, 2013b, p. 3). From 2014, ACARA claimed “nationally comparable student attendance data ... [were] being collected” (ACARA, 2017b, p. 74), allowing for the first time, reporting of the national attendance rate using the common reference period of Semester 1. However, NSW schools were undergoing a transition period to implement the standards, so their period to achieve compliance was extended to the 2016 collection (ACARA, 2017b).

The new attendance level KPM - the proportion of students at a school with a 90% attendance rate, was introduced in 2015 and required IT enhancements in some jurisdictions and sectors. The ACARA *Annual Report 2014-15* noted “non-government school sectors will advise when their systems are able to report this measure using the agreed methodology” (ACARA, 2015a, p. 28).

For the 2016 and 2017 collections, non-government schools and government schools - with the exception of New South Wales schools “still working towards implementing the standards” (ACARA, 2019b, p. 78), collected and reported “nationally comparable student attendance data” (ACARA, 2017b, p. 70). The reporting of attendance levels comprised Semester 1 and Term 3 data as set out in the *National Standard* (ACARA, 2015c), although the reference period for reporting remained Semester 1 in 2016 (ACARA, 2018b) and the 2017 *National Report* stated “all school sectors in all states and territories use a common reference period = Semester 1 in each school year = for the collection of attendance data for national reporting” (ACARA, 2019b, p. 77).

Until the National Report becomes available, 2018 attendance data for Semester 1 are accessible from the *National Report on Schooling in Australia* data portal (ACARA, 2019c). That data, however, shows challenges remained for collection uniformity across Australia because New South Wales schools were still in the process of conforming to standards with the new system. In addition, cautions were given for the Australian Capital Territory collection due to new school administration systems that were in the process of being implemented (ACARA, 2019c).

Discussion

Education researchers use available data to infer cause and effect relationships, or to explain particular phenomena. Australia's Indigenous student attendance data has been collected and reported for more than three decades, often as a subset of collections of all students' attendance. While our capacity to enumerate attendance and other school-based data has grown, two axiomatic lessons emerge. All research relies on datasets available at a particular time and the quality of the sources of data will improve over time. Therefore, it

follows that the quality of the interpretation builds on the quality of the data at any point in time. This study elucidates the sources and quality of attendance data used at a particular time through the lenses of representativeness, validity, and purpose.

Surveys

Early attendance data and reports of attendance rates were often reliant on surveys that provided limited insights for Indigenous students' attendance. The Ministerial Council for Education Employment Training and Youth Affairs accessed Australian Bureau of Statistics (ABS) general population census data (MCEETYA, 2000, 2006) to estimate Indigenous students' annual daily attendance rates. ABS attendance data collected related to students' participation in education, which was school enrolment information, not school attendance data. Daily attendance or indications of daily attendance were beyond the scope of ABS census and synonymous use of the terms *participation* and *attendance* highlights how researchers and others might construe or interpret information. Census data estimates may have produced unintended and deleterious consequences, as it is likely ABS estimates of school participation outperformed the daily attendance reality, as Indigenous students' increasingly high levels of school participation occurred contemporaneously with reports students were attending school infrequently, or barely at all (Australian Government, 2015; Gray & Partington, 2003; Northern Territory Government, 2007; Penman, 2006).

General population censuses and the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) provided general information on schooling, and Indigenous students' attendance rates were collected in the 2008 NATSISS (ABS, 2010c). The survey collected attendance for the week before the interview - an attendance snapshot, reported by students' caregivers, introducing the potential for reporting attendance that was better than the reality. Nevertheless, the 2008 NATSISS data indicated Indigenous students had lower participation rates (ABS, 2003, 2010a) and attended school less frequently (ABS, 2004, 2010c) than non-Indigenous peers. Biddle (2014) used NATSISS and several government surveys: Longitudinal Study of Australian Children (LSAC); Longitudinal Study of Indigenous Children (LSIC); and Longitudinal Study of Australian Youth (LSAY) to understand Indigenous students' attendance. In each case, data were prone to recall bias and although considered together with data snapshots that provided greater depth of understanding, they remained unable to provide the level of data fidelity that full-year attendance collections from schools provide. In the same period, the Western Australian Aboriginal Child Health Survey collected and reported Indigenous students' attendance snapshots directly from Western Australian schools (Zubrick et al., 2006a). The survey of school principals collected accurate attendance snapshots, which were then extrapolated to infer annual rates.

Jurisdictional-level attendance

Accessing attendance datasets centralised at jurisdictional-level from one or more education departments across Australia offered broader insights than those possible from surveys, because the attendance data collected came from schools. Attendance centralised

by various states and territories, however, held challenges for researchers as data were reported for short periods each year. Ainley and Lonsdale (2001) analysed government schools' attendance snapshots from several jurisdictional databases. All research projects collected attendance data for less than one school year, so to construct annual attendance rates for Indigenous students, data snapshots had to be extrapolated. Consequently, Ainley and Lonsdale (2001) noted that they analysed insufficient data to construct an annual attendance rate, and concluded that the overall absence rate appears to be approximately 7.3%, but that percentage varies according to the time of year. Bourke et al. (2000) encountered additional challenges accessing attendance datasets from government, Catholic, and independent schools. They identified an incompatibility of attendance data across school sectors and datasets that "did not include numbers of students upon which estimates of school attendance were based" (Bourke et al., 2000, p. 9). Together with an inability to assess the data coverage, their analysis was reduced to data for Indigenous students at government schools. Again, their data centralised at jurisdictional-level were attendance snapshots.

As Ainley and Lonsdale (2001) explained, attendance snapshots represent the collection period and remain speculative for any period for which the data was extrapolated beyond that. Consider for example, a 50-day school term. A student attends school every day to achieve one hundred percent attendance rate. The following term includes a six-week family holiday - 30 school days, and four days of ill health - a 32% attendance rate. Extrapolating either attendance snapshot skews actual annual daily attendance rates. Using shorter reference periods, such as 20 days or one week, increases the level of imprecision. Study findings that result from extrapolation of part-year attendance snapshots to report attendance rates more broadly to infer annual attendance rates should be interpreted with a degree of caution. In 2004, frustrated by incomplete and unstandardised jurisdictional-level data, Withers (2004) called for immediate action to improve attendance data collection. However, almost a decade later, limitations in jurisdictional-level data persisted. Several studies accessed the Western Australian Department of Education's centralised attendance data, collected for less than a school year from government schools that reflected the national collection period at the time. While data enhancements have enabled linkage between students' attendance and other population-level data (Bell et al., 2017; Hafekost et al., 2017; Hancock et al., 2013; Zubrick, 2014), little progress had been made in extending the jurisdictional-level attendance collection period, without inconsistencies, beyond Semester 1 (Hancock et al., 2013).

National attendance

By 2007, a national school attendance collection appeared certain to substantially bolster attendance data for researcher purposes. Centralised daily attendance data were collected for the whole student population, using consistent and comparable methodologies and reporting (ACARA, 2012b). A centralised national collection was mandated as part of a suite of government measures implemented to drive school improvements and enhance student outcomes (SCSEEC, 2007b, p. 2). Compliance obligations for the first time extended to all schools in all jurisdictions and all school sectors - government, Catholic

and independent schools - to report schools' attendance data for "a single consistent time period" (SCSEEC, 2007b, p. 5) for students in years 1 to 10.

Establishing a national collection, however, proved a complex undertaking. All jurisdictions and school sectors had been recording attendance data differently using various collection methodologies and definitions (Ainley & Lonsdale, 2001; Bourke et al., 2000; Gray & Beresford, 2002; Withers, 2004). Further complicating comparisons, schools in different school sectors and within school sectors, used various collection definitions, methodologies, and technological systems. A period of transition was allowed to enable schools sufficient time to comply with required standards and uniformity of collection. Until then, the attendance data contained methodological inconsistencies, and as Purdie and Buckley (2010) commented, "the figures on student attendance ... need[ed] to be interpreted with care" (p. 4).

In 2012 a multi-sector agreement foreshadowed a uniform attendance collection period and methodology across all jurisdictions and school sectors (ACARA, 2015b). However, Catholic and independent school sectors were slow to build compliance due to the varying capabilities of data systems (ACARA, 2016a). The implementation of a new system infrastructure has meant government schools in New South Wales are exempt from meeting the national standard while they undergo changes (ACARA, 2016a; ACARA, 2017b), and more recently, schools in the Australian Capital Territory. Until a uniform methodology can be achieved for the whole collection, cautions for interpreting data that prevent comparisons between jurisdictions and school sectors will continue. As a result, aggregation of data to produce national attendance rates remains inaccurate.

Even when collection standards are met across all jurisdictions and school sectors, further barriers remain for reporting Indigenous (and other) students' attendance rates. Varying data collection periods in national collections presents an additional barrier. The initial national collection period was to include at least the last 20 days in May (SCSEEC, 2007a), a flexibility for collection that would have eased the burden for schools in all sectors for their first reporting of average attendance. Subsequent collection periods extended to Semester 1 (ACARA, 2011). The current national attendance collection includes Semester 1 and Term 3, although Semester 1 continues as the reference period for national reporting (ACARA, 2018b).

A cursory glance at the *My School* website clearly establishes that different collection periods produce varying attendance results. For most schools, *My School* demonstrates a disparity between Semester 1 and Term 3 attendance snapshots; Semester 1 attendance rates are generally higher than in Term 3 (ACARA, 2017a). Hancock's (2019) study revealed a similar disparity between Semester 1 and Semester 2 attendance, the result of lower student engagement and seasonal illnesses that diminish Semester 2 attendance. As part-year attendance rates do not represent full year attendance, so the national collection attendance samples remain as incomplete and unrepresentative as when the national attendance collection began. Until Semester 2 data are collected, we won't be certain how that attendance affects students' annual attendance rates or how it might vary between schools. While we applaud the transition towards full-year collection, it has reduced the

capacity to compare between collection years, because they represent varying attendance periods. So, until the national collection reaches full-year attendance data collection, researchers will remain wary of the collection's extending attendance snapshots.

After more than a decade, attendance collection remains in an extended transition phase. More prolonged than anticipated, a transition phase will continue until full-year data are collected. Accessing, evaluating, and comparing reported national attendance data has frustrated research capacity to compare within and between national, jurisdictional, school-sector level data. Additionally, identifying Indigenous students' attendance rates within the national collection will remain challenging. Future national attendance collections will continue to have cautions for interpreting the Indigenous students attendance rates, because Indigenous students represent a very small number of students in most schools (ACARA, 2018b).

While centralised collections provide indicative school-level attendance rates across Australia, schools are collecting reliable, valid student attendance data. All schools record attendance data daily for complete school years, providing an accurate data source of student-level data for research purposes. Four studies have accessed and analysed Indigenous students' full-year attendance data from attendance records at case study schools. An early study by Mander-Ross' (1995) remained the only research of its kind until a study by Rothman (2001), and later, studies by Baxter and Meyers (2016, 2019) and Briggs (2017). Case studies are valuable for accessing school records to collect whole year attendance rates for discrete student populations, however, they can only hint at what studies of other populations and national-level data might reveal.

Improvements in reporting school-level data are now occurring at jurisdictional level. The Northern Territory Department of Education strengthened their collection of government sector attendance. They collect student attendance data for four weeks, twice each term for four terms – a 'richer, more robust and highly validated dataset' (Northern Territory Government, 2017, para. 2). The attendance collection period exceeds national standards and is published online, disaggregated by region, remoteness, school, collection period and Indigeneity. Also in the Northern Territory, two studies (He et al., 2018; Silburn et al., 2014) accessed individual students' attendance histories using the SA-NT DataLink to match individual student data, delivering an advantage for project data resolution beyond national-level or jurisdictional-level attendance data capabilities. Accessing Western Australian Department of Education data, Hancock (2019) recently reported 2015 student absences for Semesters 1 and 2 in her evaluation of the reasons for student absences. In short, large student-level full-year attendance datasets can be attained, raising prospects for a national equivalent.

In 2018, national attendance collections provided indicative attendance rates for Indigenous (and other) students that fulfilled reporting requirements for schools' attendance key performance measures. While less discrete data remain suitable for government purposes, research often requires more finely grained data, particularly when researchers measure students' attendance rates against other student variables. Data disaggregated to student-level matters, as researchers seek to identify influences for all

students' attendance and Indigenous students in particular. Student-level attendance data hold promise for the creation of policy that more flexibly identifies and supports Indigenous students with poor attendance rates (Guenther, 2013b; Ladwig & Luke, 2014). For example, when measuring the Indigenous students' attendance at school-level, those students with extremely poor attendance can negatively influence the mean, which then translates as an entire school population with poor attendance (ACILAllen Consulting, La Trobe University & Phillips KPA, 2014). Until further refinement of the national attendance collection, researchers remain reliant on case studies to access clear, detailed, student-level data from individual schools. Complementary to the national collection, studies of discrete populations hold promise for solutions that remain unavailable from analyses of large centralised datasets.

In the future, schools will be fully compliant with national standards and the national collection will comprise full-year attendance data. Only then will researchers be sure they can accurately compare schools using the national collection. Indigenous students' attendance rates inform policy and practice, so irrespective of the source, attendance data collections must be accurate and comparable to ensure policy effectively targets Indigenous students with the greatest need.

Conclusion

Counting and analysing Australia's Indigenous students' attendance must be accurate at student, school, sector, jurisdiction, and national levels, because it informs government about specific schools and regions that might benefit from targeted support for attendance. Accurate attendance data for Indigenous students also enables measurement and monitoring of the effectiveness of schools' attendance strategies.

It is tempting to assume reliable and valid attendance data are the basis for research and published data. In the case of Indigenous students, reliance on extrapolations of students' attendance snapshots at jurisdiction and sector levels proves hasty. For Indigenous students, our inability to accurately count and account for school attendance perpetuates the long trail of injustice towards Indigenous students, which ironically, research seeks to rectify. Although our research centred on Indigenous student attendance rates for comparison, Indigenous students represent one subset of the attendance collection from which they are drawn. Indigenous student data therefore, exemplify strengths and weaknesses of the entire attendance collection: the methodology, integrity, utility, and comparability of the entire dataset.

Today, the national attendance data collection remains in transition. Progress towards a national collection of whole year attendance data for each student in Australia seems tantalisingly close. Until that time, we remain reliant on snapshots of student attendance data, aggregated to school-level, that due to methodological differences frustrate robust analysis. The limitations of available data restrict researchers' capacity to fully examine school attendance. Without full and accurate data to inform targeted interventions, maximising gains in Indigenous students' attendance will remain aspirational. We join the

chorus with other researchers for government to expedite the collection of complete, valid, and robust school data in the national attendance collection.

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Lindy P. Baxter (corresponding author, La Trobe University, Bendigo Campus) recently completed her PhD, which included published works of which this article forms part. Her work involves the systematic and systemic analysis of factors associated with raising Indigenous students' attendance and achievement in their crucial primary years.
 Email: baxter.lindyp@gmail.com

Noel M. Meyers is Professor of Education and Environmental Studies, La Trobe University, Bendigo, Australia. Noel has worked extensively domestically and internationally to improve capacity and the capabilities of some of the least affluent people on Earth. He has earned national and international teaching accolades for his work in science education and co-authors the textbook used by more than 60% of Australia's first year biology students.
 Email: noelmeyers2@gmail.com

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