Australian Government

Footprints in Time
The Longitudinal Study of Indigenous Children

Data User Guide

Release 6.0

Footprints in Time
The Longitudinal Study of Indigenous Children
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The *Footprints in Time* team acknowledges all the traditional custodians of the land and pays respect to their Elders past and present.

The *Footprints in Time* study was initiated and is funded by the Australian Government and is conducted by the Department of Social Services (DSS).

Contents

ABBREVIATIONS

ABS	Australian Bureau of Statistics
AEDC	Australian Early Development Census
ARIA	Accessibility/Remoteness Index of Australia
BMI	Body Mass Index
CAPI	Computer Assisted Personal Interview
DSS	Department of Social Services
ERP	Estimated Resident Population
ESL	English as a Second Language
HILDA	Household, Income and Labour Dynamics in Australia Survey
HREC	Human Research Ethics Committee
ICC	Indigenous Coordination Centre
LBOTE	Language Background Other Than English
LORI	Level of Relative Isolation
LSAC	Longitudinal Study of Australian Children
LSAG	Longitudinal Studies Advisory Group
LSIC	Longitudinal Study of Indigenous Children (also known as *Footprints in Time*)
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
P1	Parent 1
P2	Parent 2
PAT-R	Progressive Achievement Tests in Reading
PAT-Maths	Progressive Achievement Tests in Mathematics
PLE	Parent Living Elsewhere
RAO	Research Administration Officer (interviewer)
SC	Study Child
SDQ	Strengths and Difficulties Questionnaire
TC	Teacher/Carer
WHO	World Health Organization
WISC-IV	Wechsler Intelligence Scale for Children (4^{th} edition)

ACKNOWLEDGEMENTS

Footprints in Time—the Longitudinal Study of Indigenous Children (LSIC) was initiated and is funded by the Australian Government Department of Social Services (DSS).

The Study would never have been possible without the support and trust of the Aboriginal and Torres Strait Islander families who open their doors to the researchers and generously give their time to talk openly about their lives. Our gratitude goes to them, and to the leaders and Elders of their communities who are active guardians of their people's wellbeing.

The Study brings together people committed to making a positive difference in the lives of Aboriginal and Torres Strait Islander children.

INTRODUCTION

The purpose of this document is to provide a comprehensive reference for data users of *Footprints in Time*, the Longitudinal Study of Indigenous Children (LSIC).

This document provides information data users need to know to use the LSIC datasets—such as the background to the Study, sample selection, Study sites, research design, Study development and testing, consent processes, questionnaire design and piloting, file structures, variable naming conventions and missing data coding.

Other useful documentation for data users includes the marked-up questionnaires and Data Dictionary.

The Data User Guide and Data Dictionary are available on the Study website, <http://www.dss.gov.au/lsic>

We welcome any feedback you have about this Data User Guide. If there is something that you expected to find in this manual and did not, or if you had difficulty understanding any section, please let us know by emailing <lsicdata@dss.gov.au>.

WHAT IS FOOTPRINTS IN TIME?

Footprints in Time is the name given to the Longitudinal Study of Indigenous Children (LSIC). *Footprints in Time* aims to improve the understanding of, and policy response to the diverse circumstances faced by Aboriginal and Torres Strait Islander children, their families and communities. The Study provides a data resource that can be drawn on by government, researchers, service providers, parents and communities.

The Study collects important information about the lives of Aboriginal and Torres Strait Islander children, covering areas including:

- *children*—physical and mental health, social and cognitive development, family and community relationships, and significant events;
- *children's families*—health, work, lifestyle, and family and community connectedness;
- *children's communities*—facilities, services, and social and community issues;
- *services*—child care, education, health and other services used by the child's family.

Objective of the Study

The main objective of the Study is to provide high quality data that can be used to provide better insight into how a child's early years affects their development. It is hoped that this information can be drawn upon to help close the gap in life circumstances between Indigenous and non-Indigenous Australians.

Footprints in Time has four key research questions, formulated under the guidance of the Steering Committee, which were designed to achieve this objective. These are:

- What do Aboriginal and Torres Strait Islander children need to have the best start in life to grow up strong?
- What helps Aboriginal and Torres Strait Islander children stay on track or become healthier, more positive and strong?
- How are Aboriginal and Torres Strait Islander children raised?
- What is the importance of family, extended family and community in the early years of life and when growing up?

Also of interest is the role that service use and support plays in the lives of Aboriginal and Torres Strait Islander children:

- How can services and other types of support make a difference to the lives of Aboriginal and Torres Strait Islander children?

Who is involved?

Footprints in Time is funded by the Australian Government and managed by DSS.

The LSIC Steering Committee has been chaired by Professor Mick Dodson since 2003. The Steering Committee oversees the design, development and implementation of the Study. Its members are drawn from academic and community sectors, covering a wide range of disciplines such as health and education. Subcommittees of the Steering Committee are formed to deal with particular issues as required.

Strategic guidance and leadership on content, operation and analysis of *Footprints in Time* is also provided by the Longitudinal Studies Advisory Group (LSAG). The primary objective of the LSAG is to provide advice to the Longitudinal Study for Australian Children (LSAC), *Footprints in Time* (LSIC) and the Household, Income and Labour Dynamics in Australia (HILDA) Survey and thereby assist in maximising their strategic importance to the Australian Government.

Footprints in Time interviews are conducted primarily by DSS employed Aboriginal and Torres Strait Islander Research Administration Officers (RAOs).

Roy Morgan Research was contracted for Waves 1 to 4 of the Study to produce the data collection instruments according to DSS design, assist in the management of pilot and live fieldwork, capture and compile survey data and report on fieldwork procedures, as well as response and non-response patterns. Colmar Brunton was contracted to deliver this component of the survey in Wave 5 to 8.

DSS's LSIC section manages the project from the National Office.

Funding

The 2003–04 Federal Budget provided the initial resources for the *Footprints in Time* study. The first phase, from September 2003 to June 2004, involved extensive consultation with Indigenous peoples and communities about the Study. The design and development of the Study commenced in December 2005, with pilot testing continuing through 2006 and 2007.

LSIC received funding in the 2007-08 budget for Waves 1–4 of the Study. The Study is now classified as an ongoing measure and will continue as long as the sample retention enables the Study to remain viable.

Ethics

Ethical clearance for the Study has been obtained from the Australian Government Department of Health Departmental Ethics Committee which has been chosen as the primary Human Research Ethics Committee (HREC) for the Study.

In addition state/territory and/or regional ethics clearance and support was obtained for *Footprints in Time* sites through state and territory HRECs or their equivalents (in accordance with the National Health and Medical Research Council, 2003 and Australian Institute of Aboriginal and Torres Strait Islander Studies guidelines). State and territory departments of education and Catholic dioceses are also consulted to gain permission and support for preschool and school teachers to complete questionnaires about the

children involved in the Study. State and territory departments managing out-of-home care were also consulted.

Survey methodology

Footprints in Time employs an accelerated cross-sequential design, involving two cohorts of Indigenous children aged from 6 months to 2 years (Baby cohort, or B cohort) and from 3 years 6 months to 5 years (Child cohort, or K cohort) in Wave 1. The design allows the data covering the first nine or ten years of Aboriginal and Torres Strait Islander children's lives to be collected in six years.

Aboriginal and Torres Strait Islander children born between December 2003 and November 2004 (K cohort) or between December 2006 and November 2007 (B cohort) are the sample units in the Study. The majority of families in the Study were recruited using addresses provided by Centrelink and Medicare Australia. Other informal means of contact such as word of mouth, local knowledge and study promotion were also used to supplement the number of children in the Study. In practice, the K cohort consists of children born in 2003, 2004 and 2005 and the B cohort consists of children born in 2006, 2007 and 2008. Table 1 shows the ages of each cohort throughout the Study.

Table 1: Ages of each cohort throughout the Study

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016
Wave	1	2	3	4	5	6	7	8	9
Younger (B) cohort age (years)	½–2	1½–3	2½–4	3½–5	4½–6	5½–7	6½–8	7½–9	8½–10
Older (K) cohort age (years)	3½–5	4½–6	5½–7	6½–8	7½–9	8½–10	9½–11	10½–12	11½–13

Footprints in Time sample selection

Footprints in Time uses a non-random purposive sampling design from which eligible families were approached and voluntary consent obtained. The study focuses on eleven sites chosen, in part, to cover the range of socioeconomic and community environments where Aboriginal and Torres Strait Islander children live. Agreement and approval to participate in the Study was sought from communities and Elders in these sites before research within the communities began.

The *Footprints in Time* sites were chosen to:

- ensure approximately equal representation of urban, regional and remote areas, thus enabling some geographical comparison,
- represent the concentration of Aboriginal and Torres Strait Islander people around Australia,
- contain a substantial Aboriginal and Torres Strait Islander population in the core and surrounding areas,
- include locations engaged in the pilot of the Study where existing relationships could be built upon,
- be located near an Indigenous Coordination Centre (ICC), if possible, where Research Administration Officers (RAOs) could be based.

Footprints in Time was designed to sample approximately 150 children in each site, providing a sample of up to 1,650 children. This number represents 5-10 per cent of Aboriginal and Torres Strait Islander children of the appropriate ages. Due to difficulties in sample recruitment related to small resident populations and geographic spread, for some sites it was not possible to find sufficient numbers of children to meet the Study's targets. In other sites the number of eligible children was in excess of the required sample.

The same families who were interviewed in Wave 1 were approached again for interviews in subsequent waves. However, a proportion of families could not be interviewed again because they could not be located, had moved substantial distances, refused interviews, or could not be interviewed for other reasons. However, the reduction in the number of study children was partially offset in Wave 2 by the recruitment of 88 additional children from the eleven sites in the sample. These children were from families who had either missed out on or refused to participate in Wave 1 but were available and willing to participate in Wave 2 and potentially for subsequent waves.

Footprints in Time study sites

The LSIC sample is not nationally representative; however it sufficiently reflects the distribution of Aboriginal and Torres Strait Islander children aged between 0 and 5 years (at the Study's commencement in 2008) in the states and territories and among urban, regional and remote areas. Following are the selected study sites:

New South Wales (NSW)

- Western Sydney (from Campbelltown to Riverstone)
- NSW South Coast (from Kiama to Eden)

- Dubbo (including Gilgandra, Wellington and Narromine)

Victoria (Vic)

- Greater Shepparton (including Wangaratta, Seymour, Bendigo, Cobram and Barmah and areas in between)

Queensland (Qld)

- South East Queensland (including Brisbane, Ipswich, Logan, Inala, Gold Coast and Bundaberg)
- Mount Isa and remote Western Queensland (including Mornington Island, Doomadgee, Normanton and Cloncurry)
- Torres Strait Islands and Northern Peninsula Area (NPA)

Western Australia (WA)

- Kimberley region (including Derby, Fitzroy Crossing, Broome and Ardiyooloon [One Arm Point])

South Australia (SA)

- Adelaide (including Port Augusta)

Northern Territory (NT)

- Alice Springs (and some surrounding communities)
- NT Top End (including Darwin, Katherine, Minyerri and Galiwin'ku)

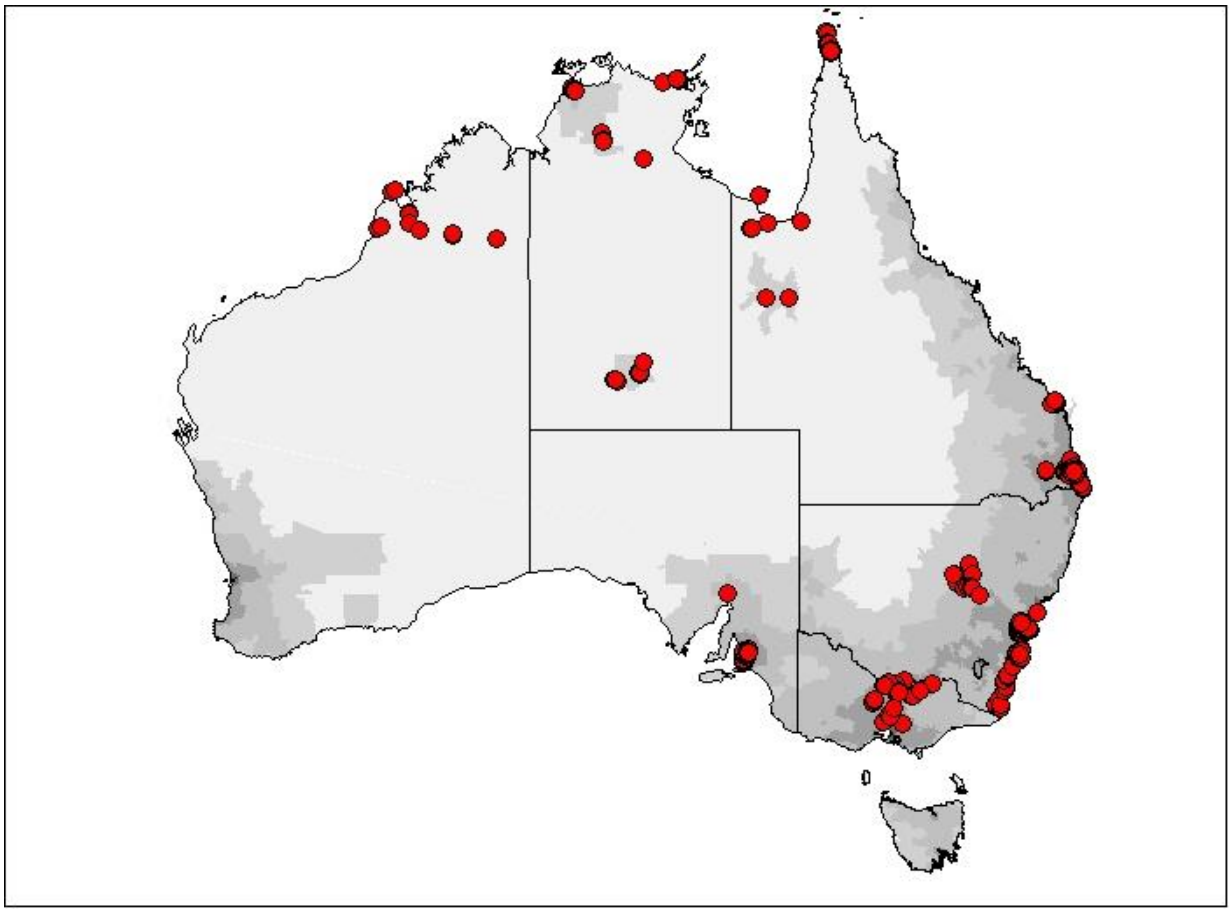
Apart from site names, *Footprints in Time* reports use the Level of Relative Isolation (LORI) to describe geographical characteristics of families in the Study. Site names are not released with the data for reasons of confidentiality but LORI is included in the datasets.

Box 1: Level of Relative Isolation

Footprints in Time uses a classification system of remoteness known as the Level of Relative Isolation (LORI). Previously used in the Western Australian Aboriginal Child Health Survey (Zubrick et al. 2004), LORI is based on an extension of the 18-point ARIA (Accessibility/Remoteness Index of Australia) called ARIA++. Five categories of isolation have been defined, ranging from None (such as the Brisbane metropolitan area) to Low (for example, Shepparton), Moderate (for example, Derby), High (for example, Bamaga) and Extreme (for example, some Torres Strait islands).

Figure 1 shows the geographic spread of study children in Wave 1.

Figure 1: *Footprints in Time* sample distribution, Parent 1 interviews



Study development and testing

The design of the Study and the content was developed based on extensive consultations with urban, regional and remote Indigenous communities, organisations and service providers across Australia. The overriding goal of consultations was to ensure the design of the research reflected the interests of Aboriginal and Torres Strait Islander peoples, communities and service providers and that the data would genuinely benefit the children and their families.

Piloting of study interviews and community engagement strategies was conducted from September 2004 to December 2005 in the Torres Strait and Northern Peninsula Area (NPA) and in the ACT/Queanbeyan region.

Content rationales were developed based on these consultations, as well as other research such as the Western Australian Aboriginal Child Health Survey (for example, Zubrick et al. 2003) and the National Aboriginal and Torres Strait Islander Social and Health Surveys (NATSISS and NATSIHS). These rationales were workshopped in November 2005 with members of the Steering Committee and other stakeholders and then used to develop draft questionnaires and Computer Assisted Personal Interview (CAPI) instruments.

Piloting of the design, sampling strategy and Wave 1 survey content was undertaken in partnership with the ABS. The ABS tested the questionnaire and field procedures in the first pilot sites in 2006. A number of content areas were adapted to be more culturally appropriate and/or better understood by respondents before testing the questionnaires and field procedures again in 2007.

Initially six full-time Indigenous RAOs were employed and trained to manage the community engagement activities for the pilot research, including consent processes, data collection and dissemination of information in pilot communities.

Study informants

The Study collects or has collected data from multiple informants as below:

- **Parent 1 (P1)**—was defined in Wave 1 as the primary caregiver who knew the Study Child best. In most cases this was the child's biological mother but in some cases it was the child's father or another guardian. In subsequent waves RAOs interviewed the same Parent 1 if they were available and caring for the child and if not, the person who knew the Study Child best at time of interview was interviewed as P1.

  RAOs undertake an extensive interview with the primary carer of every Study Child, containing questions about the Study Child, P1 and the household. It is a face-to-face interview (all waves).

- **Parent 2 (P2)/Dad**—is Parent 1's partner or another adult with a parent or carer relationship to the Study Child. In most cases this is the biological father, but step-fathers are also common. Although the surveys were designed to be answered by Grandmas or Aunties or other family who had a caring role, there were few respondents who were not fathers. Sometimes Parent 2 is a parent not living with the Study Child, most commonly the biological father after separating from the biological mother (Waves 1 and 2).

RAOs undertook a face-to-face interview or a telephone interview (depending on preferences of Parent 2) after receiving Parents 1's consent and if Parent 2 was willing to participate and able to be contacted (Waves 1 and 2).

With the focus on Parent 1 and the Study Child, response rates for Parent 2 were quite low in Waves 1 and 2 and so Wave 3 data were not collected from Parent 2.

Wave 4 interviews were redesigned to focus only on Dads (either fathers or men performing a father–like role in a Study Child's life). This is because the majority of respondents in Waves 1 and 2 were Dads. Dads in some cases were also the primary caregiver (P1). In these situations, the choice to complete the entire survey or an abridged version, with overlapping questions from the P1 survey removed, was offered to the Dad.

- **Study Child**—Study Children themselves complete the vocabulary assessments, practical exercises (such as "Who am I?") and answer interview questions (as appropriate to their age). In addition, their height and weight is measured (in most cases by the interviewer). Study Child data include both face-to-face interview questions and direct assessments.

- **Teachers/child care workers**—some teachers/carers completed questionnaires that included their observations of the Study children (all waves). In early waves, these records were relatively few in number. Teacher/Carer data collected from Waves 1 to 3 were included in Release 3.1, and Wave 4 data was included in Release 4.1.

  Teacher/Carer questionnaires are typically completed on paper, and the data entered by DSS staff. Alternatively, teachers/carers are able to complete questionnaires online or with a RAO. Missing data in the paper copies are coded as refusals when the data is entered.

DATA COLLECTION

Consent process

The process for obtaining informed consent from the Study Child's parents or carers and their family, teachers and carers is an integral part of the Study.

Prior to being interviewed for the first time, parents were provided with an introductory letter and a DVD describing the Study and the consent process. At the interview RAOs went through each consent form with the participant/s and explained what permission was being sought. This enabled parents to make informed consent about their participation in the Study. A plain language statement was also available for parents who preferred to read about the Study. Parents gave consent on behalf of the Study Child.

As well as seeking permission to take part in the Study participants were separately asked for consent to:

- be voice recorded for the interview
- allow the other parent or another carer to be contacted
- allow the child's teacher or child care worker to be contacted
- allow the Study Child to be photographed

At the conclusion of the consent process, participants were given a summary sheet that recorded what they had agreed to. This sheet included contact details for the ethics committee and DSS. Participants were informed that they could change their consent and are able to withdraw from the Study at any time.

With Release 2.0, the records of six study children and their families were removed from the Wave 1 datasets because of irregularities in their administrative records. With Release 3.1, one of the six study children removed from Release 2.0 was placed back into the datasets, however another Study Child was removed from the datasets upon the request of their primary carer.

Fieldwork periods

The Wave 6 pilot was conducted in September 2012 and the main round of interviews were conducted between 25 February 2013 and 14 December 2013. Although it is the aim of the Study to interview participants at 12 month intervals, this is not always possible because of the availability of respondents and the logistics of interviewers' travel arrangements and scheduling. Nonetheless, the average time between Waves 5 and 6 interviews was 11.7 months. Table 2 shows the fieldwork periods for Waves 1 to 6.

Table 2: Fieldwork periods

Wave	Pilot	Main
1	2006-2007 and Jan 2008	21 April 2008 to 23 Feb 2009
2	Nov 2008	3 March to 17 Dec 2009
3	Oct 2009	3 March to 23 Dec 2010
4	Oct 2010	7 March to 18 Dec 2011
5	Oct 2011	17 March to 19 Dec 2012
6	Sep 2012	25 February to 14 Dec 2013

Fieldwork response

Out of the 1,258 families who participated in Wave 5, *Footprints in Time* interviewers successfully interviewed 1,068 families in Wave 6, achieving an overall response rate of 84.9 per cent between the two waves. Table 3 shows fieldwork responses for Waves 1 to 6.

Table 3: Fieldwork response from Wave 1 to Wave 6

Wave	Previous wave respondents interviewed	Additional interviews	Total interviews	% of retention from previous wave
1	n/a	n/a	1,671	n/a
2	1,435	88*	1,523	85.9
3	1,312	92**	1,404	86.1
4	1,150	133**	1,283	81.9
5	1,097	161**	1,258	85.5
6	1,068	171**	1,239	84.9

* *New entrants in Wave 2*

** *Interviewed in the current wave, but not the wave prior*

n/a *not applicable*

Notes: *New entrants were admitted into study in Wave 2, but not in subsequent waves.*
Table excludes children removed from datasets for administrative reasons.

New entrants

In order to maintain the viability of the sample in remote regions and meet the requests of a small number of families who expressed a strong wish to be part of the Study, *Footprints in Time* added 88 new entrant families to the Study in Wave 2. With the addition of 88 new entrant families, the total number of responses achieved in Wave 2 was 1,523. Seventy-three of the 88 new entrant P1s answered questions specifically directed to new entrants and a further six of those new entrants later answered those questions in Wave 3 (however these responses were merged back into the Wave 2 data file). The other nine Wave 2 new entrants have missing data for new entrant questions, however they did respond to the P1 questions that were asked of continuing participants.

Interview length

Roy Morgan Research has estimated the time taken for Waves 2, 3 and 4 interviews based on a combination of anecdotal evidence and on the computer-captured data excluding those cases that appeared implausible.

Table 4: Length of Interviews by respondent, cohort and wave

Cohorts	Range W2	Average length W2	Range W3	Average length W3	Range W4	Average length W4	Average length W6
Study Child B Cohort	5-50 minutes	10 minutes	5-47 minutes	10 minutes	2-39 minutes	16 minutes	33 minutes
Study Child K Cohort	5-50 minutes	17 minutes	5-49 minutes	19 minutes	3-58 minutes	24 minutes	
Parent 1 B Cohort	0.5–3 hours	1 hour	0.5–3 hours	52 minutes	20 minutes to 2 hours	56 minutes	1 hour 7 minutes
Parent 1 K Cohort	0.5–3 hours	1 hour	0.5–3 hours	57 minutes	20 minutes to 2 hours	52 minutes	
Parent 2/Dads B Cohort	10-60 minutes	30 minutes	n/a	n/a	12–60 minutes	30 minutes	n/a
Parent 2/Dads K Cohort	10–60 minutes	30 minutes	n/a	n/a	16–59 minutes	33 minutes	n/a

Source – Roy Morgan Research Reports (W2–W4); Colmar Brunton (W6)
n/a not available

QUESTIONNAIRE CONTENT OVERVIEW

Waves 1–6 data includes a range of information which will be longitudinal (usually collected annually) as well as developmentally age–specific information. The following tables provide overviews of the instruments included in each wave for the P1, SC, P2/Dads and Teacher/Carer.

Table 5: Parent 1 questionnaire content

Questionnaire sections	W1	W2	W3	W4	W5	W6
Household						
Dwelling type and street traffic	√	√	√	√	√	√
Household demographics: sex, age, Indigenous status, relationship to Parent 1, relationship to Study Child (from w4)	√	√	√	√	√	√
Child health						
Maternal health and care, alcohol; tobacco and substance use in pregnancy; birth	√	NE				
Early diet and feeding	√	√				
Nutrition	√	√	√	√	√	√
Dental health	√	√	√	√	√	√
Health conditions	√	√	√	√	√	√
Injury		√		√	√	√
Hospitalisation	√	√	√	√	√	√
Child's sleeping patterns	√	√	√	√	√	√
Parental health						
Ongoing health conditions	√	√	√	√	√	√
Resilience[1]	√	NPC	NPC	√	√	NPC
Social and emotional wellbeing[1]	√	√	√	√	√	√
Smoking habits and exposure (and alcohol in Wave 2)	√	√	√	√	√	
Gambling			√			
Parents relationship			√			√
Stolen generations		√			√	

[1] These questions were based on those developed to assess the emotional wellbeing of participants of the Aboriginal Birth Cohort study (see Thomas et al 2010).

Questionnaire sections	W1	W2	W3	W4	W5	W6
Parent living elsewhere	√	√	√	√		√
Child and family functioning						
Child social, emotional development	K			B		
Strengths and Difficulties © Robert Goodman			√	K		√
Physical ability		√	√	√	√	√
Child temperament		K				B
Brief Infant Toddler Social and Emotional Assessment		B				
Parent concerns about language and development	√	√	√	B	√	B
Parental warmth, monitoring, consistency	K	B	K	B		√
Parenting empowerment and efficacy					√	
Peers and friends					K	
Major life events	√	√	√	√	√	√
Socio-demographics						
Participant language, culture and religion	√	NPC	NPC	NPC	NPC	NPC
Child languages, cultural practices	√	NE			B	√
Parental education		√	NPC	NPC	√	√
Work	√	√	√	√	√	√
Partner's work, education			√	√	√	√
Financial stress and income	√	√	√	√	√	√
Child support and maintenance		√		√		√
Housing and mobility	√	√	√	√	√	√
Perceived community safety						√
Child care and early education	√	√	√	B	B	B
School		K	K	K	√	√
Activities	√	√	√	√	√	√
Interviewer questions		√	√	√	√	√

Note: √ – asked of both cohorts, B – asked only of the younger B cohort, K – asked only of the older (K) cohort, NE –asked only of new entrants, NPC –asked only of new primary carers.

Table 6: Study Child questionnaire content and direct measures

Questionnaire sections	W1	W2	W3	W4	W5	W6
Vocabulary – expressive	K	K	K	B	B	B
Vocabulary checklist for babies	B	B	B			
Who Am I?	K	K	K	B	B	B
Favourite things		K			B	√
School			K	K	K	√
Height and weight	√	√	√	√	√	√
Drawing task			K			B
MATRIX reasoning (from WISC-IV)				K	K	
Progressive Achievement Tests in Reading (PAT-R)				K	K	K
Progressive Achievement Tests in Mathematics (PAT-Maths)						K
Child social and emotional wellbeing					K	
Family and friends					K	

Note: √ – asked of both cohorts, B – asked only of the younger (B) cohort, K – asked only of the older (K) cohort.

Table 7: Parent 2 (Dads starting from Wave 4) questionnaire content

Questionnaire sections	W1	W2	W3	W4	W5	W6
Household						
Dwelling type and street traffic	PLE	PLE		DLE		
Household form	PLE	PLE		DLE	DLE	
Parental health						
Ongoing health conditions	√	√		√	√	
Strong souls	√	NP2		√	NP2	
Social and emotional wellbeing	√	√		√	√	
Smoking habits and exposure	√	√		√	√	
Childhood and parenting						
Stolen generations		√			√	
Parent living elsewhere				DLE	DLE	
Child and family functioning						
Parent warmth, monitoring, consistency	K	K		K		
Major life events	PLE	PLE				
Socio-demographics						
Parental language and religion	√	NP2		√	NP2	
Teaching culture	√			√		
Parental education	√	√		√	√	
Work	√	√		√	√	
Financial stress and income	√	√		DLE	DLE	
Child support and maintenance		PLE		DLE	DLE	
Housing and mobility	PLE	PLE		DLE	DLE	
Child care, early education and school				√	√	
Involvement with Study Child				√	√	
Activities P2 does with Study Child	√	√		√	√	

Notes: P2/Dad interviews were not conducted in Waves 3 and 6. PLE – Parent 2 living elsewhere; DLE – Dad living elsewhere; NP2 – new Parent 2/Dad (did not respond in previous Wave).

Table 8: Teacher/Carer questionnaire content

Questionnaire sections	W1	W2	W3	W4	W5	W6
Service characteristics						
School and service organisational structure	√	√	√	√	√	√
Indigenous education focus			K	K	√	√
Class characteristics						
Class demographics: size, age range and cultural diversity	√	√	√	√	√	√
Staffing levels	√	√	√	√	√	√
Children with diagnosed disability			√	√	√	√
Program characteristics						
Practices to involve parents	K	K	√	√	√	√
Activities		√	√	√	√	√
Links to local services	√	√	B	B	B	
Approach to teaching reading and mathematics			K	K	K	B
Teacher attitudes to teaching and school			K	K	K	√
Strategies to manage attendance (to help children catch up)				K	K	B
Classroom resources	√	√	√	K	B	B
Teacher's background						
Demographics: gender, age, Indigenous status	√	√	√	√	√	√
Education history	√	√	√	√	√	√
Employment history	√	√	√	√	√	√
Indigenous language skills			√	√	√	√
Indigenous-specific training and experience				√	√	√
Child characteristics						
Year level and period at school	√	√	√	√	√	√
Repeating grade			K	K	K	√
Attendance	√	√	√	√	K	√
Parental involvement		√	√	√	√	√

Questionnaire sections	W1	W2	W3	W4	W5	W6
Impairment, disability or other concerns about SC's development	√	√	√	√		
Child characteristics (continued)						
Use of specialised or additional services	√	√	√	√	√	√
Language and literacy	√	√	√	√	K	√
Mathematics and numeracy	√	√	√	√	K	√
Social, emotional and physical development	K	K			√	√
Strengths and Difficulties © Robert Goodman		K	√	√	√	√
Teacher prediction for SC's education					K	√
Teacher/SC relationship			√	√	√	√
Comments and observations	√	√	√	√	√	√

Note: √ – asked of both cohorts, B – asked only of the younger (B) cohort, K – asked only of the older (K) cohort.

USING THE DATASETS

Table 9 shows the number of records in each file in Release 6.

Table 9: Number of records for each file

Dataset	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
Parent 1	1,671	1,523	1,404	1,283	1,258	1,239
Parent 2/Dads	257	269	n/a	213	180	n/a
Study Child	1,469	1,472	1,394	1,269	1,244	1,241
Teacher/Carer	44	163	326	442	473	541

Note: Numbers in the datasets may vary from previous releases either because of administrative irregularities or if participants have requested that their data be removed from the Study.
n/a not applicable

Locating variables

To locate variables of interest, look through the marked-up questionnaires and/or the Data Dictionary. The marked-up questionnaires provide the full wording and sequencing of all questions, and the variable names and answer categories for all variables. The Data Dictionary is an Excel workbook providing details of all variables in the LSIC datasets. There is one worksheet which contains all survey instruments: P1, P2/Dads, SC and TC. The worksheet contains the variables for all released waves of data. The Data Dictionary can be searched using filters to find variables of interest.

A description of each of the columns in the Data Dictionary can be found at **Appendix A.**

Variable naming convention

The variable naming convention was developed so that variables have predictable names across waves and informants, and so that thematically linked variables have similar names wherever possible. LSIC variables are a maximum of eight characters in length. The variable name is comprised of four parts and provides information on the content of the variable.

- First character—wave identifier: a=Wave 1, b=Wave 2, c=Wave 3 and d=Wave 4.
- Second character—subject/informant: a=Parent 1, b=Parent 2/Dads, c=Study Child, and d=Teacher/Carer.
- Third and fourth character—topic name, such as HF for household form, SS for Strong Souls, etc.

- Fifth to eighth character—arbitrary number within topic. This mainly relates to question numbering and sub-numbering within the topic on the paper questionnaire. An underscore is used, where possible, for variable items that are a categorical answer to a question where more than one category can be chosen. For questions where only one category of answer is allowed, the underscore will not be used. Examples of these are:

  aamc2_1 (Wave 1, Parent 1, Maternal Health and Care, Question 2, Category 1 – Mother and/or aunties)

  An underscore is not used in variables where there is no room for it. For example:

  aaac1baa (Wave 1, Parent 1, Activities, Question 1b – Who did this with [him/her]? Sub-question A – play music, etc [answer = Mother])

Identifiers

Each Study Child has a unique identifier (xwaveid) which is constant for all interviews relating to that child (whether P1, P2, Dads, SC or TC) and remains unchanged across waves. It is composed of six numbers; the first two indicate the wave when the child first entered the Study. Records for children who were part of the Study from Wave 1 start with 01. Wave 2 new entrants start with 02; however, there have been no new entrants since then. The first two numbers are followed by four randomly assigned numbers.

Cohort

At the beginning of each instrument, interviewers confirm whether the Study Child belongs with the younger (B) or older (K) cohort. This selection determines the sequencing of future questions as not all questions are asked of both cohorts. The variable for cohort is aachtype (Wave 1, P1), bachtype (Wave 2, P1), abchtype (Wave 1, P2) and so on.

Geographic variables

Interviews are primarily conducted in 11 sites from around Australia but for confidentiality reasons the site variable is not released. From Wave 2, some interviews were conducted out of the original sites if respondents moved to a new location within a RAO's working range.

Level of relative isolation (LORI) (variables aalor, balori, calori, etc) is a classification of remoteness indicating the relative distance of localities from population centres of various sizes. LORI has five categories: none (urban), low, moderate, high and extreme. In the dataset the last two categories are combined as numbers in these areas are small. LORI has been designed to take account of Indigenous language and other culturally-specific geographic characteristics. LORI was originally developed for the Western Australian Aboriginal Child Health Survey (Zubrick et al. 2004).

SEIFA Indexes: the deciles of four SEIFA Indexes (based on 2006 Census) are provided in the LSIC datasets.

Index of Relative Socio-economic Disadvantage (variables aada10, bada10, cada10 etc)

Index of Relative Socio-economic Advantage and Disadvantage (variables aaad10, baad10, caad10 etc)

Index of Economic Resources (variables aaec10, baec10, caec10 etc)

Index of Education and Occupation (variables aaed10, baed10, caed10 etc).

Index of Relative Indigenous Socioeconomic Outcomes (IRISEO) is a measure of community level socioeconomic advantage based on a principal components analysis of nine variables from the 2006 Census—three related to employment, three related to education, two related to housing and one related to income. Unlike the similar and better known Socioeconomic Indexes for Areas (SEIFA), this measure is calculated specifically for Indigenous Australians (Biddle 2011). The LSIC datasets contain IRISEO deciles (variables aair10, bair10, cair10, etc).

Randomised cluster

Since LSIC respondents are geographically clustered around 11 study sites, statistical models used to analyse the data may produce biased results which could lead to erroneous research conclusions. To overcome this, starting from Release 5.0, LSIC datasets include a cluster variable which identifies respondents living in close geographical proximity. The cluster variable is a number between 1 and 542, with each number corresponding to an ABS Indigenous Area.

The cluster numbers have been randomly assigned to an Indigenous Area so that actual location is not revealed. The cluster variable is aarclus, barclus, carclus etc. For information about the effect of sample clustering see *Implications of the Study design for analysis and results* by Dr Belinda Hewitt at <www.dss.gov.au/LSIC>.

Household form

The household form in the P1 instrument collects basic demographic information (age, sex, Indigenous status, relationship to P1 and relationship to SC[2]) of all members of the household. Prior to Release 1.2 the information for P1, P2 and Study Child were entered into the first three places and other household members could be enumerated in any order. This meant that a particular individual could be member 4 in Wave 1 and member 6 in Wave 2. As researchers are not given access to the names of household members, it would be impossible to analyse movements of individuals in and out of households.

To overcome this problem, the household data was reorganised from Release 1.2 so that each individual has a permanent household member number/position. All data is missing if the member is not present in that wave. The Study Child is always member 1. The P1 in Wave 1 is always member 2, even when they are no longer the P1. The P2 in Wave 1 is member 3 (if there was a P2 in the household). Other household members take positions 4 onwards. If a new member joins the household they are given the next free position. Separate variables identify the member numbers of P1 and P2 (if present) in each wave.

The household form collects date of birth rather than age for the Study Child (as well as P1 and P2). As child development occurs rapidly over the early years, a variable for the Study Child's age in months at the time of interview (#ascagem) has been derived to enable relevant analysis. Note that the Study Child's age in months is also available on the Study Child file (#cscagem). From wave 5, #cscagem is calculated based on the date of the Study Child interview, which in some cases differs significantly from the P1 interview date.

[2] Starting from Wave 4.

Family composition variables

A number of derived variables are included in the P1 dataset to describe the household composition and summarise information about presence of the Study Child's extended family. These variables are derived for all previous waves where the data required for such derivation are available.

In all waves, P1 was asked about their relationship to every other person in the household. In addition, starting from wave 4, P1 is asked how every person in the household is related to the Study Child. To make the best use of the available information, two sets of household variables were derived, some that are available in all waves and others starting from wave 4.

Variables available in all waves

#ahhtype: this variable describes Study Child's household based on four aspects:

- whether P1 is a parent (including step, adoptive or foster) of the Study Child or an otherwise related or unrelated carer
- whether P1 indicated they had a partner in the household (otherwise classified as lone parent/carer)
- whether there are other children aged 15 years or younger in the household
- whether there are other adults aged 16 years or older in the household (these may include Study Child's older siblings).

The resulting 16 categories are presented below.

#ahhtype	Study Child lives with…*
1	Parent & partner
2	Parent & partner, other adults
3	Parent & partner, children <16
4	Parent & partner, children <16, other adults
5	Lone parent
6	Lone parent, other adults
7	Lone parent, children <16
8	Lone parent, children <16, other adults
9	Carer & partner
10	Carer & partner, other adults
11	Carer & partner, children <16
12	Carer & partner, children <16, other adults
13	Lone carer
14	Lone carer, other adults
15	Lone carer, children <16
16	Lone carer, children <16, other adults

Note: *'Parent' including step, adoptive or foster parents.

#ahhp1ms: Parent 1 is partnered. This is a binary variable which takes the value of 1 if P1 indicated they had a partner in the household, and 0 otherwise. The definition of partner includes husband or wife, fiancé/fiancée, de-facto, and boyfriend or girlfriend, as well as same sex partners. This variable may provide conflicting information to **#ahf13** "P1 is partnered (as marked by RAO)" which was asked starting from wave 3 to collect more accurate information in cases where P1 did not wish to list live-in partner as part of the household.

Variables available from Wave 4 onwards

#ahh_* variables: Presence in household of SC's [relative/nonrelative]. These are binary variables which take the value of 1 if a relative/person is present in the Study Child's household and 0 otherwise. For details, please see Table 10.

Table 10: Variables describing presence of relatives in Study Child's household

Variable name	Variable label	Value label
#ahh_mum	Presence in household: SC's mother^	0=No, 1=Yes
#ahh_dad	Presence in household: SC's father^	0=No, 1=Yes
#ahh_br	Presence in household: SC's brother(s)*	0=No, 1=Yes
#ahh_sis	Presence in household: SC's sister(s)*	0=No, 1=Yes
#ahh_gm	Presence in household: SC's grandmother(s)	0=No, 1=Yes
#ahh_gf	Presence in household: SC's grandfather(s)	0=No, 1=Yes
#ahh_aun	Presence in household: SC's aunt(s)	0=No, 1=Yes
#ahh_unc	Presence in household: SC's uncle(s)	0=No, 1=Yes
#ahh_cos	Presence in household: SC's cousin(s)	0=No, 1=Yes
#ahh_or	Presence in household: SC's other relative(s)	0=No, 1=Yes
#ahh_nr	Presence in household: non-relative(s)	0=No, 1=Yes

Notes: ^including step, adoptive or foster; *including step/half, adoptive or foster.

P2/Dads Survey

This section describes procedures used in collecting P2/Dads data. To date, P2/Dads information was collected in waves 1, 2, 4 and 5. The table below describes how the respondents for this dataset were selected and the total number of interviews.

Wave	Respondent	Number of interviews
1	P2 – a secondary carer who shared the responsibility of caring for the Study Child with the primary carer (P1). In most cases this was P1's partner (73.5 per cent); in a further 10 per cent of cases, P2 was P1's mother. P2s who lived in the same household as the Study Child were recorded as household member 3 at the time of P1's interview.	257
2	P2 – a secondary carer who shared the responsibility of caring for the Study Child with the primary carer (P1). In most cases this was the P1's partner (84 per cent of cases where this information was available[3]); in a further 8 per cent of cases, P2 was P1's mother.	268
3	Data not collected	

[3] In wave 2, data on P2's relationship to P1 were not collected if P2 and P1 were living in different households.

Wave	Respondent	Number of interviews
4	Dad[4] – the male partner of the primary carer (P1) or another adult who has a father-like relationship with the Study Child. In most cases this was a biological father (92 per cent) but stepfathers were also common (4 per cent). If the primary carer (P1) was the Study Child's father, they were asked to complete the Dads survey, however they could choose to respond to a shortened version of the questionnaire. In these cases, their relationship to P1 is described as 'self' and the skipped questions coded as 'Not asked'.	213
5	Dad – the primary carer's male partner or another adult who has a father-like relationship with the Study Child. In most cases this was a biological father (92 per cent) but stepfathers were also common (4 per cent). In wave 5, there were no cases where Dad was also the Study Child's P1.	180
6	Data not collected	

Derived variables

As the names of respondents are not released to data users, in order to allow researchers to track respondents to the P2/Dads surveys across waves, two derived variables are provided.

#bhhp2mn: P2/Dad's member number in Study Child's household. This variable is derived for all waves in which P2/Dads data has been collected by cross-checking P2/Dad's name, age and relationship to the Study Child[5] with records of people living in the Study Child's household at the time of P1 interview. As the variable refers to the time of P1's interview, it may differ from variable **#bp1p2sh** collected at the time of P2/Dad interview "P2/Dad lives in the same household as P1".

#bresp: Cross-wave participation of P2/Dad [categorical variable]. This variable provides information on whether the person responding to the P2/Dads survey in the current wave participated in all waves and in what capacity:

0 the respondent did not participate in a wave
1 the respondent participated as a P1 (even if they also did a Dads interview)
2 the respondent participated as a P2/Dad.

Example: ebresp of **01022** indicates that the respondent did not participate in wave 1 in any capacity, responded as P1 in wave 2, did not participate in wave 3, and completed Dads interview in waves 4 and 5.

Please note that the third digit of bresp can only be 0 or 1 (if Dad participated in wave 3 as a P1) since there was no P2/Dad survey in wave 3.

[4] From Wave 4, secondary caregiver (P2) interviews were redesigned to focus on fathers (or men performing a father–like role in the study child's life). This change reflects the majority of P2 respondents in Waves 1 and 2 being fathers. This enables the inclusion of a number of questions which focus on the fathering role and relationship with the study child.

[5] From wave 4 onwards.

Direct assessments of child development

Direct measures include the *Who Am I?* developmental assessment and the Renfrew Word Finding Vocabulary Test, which were undertaken by the B cohort in Waves 4 to 6 and the K cohort in Waves 1 to 3. These verbal and non–verbal measures assess processes that underlie the learning of early literacy and numeracy skills. The measures start at a point where the vast majority of children experience some success. Although the measures are designed to progressively get more difficult, they are stopped when the child is unable to complete the more difficult items. Both of these direct assessments can provide information about the extent to which a child is ready for the early years classroom tasks that are associated with subsequent literacy and numeracy development at school.

Direct measures also include child height and weight, collected for both cohorts across all waves.

Who Am I?

Who am I? (de Lemos & Doig 1999) is a developmental assessment that requires the child to write their name, copy shapes, write letters, numbers and words in a small booklet, with simple instructions and encouragement from the interviewer. *Who am I?* is not language dependent and is suitable for children with limited English. The assessment takes about 10 minutes to complete and is suitable for preschool children and children in the first two years of school.

Renfrew Word Finding Vocabulary Test

The Renfrew Word Finding Vocabulary Test (Renfrew 1998) assesses children's expressive vocabulary – compared, for instance, with the Peabody Picture Vocabulary Test (Dunn & Dunn 2007), which is a test of receptive vocabulary. The Renfrew Word Finding Vocabulary Test assesses a child's ability to accurately describe images as portrayed in the 50 pictures contained in the assessment. Children can respond in languages other than English.

The test was chosen for LSIC, in consultation with Dr Nola Purdie of the Australian Council for Educational Research (ACER). It has been normed in the UK and in New Zealand (Renfrew 1998). The Renfrew pictures are simple and clear and often represent things from everyday life such as a cup, a kangaroo and a pineapple. All LSIC children, regardless of age, start with the first picture and are presented with one picture at a time until the child has provided no correct response to six in a row. The next six pictures are then spread out and if the child can name at least one of the next six, they are presented with the next six. No further cards are presented once the child can no longer provide at least one correct answer for the six cards on display.

A child's vocabulary is a good predictor of later reading abilities (Biemiller, 2007) and this ability to communicate one's ideas clearly and to understand the communication of others are vital pre-requisite skills for learning in the classroom.

PAT-R – Progressive Achievement Tests in Reading

The LSIC K cohort was assessed with the Renfrew cards in Waves 1, 2 and 3. By Wave 3, many of the students were being shown all of the Renfrew cards. LSIC Steering Committee members requested a new measure that would develop with the children—that is, have progressively more difficult, age-appropriate items. LSIC sought advice from Dr Nola Purdie and others at the Australian Council for Educational Research (ACER) about measures for assessing LSIC children's educational development. ACER advised that the

Progressive Achievement Tests in Reading (PAT-R) Fourth Edition (ACER, 2008) would indicate how well each child was learning to read English and would be an indicator of a child's general achievement.

ACER developed the PAT-R Fourth Edition tests to measure student achievement in reading comprehension, vocabulary and spelling for use in Australian schools. Members of the LSIC Steering Committee raised concerns that: the tests would be given to children who might feel shamed if they could not answer all the items; the tests were not culturally relevant or fun; and the tests would not be administered at school but afterwards when the children would be tired and not do as well.

Accordingly, the PAT-R Comprehension tests were adapted with permission and in consultation with ACER. The adaptations made to the PAT-R Comprehension tests over Waves 4, 5 and 6 include:

- Reducing the number of stimulus texts and the number of items in the PAT-R Comprehension tests (to varying extent depending on the year/level). This increased the standard error around each measure, but was considered unavoidable given the many other demands on students' time.
- Asking questions in order of difficulty, rather than in the original order.
- Sequencing the students out of the assessment after a prescribed number of incorrect responses.
- Programming the questions onto the interviewers' touch screen computers so the children could answer themselves on screen, which they find more engaging than the pencil and paper versions.

The processes and test levels for PAT Reading tests in Waves 4 to 6 are provided in the table below.

<table>
<tr><th>Wave</th><th>Cohort</th><th colspan="2">PAT-R processes and test levels</th></tr>
<tr><td>4</td><td>K</td><td colspan="2">PAT-R P then PAT-R 1 (if not sequenced out due to too many incorrect answers). One scale score and scale score error is provided in the released data.</td></tr>
<tr><td>5</td><td>K</td><td>8 screener questions (2 sets of 4).
Based on the screener results, either:
• Screened to PAT-R P then PAT-R 1
• Screened to PAT-R 1
• Screened to PAT-R 2</td><td>An indicator variable is released to indicate which PAT-R stream was completed. One scale score and scale score error is provided regardless of PAT-R level completed.</td></tr>
<tr><td>6</td><td>K</td><td colspan="2">An introductory set of PAT-R 3 level questions with sequencing either to continue PAT-R 3 or to transfer to PAT-R 1. One scale score and scale score error is provided in the released data.</td></tr>
</table>

The PAT-R Comprehension questions are not visible in the marked-up questionnaires as they are live items in current tests and they are the copyright of ACER. Further information about the PAT-R tests, including sample questions can be seen at: <http://www.acer.edu.au/pat-reading>. Test scores are not available to data users. ACER has produced scale scores for the LSIC children who undertook the measure, as well as score errors to indicate the degree of reliability of the scale score. Scale scores are not

provided in the LSIC data for children who chose to terminate the test (opt-out) before attempting a prescribed number of questions.

The scale scores are comparable across waves so that it is possible for data users to assess progress over time, as well as compare students within LSIC waves. LSIC PAT-R scores should not be compared with ACER published PAT-R scores or norms, due to differences in the administration of assessments.

PAT Maths – Progressive Achievement Test in Mathematics

PAT Maths (© ACER) is a test of mathematics achievement (for detailed information, including sample questions, please refer to <http://www.acer.edu.au/patmaths>). PAT Maths assesses number, algebra, measurement, geometry, statistics and probability in multiple-choice format. The assessments also address the mathematical processes of understanding, fluency, problem solving and reasoning. The skills assessed by each question are mapped against the Australian National Curriculum for Mathematics (ACER 2014).

LSIC started to administer PAT Maths in wave 6 (for the K cohort). In wave 6 the K cohort were aged 8 and 9 years and most were in grades 3 and 4 at school. With the assistance of ACER, 16 questions were selected covering a range of skills appropriate to these years and programmed so that the easiest questions came first. Children were sequenced out after a prescribed number of incorrect responses. In addition, a (hidden) timer was set up for 16 minutes and, if reached, the test was concluded after the children finished the question they were on.

Similar to the PAT-R measure, PAT Maths questions are not visible in the marked-up questionnaires. Test scores are likewise not available to data users. ACER has produced scale scores (Fourth Edition scale) for the LSIC children who undertook the measure, as well as score errors to indicate the degree of reliability of the scale score. Scale scores are not provided in the LSIC data for children who chose to terminate the test (opt-out) before attempting a prescribed number of questions.

The scale scores will be comparable across waves so that it will be possible for data users to assess progress over time, as well as compare students within LSIC waves. LSIC PAT Maths scores should not be compared with ACER published PAT Maths scores or norms, due to differences in the administration of assessments.

Matrix reasoning

In Waves 4 and 5, children in the K cohort undertook the Matrix Reasoning test (Wechsler 2003) from the Wechsler Intelligence Scale for Children, 4th edition (WISC-IV)[6]. It was chosen for LSIC because it is a non–verbal measure of abstract reasoning ability, so not language dependent and had been used successfully in LSAC (AIFS 2011).

The children are shown an incomplete set of pictures or designs on the touchscreen laptop and then choose the picture that completes the set from five different options. Children are sequenced out if they provide an incorrect answer for four in a row, or four out of five in a row. The instrument has 35 items of increasing complexity. LSIC children all start with three practice questions.

[6] The 'Wechsler Intelligence Scale for Children – Fourth Edition' is copyrighted by Harcourt Assessment, Inc., 2004.

The data file includes only scaled scores. The scale is scored based on the number of correct items and the scores are then standardised based on age norms given in the WISC-IV manual. Scores can range between 1 and 19.

Child height and weight

Child height and weight data have been collected at every wave, however these data were not released prior to Release 3.1 because of concerns about their quality. Difficulties in measuring babies or small children, and interviewer inexperience and/or equipment problems, meant that data quality was worst in Wave 1 but improved in subsequent waves as the children grew older and interviewer training, equipment and experience developed.

Despite the improvement over time, a significant data cleaning effort was required before releasing the height and weight data to users. Birth weight data were of better quality and were released prior to Release 3.1, but still benefited from further data cleaning.

For Releases 3.1, 4 and 5.0, Australian National University postgraduate student Katherine Thurber generously donated her time to improve height and weight data quality through a cleaning process as described below. This procedure has been used by DSS from wave 6 onwards.

- The World Health Organization (WHO) Anthro and WHO Anthro Plus programs (available from <http://www.who.int/childgrowth/software/en> and <http://www.who.int/growthref/tools/en>) were used to translate weight and height measurements to weight–for–age, height–for–age, and Body Mass Index (BMI)–for–age z-scores, based on the WHO Child Growth Standards. These Standards are based on the results of the WHO Multicentre Growth Reference Study, which included 8,440 healthy infants from eight countries (Brazil, Ghana, India, Norway, Oman and the United States) (WHO 2006).

- Children were classified as underweight, healthy weight, overweight, or obese according to WHO and International Obesity Taskforce cut-off points for BMI–for–age z-scores. For all children, a BMI–for–age z-score below -2 represents Grade 2 Thinness (Cole et al. 2007). For children between the ages of 5 and 19 years, a BMI–for–age z-score between -2 and +1 indicates a healthy weight, a z-score between +1 and +2 indicates overweight, and a z-score exceeding +2 indicates obesity (de Onis & Lobstein 2010). The cut-off points for children zero to five years of age are more conservative: a BMI–for–age z-score between -2 and +1 indicates a healthy weight, a z-score between +1 and +2 indicates a risk of overweight, a z-score between +2 and +3 indicates overweight, and a z-score exceeding +3 indicates obesity (de Onis & Lobstein 2010).

- Weights and heights were re-coded to "implausible value" if they fell outside the range of values deemed plausible by the WHO (WHO 2012). Weights and weight-for-age z-scores were recoded to implausible if the weight–for–age z-score or BMI–for–age z-score fell outside ± 5. Heights and height–for–age z-scores were re-coded to implausible if the height–for–age z-score fell outside ± 6 or the BMI–for–age z-score fell outside ± 5. BMI values and BMI–for–age z-scores were re-coded to implausible if the BMI–for–age z-score fell outside ± 5 or either weight–for–age or height–for–age z-scores were outside of their respective plausible ranges. Measurements representing implausible variation within children over time were also excluded. Decreases in height between waves were considered physiologically impossible, and criteria were used to identify the values to re-code to "implausible value." Decreases in weight between waves are physiologically possible, especially in the case of illness or trauma, so a more conservative cleaning process was applied to the weight data. Decreases in weight between waves that were associated with a decrease in weight–for–age z-

score greater than three were eligible for exclusion, based on a predetermined set of criteria. Starting from Release 6, extreme increases and decreases of BMI in consecutive waves (associated with a BMI z-score change equal to or greater than 4) were also flagged for exclusion based on the same set of criteria.

- For birth weight data, a nationally representative reference of Australian birth weights from 1998 to 2007 (Dobbins et al. 2012) was used to calculate z-scores. Birth weights in the *Footprints in Time* sample were compared to the median birth weight of infants of the same gestational age and gender. Birth weights were recoded to "implausible value" if their birth weight for gestational age z-score was greater than +3 or less than -3 after undergoing a data cleaning process. Infants were classified as small–for–gestational age if their birth weight was in the lowest decile of birth weights for infants of the same gender and gestational age, equivalent to a z-score less than -1.28.

- Infants were classified as large–for–gestational age if their birth weight was in the highest decile of birth weights for infants of the same gender and gestational age, equivalent to a z-score greater than +1.28. Infants with a z-score between -1.28 and +1.28 were classified as appropriate-for-gestational age.

Scales

The questionnaires include sets of questions (scales) which have been designed to measure a specific trait or attribute of the respondent or Study Child, such as child temperament, social and emotional development, child strengths and difficulties, parenting style, social and emotional wellbeing of the parent and degree of social support. In some cases, the questions have been asked exactly as designed and used in other studies. In other cases questions have been adapted to the Indigenous context or shortened to meet time constraints. A number of scores or sub-scores have been derived in LSIC using established methods.

Temperament

The Short Temperament Scale for Children is a set of questions developed to measure aspects of a child's personality (Sanson et al. 1987). An abridged form of 13 questions was asked of primary carers of the K cohort LSIC children in Wave 2 and of B cohort children in Wave 5. LSIC uses 12 of the questions. Three facets of temperament are assessed by the questions:

- approach/sociability—how comfortable children are with new people and situations;
- persistence—the ability to remain focussed on an activity or task; and
- reactivity—the intensity/volatility with which a child reacts to certain events. Sub-scales are derived for each aspect of temperament–these are the average of four scores after reverse coding some variables as described in Table 10.

Table 11: Short Temperament Scale for Children sub-scales

Sub-scale	Variable name	Calculation
Sociability	#apa4soc	mean of #apa4_a, #apa4_d, #apa4_g and #apa4_j, with #apa4_a and #apa4_d reverse coded
Persistence	#apa4per	mean of _apa4_b, #apa4_e, #apa4_h and #apa4_l, with #bapa4_l reverse coded

Sub-scale	Variable name	Calculation
Reactivity	#apa4rea	mean of #apa4_c, #apa4_f, #apa4_i and #apa4_k, with #apa4_c reverse coded

A sub-scale is not derived if three or more components are missing.

Brief Infant-Toddler Social and Emotional Assessment (BITSEA)

The BITSEA (Briggs-Gowan et al. 2004) is designed to be used as a screening tool to assess child development and identify possible social, emotional and behavioural problems or delays in children aged 12 to 36 months. The BITSEA gathers information on the parent's perception about a wide range of social, emotional, and behaviour problems and competencies. Parents answered whether each statement was not true (rarely), somewhat true (sometimes) or very true (often) of their child's behaviour over the last month.

The BITSEA questions cover the two domains of social–emotional behaviour—problems and competencies. Social–emotional problems include externalising problems, internalising problems, problems of dysregulation, maladaptive behaviours, and atypical behaviours. The questions regarding competencies are about attention, compliance, mastery motivation, pro-social peer relations, empathy, imitation/play skills, and social relatedness. The BITSEA data can be used by researchers to identify early social and emotional problems in children.

Questions from the BITSEA were asked of parents of the B cohort in Wave 2.

Two sub-score variables have been derived in LSIC as described in Table 11.

Table 12: BITSEA sub-scales

Sub-scale	Variable name	Calculation
Competency	bapatotc	sum of bapa5* where * is 1, 5, 10, 13, 15, 19, 20, 22, 25, 29, and 31
Problem	bapatotp	sum of bapa5* where * is 2, 3, 4, 6, 7, 8, 9, 11, 12, 14, 16, 17, 18, 21, 23, 24, 26, 27, 28, 30, 32, 33 and 34

A sub-scale is not derived if five or more components are missing.

Strengths and Difficulties Questionnaire (SDQ)

The SDQ is a 25 item behavioural screening questionnaire for 3 to 16 year olds (see <http://www.sdqinfo.com>). It can be used by clinicians as an initial assessment of child and adolescent emotional and behavioural difficulties, highlighting areas of difficulty that need further investigation. It is also used to evaluate the effect of specific treatments/programs and in estimating prevalence of behaviours in specific sub-populations.

The SDQ is available in a number of versions with some variation in wording to suit different aged children and for specific counties. The SDQ asks about both positive and negative attributes which can be grouped into five scales. These are: emotional symptoms,

conduct problems, hyperactivity/inattention, peer relationship problems and pro–social behaviour. The first four scales are then added to produce a total difficulties score.

The SDQ was asked of parents of both cohorts in Waves 3 and 6, and the K cohort in Wave 4. The SDQ was also asked of teachers and carers of study children (both cohorts in Waves 3–6 and K cohort in Wave 2).

The sub-scales derived in LSIC are as described in Table 12.

Table 13: Strengths and Difficulties Questionnaire (SDQ) sub-scales

Sub-scale	Variable name	Calculation
Emotional symptoms	#asqemot	mean of non-missing variables #asq* where * is 3, 8, 13, 16 and 24, multiplied by 5
Conduct Problems	#asqcond	mean of non-missing variables #asq* where * is 5, 7, 12, 18 and 22, multiplied by 5
Hyperactivity Score	#asqhype	mean of non-missing variables #asq* where * is 2, 10, 15, 21 and 25, multiplied by 5
Peer Problem	#asqpeer	mean of non-missing variables #asq* where * is 6, 11, 14, 19 and 23, multiplied by 5
Prosocial	#asqpros	mean of non-missing variables #asq* where * is 1, 4, 9, 17 and 20, multiplied by 5
Total Difficulties	#asqdiff	sum of #asqemot, #asqcond, #asqhype and #asqpeer

The sub-scales are not derived for cases if two or more components are missing, while the Total Difficulties score requires complete data across all summed components (i.e. no missing data).

The *Footprints in Time* Key Summary Report for Wave 3 contains analysis of the SDQ by cohort, sex, family type and child's position within the family. It also compares responses to the parent rated SDQ with responses to the Teacher rated SDQ.

Parent Empowerment and Efficacy Measure (PEEM)

The Parent Empowerment and Efficacy Measure (PEEM) (Freiberg, Homel & Branch, in press) was developed during the Pathways to Prevention project: a research-practice partnership between Griffith University, Mission Australia and Education Queensland. The PEEM was used as a core outcome measure in the Pathways to Prevention family support service. Aboriginal and Torres Strait Islander peoples made up approximately 16% of the more than 1000 families who participated in the Pathways to Prevention project.

The PEEM aims to tap carers' sense of personal agency with respect to their parenting role. Parents' responses indicate the degree of confidence with which they approach and manage the challenges of raising children and feel empowered to find and make use of formal services and informal support systems in order to achieve their goals as a parent and help their children's thrive.

In its full form the PEEM consists of 20 items that tap parent empowerment as a general construct, but the measure also provides an indication of efficacy along two distinct dimensions. These two subscales (Efficacy to Parent and Efficacy to Connect) tap

(i) confidence to make parenting decisions and carry out parenting responsibilities, and (ii) confidence to access parenting support and resources when needed, and to participate as part of mutually supportive networks to meet one's own and one's children's needs.

The LSIC Wave 5 data collection included a subset of 14 of the 20 PEEM items. These 14 items included 10 of the 11 items from the Efficacy to Parent subscale and four of the nine items from the Efficacy to Connect subscale. The sub-scales derived in LSIC are as described in Table 13.

Table 14: Parent Empowerment and Efficacy Measure (PEEM) sub-scales

Sub-scale	Variable name	Calculation
Efficacy to parent	eapspar	sum of non-missing variables eaps3_* where * is c, e, g, h, i, j, k, l, m, n
Efficacy to connect	eapscon	sum of non-missing variables eaps3_* where * is a, b, d, f

A sub-scale is not derived if one or more components are missing.

Qualitative data

A range of qualitative data items are collected as part of *Footprints in Time* in the form of free text responses to a number of open–ended questions in the survey. Free text entry responses to open-ended questions are included in the data releases, however, references to places, individuals, employers, clans, family names and languages are suppressed. References to rare circumstances that may have been of sufficient noteworthiness to be known by the wider community are also suppressed. The risk of identification is expected to be low given the confidentialised status of these data, however data users need to be mindful at all times of their responsibility to not risk identification of respondents. For the purposes of keeping data files to a manageable size, free text entries in the data releases are truncated to a maximum character length, with any remaining characters discarded. The full responses can be viewed in Excel worksheets which can be requested from the LSIC Data Team <LSICdata@dss.gov.au>. A list of these free text variables is provided at **Appendix B**.

Data users are permitted to directly quote free text responses on the basis that such usage poses no risk of the respondent being rendered identifiable. Quotes can be accompanied by relevant unit record data such as age or occupation if these details are required for meaningful interpretation but the unit record data used should be the minimum required for the data user's purpose and should manifestly carry no risk of identifying the respondent. For example, it is acceptable to report that 'One mother who has a Bachelor degree commented "I want him to go to university and have a good career"' but it is not acceptable to report that 'One mother, who works as a Professor of Indigenous Studies at a university, commented "I want him to go to university and have a good career".

Other–specify responses

The LSIC questionnaire permits interviewers to enter an "Other–specify" response for many of the questions. This enables interviewers to type in a response to the question when there was no obvious appropriate category. This simplifies survey design by limiting the number of answer categories that are needed. It also means that the survey design team becomes aware of any important answer category that has been missed and are able

to amend the questionnaire if the question was repeated in a later wave to include this new category. For some variables, responses entered in "Other–specify" have been back coded to existing categories where appropriate, but the majority have not.

The "Other–specify" category is of limited use to researchers without the accompanying text file. It was decided to code all "Other–specify" responses to "-1" for ease of use. They can be easily included or excluded from analysis, and do not cause confusion when variables are numeric quantities (e.g. Age, number of weeks, etc.) or Leichardt scales. The only exception to this is for multiple response questions, when a respondent can legitimately select both "Other–specify" as well as another response category. In these cases there is a separate variable indicating whether "Other–specify" was selected.

"Other–specify" text variables are not generally provided with the data. Interested approved LSIC data users may request these variables from the LSIC Data Team <LSICdata@dss.gov.au>.

Missing data coding

The convention for dealing with missing data in LSIC is similar to, but not the same as, either of the conventions used by the LSAC and HILDA survey. Missing data is coded "-2" to "-9", as per the table below.

-1	Other (When explicitly available as an option in the questionnaire)
-2	Don't know (When explicitly available as an option in the questionnaire)
-3	Refused (When explicitly available as an option in the questionnaire)
-4	Refused section (When explicitly available as an option in the questionnaire. Used both for the screener question for a section that can be refused as well as all the variables within that section)
-5	Not asked (Indicates a question that has been skipped due to normal sequencing or a free text or numeric answer category which has been intentionally left blank)
-6	Cohort not asked (Some questions are only asked of B cohort or K cohort)
-7	Implausible value (Indicates where value has been deleted during cleaning – e.g. 800kg person)
-8	Missing data (Data not collected where it might be expected. Used where an answer is not provided, although based on sequencing and programming an answer should have been provided)
-9	Non-responding person (for items from merged datasets – eg. where a respondent has completed a P1 survey but not a SC survey)

Merging datasets

Datasets can be merged across waves or within the wave (e.g. P1 and P2 for Wave 1) by one–to–one matching on the unique identifier (xwaveid). The code to do this will be specific to the analysis package used. Two examples of merging in Stata are provided at **Appendix C**. If researchers experience difficulty merging datasets, they should contact the LSIC Data Team at <LSICdata@dss.gov.au>.

Confidentialisation

A number of variables have been removed from the data as these could easily compromise the identity of the respondent. These include:

- Names of household members
- Date of birth of Parent 1, Parent 2/Dad and Study Child
- Site: Although we release site/community related information in the form of pamphlets and in publications, unit record data about site or state is not released. However, some variables containing geographic information (such as LORI and randomised cluster variable) are included with the dataset
- Respondent ID: This is the identifier that is known to the participants and contains site information, which is different to the anonymous "xwaveid".

The General Release dataset has been further confidentialised in a range of ways:

- Age – the age a person turns in year of interview is top-coded for all persons aged over 65. All P1s aged over 65 were given the average age of this group. All P2s aged over 65 were given the average age of their group. All other people over the age of 65 were given the average age of the non-P1/P2s over 65.
- Language – respondents could choose from 179 Indigenous language names or specify a foreign language or sign language. As some of the Indigenous languages are only spoken in specific geographical areas, the data has been grouped into five language categories.
- All references to places, individuals, employers, clans, family names and languages and rare occupations and circumstances have been suppressed in the free text responses.

Data access

There are strict security and confidentiality protocols surrounding use of the data. Prospective users are required to complete a dataset application and read and sign a deed of licence. These can be found on the LSIC webpage <http://www.dss.gov.au/lsic>.

All enquiries regarding the Study or the data should be sent to <LSICdata@dss.gov.au>. Requests for information regarding applying for the data or licensing arrangements should be sent to <longitudinalsurveys@dss.gov.au>.

The process for accessing LSIC datasets is very similar to the process for access to LSAC and HILDA surveys. However, applicants and licensed users will be asked to openly acknowledge their standpoint in their application and in the reporting of data outputs in reports or publications.

Those who are interested in applying for the *Footprints in Time* (LSIC) data should read ***Fact Sheet 6: Longitudinal Study of Indigenous Children Data Protocols*** (link found at <http://www.dss.gov.au/lsic>) before completing their application.

DATA LINKAGE – THE AUSTRALIAN EARLY DEVELOPMENT CENSUS (AEDC)

The Australian Early Development Census[7] (AEDC) is a nation-wide assessment of development of young children. Between 1 May and 31 July 2009, teachers completed the AEDC checklist for children in their first year of full time school. The AEDC measured five areas of early childhood development: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school-based), and communication skills and general knowledge.

The recent AEDC data collection took place from May to August 2012. Results and further information is available from the website: <http://www.aedc.gov.au>

Two types of data linkage with AEDC scores are available or are being developed for LSIC:

1. Aggregated AEDC data for LSIC children is in the Parent 1 Wave 2 Release 3.1 dataset. This dataset is based on the suburb that the child lived in at their Wave 2 LSIC interview. The aggregated dataset includes the average AEDC scores across the five areas of early childhood development by suburb, the proportion of 'developmentally vulnerable' children in that suburb, as well as some demographic information. This data relates to children (Indigenous and non-Indigenous) living in the suburb in their first year of school whose teachers completed the AEDC checklist. This may or may not include the Study Child.

2. We also sought permission from parents of K cohort children to link specifically to their child's AEDC data. Where parental permission was obtained and an AEDC was completed by a teacher, LSIC will link that child's AEDC data to LSIC data, in a separate data set and will be available for the data users in a later release. Additional requirements for access to such data may be required.

About the AEDC

The following information about the AEDC was provided to FaHCSIA with the aggregated (community level) 2009 AEDC data. For further information visit the AEDC website <http://www.aedc.gov.au/>.

The Australian Early Development Census (AEDC), based on the Canadian Early Development Instrument, is a population measure of young children's development. Like a census, it involves collecting information to help create a snapshot of early childhood development in communities across Australia.

Teachers complete a checklist for children in their first year of full-time school. The checklist measures five key areas, or domains, of child development:

- physical health and wellbeing
- social competence
- emotional maturity
- language and cognitive skills (school-based)
- communication skills and general knowledge.

[7] Formerly known as the Australian Early Development Index (AEDI).

These are important areas of child development and also good predictors of adult health, education and social outcomes.

As a population measure, the AEDC places the focus on all children in the community; it examines early childhood development across the whole community. Moving the focus of effort from the individual child to all children in the community can make a bigger difference in supporting efforts to create optimal early childhood development.

While the AEDC is completed by teachers, results are reported for the communities where children live, not where they go to school. The initial AEDC results allow communities to see how local children are doing relative to, or compared to other children in their community, and across Australia.

National implementation

In 2009, the AEDC was completed nationwide for the first time. Between 1 May and 31 July, information was collected on 261,147 children (97.5 per cent of the estimated national five-year-old population). This involved 15,522 teachers from 7,422 Government, Catholic and Independent schools around Australia.

A follow-up data collection occurred in some small areas in 2010. AEDC results are now available for 96 per cent of Australian communities.

Following the success of the first national implementation of the AEDC, the Australian Government has made a commitment to collect this important data every three years. The AEDC commitment represents a total investment of $51.2 million over five years (or $28 million per collection cycle). The ongoing AEDC funding will ensure that governments and communities continue to have the information they need to make a difference in the lives of young children and their families.

Confidentialisation

'Rule of Three'

For all data except AEDC developmental variables, the lowest number that can be published is four. For example, data showing that there are two Indigenous children in an area should not be published but replaced with ≤3.

If this rule is breached, AEDC data cannot be released without some action to ensure identification is unlikely. In this extract, cells have been replaced with <= 3 and <= nn% where the actual cell value is less than or equal to three. Conversely, where the number of children not included in a cell (i.e. the remainder) is less than or equal to three, the cells have been replaced with >= nn and >= nn%.

Disclosure of information about all members of a group when developmentally vulnerable

Cells replaced with >= 90.0% indicate that confidentialisation took place, due to at least 90% of the children in that domain scoring in the developmentally vulnerable category.

Insufficient number of children for a Domain

Cells replaced with < 15 and N/A indicate that confidentialisation took place, due to less than 15 children being available for domain calculations.

Risks associated with the release of this extract

Overall, the risk assessment for releasing this extract is moderate, due to significant data at a Local Community level being made public for the first time:

- The demographic cells for Aboriginal and Torres Strait Islanders, Special Needs, English as Second Language (ESL), and Language Background Other Than English (LBOTE) have not previously been made public at a Local Community level.
- The sub-domain vulnerable cells have only been made public for the physical health and wellbeing domain. This is the first time the sub-domain vulnerability results have been released for the social competence, emotional maturity and language and cognitive skills (school-based) domains.

The following should be noted:

- The formulae for sub-domain vulnerable and domain vulnerable are distinct. It is possible for a child to be vulnerable on a number of sub-domains, yet not be developmentally vulnerable at the domain level. The actual details of these formulae are confidential by licence with the Canadian Early Development Instrument.

Estimated Resident Population (ERP) Guideline:

- To determine this calculation the numerator is the number of children from the local community surveyed for the AEDC and the denominator is the Australian Bureau of Statistics ERP (Estimated Resident Population 2009) of 5-year-olds.
- Where the AEDC Local Community does not match its ABS estimate, it is recommended to be used with the following considerations:
    - 60-79% ERP – view with caution.
    - < 60% of ERP – this sample may not accurately represent the population of children.
    - [% ERP figures should be viewed as indicative only. The reason that some percentages are over 100 is mostly due to unavoidable boundary differences. Also AEDC was administered to 4 and 6 year olds if they were in their first year of school, but ABS figures are only for 5 year olds.]

Data notes for this extract

- The Average Age is displayed for the Community level, not the Local Community level. This corresponds to data published in the AEDC Community Profiles.
- There are 51 [LSIC Wave 2 respondents] without associated AEDC data. This was due to their Local Community being:
    - Not public (that is, it has failed the public results test of >= 15 children, >= 2 teachers and >= 80% children in domain denominator)
    - Not surveyed (there were no resident children in that location who participated in the AEDC)
    - Unknown (the two records have no match in the AEDC geography).

Rules guiding usage of AEDC data

For the full documentation relevant to the use of AEDC data, please refer to the AEDC website: < http://www.aedc.gov.au/researchers>

In keeping with the AEDC National Implementation Data Protocol the release of tabulated data, through reports, publications, presentations etc must be provided to the AEDC Strategic Policy Committee at least one month prior to its intended release date for approval.

List of AEDC variables

Table 14 lists the AEDC variables that have been merged into wave 2. Full details can be found in the Data Dictionary.

Table 15: Aggregated data at the suburb level for suburbs where LSIC children lived in Wave 2

Variable	Description
badc_d1	AEDC Dems: % of total AEDC children based on ABS ERP
badc_d2	AEDC Dems: Average age (months) calculated at the Community level
badc_d3	AEDC Dems: % children who are boys
badc_d4	AEDC Dems: % children who are girls
badc_d5	AEDC Dems: % children who are Aboriginal or Torres Strait Islanders
badc_d6	AEDC Dems: % children who are Special Needs
badc_d7	AEDC Dems: % children who are English as a Second Language
badc_d8	AEDC Dems: % children who speak a language other than English
badc_d9	AEDC Dems: % children with a language background other than English
badc_d10	AEDC Dems: ABS % people who have completed year 12 or equivalent
badc_d11	AEDC Dems: ABS % persons who lived at a different address one year ago
badc_d12	AEDC Dems: ABS % young people who are single parents < 25 years
badc_d13	AEDC Dems: ABS % the labour force unemployed
badc_pds	AEDC PHYS: Average domain score Physical health & wellbeing
badc_pvul	AEDC PHYS: % children developmentally vulnerable on domain PHYS
badc_pv1	AEDC PHYS_1 Physical readiness for school day: % children vulnerable
badc_pv2	AEDC PHYS_2 Physical dependence: % children vulnerable
badc_pv3	AEDC PHYS_3 Gross and fine motor skills: % children vulnerable
badc_sds	AEDC SOC: Average domain score Social competence
badc_svul	AEDC SOC: % children developmentally vulnerable on domain SOC
badc_sv1	AEDC SOC_1 Overall social competence: % children vulnerable
badc_sv2	AEDC SOC_2 Responsibility and respect: % children vulnerable
badc_sv3	AEDC SOC_3 Approaches to learning: % children vulnerable
badc_sv4	AEDC SOC_4 Readiness to explore new things: % children vulnerable

Table 15: Aggregated data at the suburb level for suburbs where LSIC children lived in Wave 2 (continued)

Variable	Description
badc_eds	AEDC EMOT: Average domain score Emotional maturity
badc_evul	AEDC EMOT: % children developmentally vulnerable on domain EMOT
badc_ev1	AEDC EMOT_1 Pro-social and helping behaviour: % children vulnerable
badc_ev2	AEDC EMOT_2 Anxious and fearful behaviour: % children vulnerable
badc_ev3	AEDC EMOT_3 Aggressive behaviour: % children vulnerable
badc_ev4	AEDC EMOT_4 Hyperactivity and inattention: % children vulnerable
badc_lds	AEDC LANGCOG: Average domain score Language & cognitive skills
badc_lvul	AEDC LANGCOG: % children developmentally vulnerable on domain LANGCOG
badc_lv1	AEDC LANGCOG_1 Basic literacy: % children vulnerable
badc_lv2	AEDC LANGCOG_2 Interest in literacy/numeracy: % children vulnerable
badc_lv3	AEDC LANGCOG_3 Advanced literacy: % children vulnerable
badc_lv4	AEDC LANGCOG_4 Basic numeracy: % children vulnerable
badc_cds	AEDC COMGEN: Average domain score Communication skills & gen. knowledge
badc_cvul	AEDC COMGEN: % children developmentally vulnerable on domain COMGEN
badc_vul1	AEDC: % children developmentally vulnerable on one or more domain/s
badc_vul2	AEDC: % children developmentally vulnerable on two or more domains

GETTING MORE INFORMATION

More information on *Footprints in Time* and its progress can be found on the LSIC website: <http://www.dss.gov.au/lsic>

Further enquiries can be directed to the LSIC Data Team by emailing <LSICdata@dss.gov.au> or by calling toll free 1800 106 235.

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APPENDIX A

Data dictionary

Headings	Description
Survey Respondent	Indicates whether the respondent is Parent 1, Parent 2 or Dad, Study Child, or a Teacher or Carer.
Variable name	Indicates the variable name in the dataset (without the first letter which pertains to wave).
Variable Label	Indicates the variable label as used in the dataset.
Question wording	Gives the question wording used in the questionnaire.
Derived variables	Indicates variables derived from information collected through the survey instruments.
Values	Indicates the answer categories available in the questionnaire together with the numeric value used in the dataset.
Storage type	Indicates whether a variable is numeric or string (text).
Population (see also 'Cohort')	Indicates whether sequencing affects the population of whom each question was asked, e.g. if question is only asked of birth mothers.
Wave & cohort	Indicate which questions were asked of each cohort in each the year.
Section initials	Indicates the two initials which designate which section of the questionnaire the question comes from, also appears in the variable name, e.g. HH or SS.
Questionnaire Section	Indicates the name of the section in which the question appears in the questionnaire, e.g. Household Form or Strong Souls.
Topic	The topic is either the root question for multiple responses, or the scale (for example, Renfrew), or is otherwise identical (or derived from) to the variable name.
Theme	Shows some thematic links between questions in different parts of the questionnaire.
Notes for data users	Provides extra information that might be useful in interpreting the data, e.g. Variations in question wording for different cohorts or information on how some variables were derived.
Position1, Poition2 … etc	Indicates the position within the dataset of the variable in the relevant wave. Variables are broadly ordered as they appear in the questionnaires.

APPENDIX B

Qualitative (free text) questions and variables

Question/ variable label	Variable Name (excluding first letter indicating wave)	Wave					
		1	2	3	4	5	6
Study Child nutrition and health							
Bush tucker eaten	anu4_t	P1					
Bush tucker eaten	anu7_t				P1		
Foods that make SC sick	anu6_t		P1				
Ways P1 encourages SC to eat for fruit and vegetables	anu40_t						P1 (K)
Effect of health condition on family life	ahc4_t			P1	P1		P1
Effect of health condition on SC's life	ahc5_t					P1	
Reasons for hospitalisation of SC – REASON {number}	aho1a1t, aho1a2t, aho1a3t, aho1a4t, aho1a5t	P1	P1	P1	P1	P1	P1
What happens before sleep	acs4_t		P1				
SC bedtime routine	acs1_t				P1		
Study Child development							
Concerns about SC's hands/fingers	ald8_t	P1	P1		P1 (B)	P1 (B)	
Concerns about how SC uses arms or legs	ald9_t	P1	P1		P1 (B)		
Concerns about how SC behaves	ald10_t	P1	P1		P1 (B)	P1 (B)	P1 (B)
Concerns about how SC gets along with others	ald11_t	P1	P1		P1 (B)	P1 (B)	P1 (B)
Concerns about how SC is learning pre-school and school skills	ald12_t	P1 (K)	P1 (K)		P1 (B)	P1 (B)	
Concerns about how SC is learning to do things for himself/herself	ald13_t	P1	P1		P1 (B)		
Concerns about SC's learning or development	ald14_t	P1	P1		P1 (B)	P1 (B)	
SC is receiving treatment for speech difficulty	ald15_t			P1	P1 (B)	P1	P1 (B)

Question/ variable label	Variable Name (excluding first letter indicating wave)	Wave					
		1	2	3	4	5	6
SC is receiving treatment for understanding difficulty	ald16_t			P1	P1 (B)	P1	P1 (B)
Parent health and exercise							
Parent plays sport or exercises	aoc4_t, boc4_t				P1, Dads	Dads	
SC gets involved in parent's sport or exercise	aoc5_t, boc5_t				P1, Dads	Dads	
Social and emotional wellbeing, major life events							
[Parent] is getting help with [depression]	asw13_t, bsw13_t			P1		P1, Dads	
P2 attended men's groups or other sessions about being a dad	bpw3_t				Dads	Dads	
What other major events or stressful situations happened to you, your family or (STUDY CHILD) since this time last year?	ame16_t, bme16_t	P1, P2	P1, P2	P1	P1	P1	P1
What do you do to cope with stress	ame17_t, bme17_t		P1, P2		P1, Dads		
Culture and languages							
Issues about passing Indigenous culture on to SC	apl32_t, bpl32_t			P1	Dads		
How [parent] reacts to racism, discrimination or prejudice	bpl29_t				Dads	Dads	
How [parent] teaches SC how to deal with racism	apl33a_t, bpl33_t				Dads	P1, Dads	
Things P2 does to pass on Indigenous culture to SC	bpl34_t				Dads		
Parent education, work and finances							
[Parent]'s main field of study	ape4_t, bpe4_t	P1, P2	P2	P1	P1, Dads		P1
Partner's main field of study	ape15_t						P1
[Parent] main job	awo3_t, bwo_3t	P1	P1, P2	P1	P1, Dads	P1, Dads	P1
Main reason P2 not in paid work	bwo4_t				Dads	Dads	
[Parent]'s main tasks and duties at work	awo9_t, bwo9_t			P1	P1, Dads	P1, Dads	P1

Question/ variable label	Variable Name (excluding first letter indicating wave)	Wave					
		1	2	3	4	5	6
P1's partner's main job	awo14_t			P1	P1		P1
P1's partner's main tasks and duties at work	awo15_t				P1		P1
How did seeing a financial counsellor help	afi8_t			P1			
Income management has caused changes to community – positive changes	afi111t, bfi111t			P1	P1, Dads	P1, Dads	P1
Income management has caused changes to community – negative changes	afi112t, bfi112t			P1	P1, Dads	P1, Dads	P1
Housing and community							
Home needs major repairs	ahm7_t, bhm7_t	P1, P2	P1				
Reason community is unsafe	ahm13_t, bhm13_t	P1, P2	P1, P2	P1	P1, Dads	P1	
Comments about community	ahm14_t, bhm14_t	P1, P2	P1				
P1 knows where to get help fixing house	ahm17_t		P1				
Parent has transport problems	ahm26_t, bhm26_t				P1, Dads		
Community strengths	asa21_t						P1
Study Child education and child care							
SC attend playgroup or baby group	ace1_t	P1	P1 (B)	P1 (B)	P1 (B)		
Describe racist bullying experienced by SC	ace23_t		P1		P1	P1	P1
Describe bullying experienced by SC	ace51_t			P1		P1	P1
What was school like for Aboriginal people	ace66_t						P1
Is it different for SC now?	ace67_t						P1
Study Child activities							
Things [parent] enjoys doing with SC	aac8_t, bac8_t	P1, P2	P1, P2				
Things SC enjoys doing with [parent]	aac9_t, bac9_t	P1, P2	P1, P2				
Apart from health and happiness what do you want for your Study Child?	aac10_t, bac10_t	P1, P2			P1, Dads		

Appendix B: Qualitative (free text) questions and variables

Question/ variable label	Variable Name (excluding first letter indicating wave)	Wave					
		1	2	3	4	5	6
What about Indigenous culture will help SC grow up strong	aac11_t, bac11_t	P1, P2					
Anything else [parent] wants to tell	aac12_t, bac12_t	P1, P2	P1, P2	P1	P1, Dads		P1
What would be a good education for SC	aac18_t, bac18_t		P1, P2				
What [parent] hopes that SC will do or learn next year	aac19_t, bac19_t		P1, P2	P1		P1	P1
SC has done organised sport or dancing in the last month	aac22_t			P1			P1
Things SC enjoys doing	aac24_t, bac24_t			P1	P1, Dads		P1
Best thing about being SC's [parent]	aac26_t					P1	
Are there family rules about television?	aac29_t				P1		P1
Father and child activities	bac40_t				Dads		
Why P1 stays in LSIC	aac70_t						P1
Something that's happened for the SC since last year	brt1_t		P2				
Dad's involvement with Study Child							
Best thing about being Dad	bdi1_t				Dads		
P2 kept in touch with SC – Other method	bdi7_6_t				Dads	Dads	
SC settles at start of visit with P2	bdi11_t				Dads		
SC's behaviour at start of visit with P2	bdi11a_t					Dads	
What helps SC settle when with P2	bdi13_t				Dads	Dads	
P2 supports SC with money or other kinds of support	bfi12_t (ebfi12_3t in W5)				Dads	Dads	

Appendix B: Qualitative (free text) questions and variables

Question/ variable label	Variable Name (excluding first letter indicating wave)	Wave					
		1	2	3	4	5	6
Study Child direct responses							
Renfrew vocabulary – Alternative words provided in English	crf1_1t-crf1_50t	SC (K)	SC (K)	SC (K)	SC (B)	SC (B)	SC (B)
Who am I – Year level at school	cwi3	SC (K)	SC (K)				
SC has a favourite animal	cfv3_t					SC (B)	
Things SC likes to do at preschool/school	cfv5_t		SC (K)			SC (B)	
SC's favourite thing to do at preschool/school	csc13_t			SC (K)	SC (K)		SC
What SC wants to be when grown up	csc14_t			SC (K)	SC (K)	SC (K)	SC (B)
SC's favourite thing to do not at school	csc16_t					SC (K)	
Reason why PAT-R (reading game) was not completed	cpr2_t				SC (K)	SC (K)	SC (K)
Reason why PAT-Maths was not completed	cpmc1_t						SC (K)
Teacher or Carer responses							
What is working well for SC	dww1_t					TC	
What is working well for Indigenous children	dww2_t					TC	
Working well for Indigenous children learning and development	dww3_4						TC
Not working well for Indigenous children learning and development	dww4_t						TC
Other activities school is doing to strengthen Indigenous education focus	dsv9_t			TC	TC	TC	TC
Describe Indigenous training	dbg15_t	TC	TC	TC	TC	TC	
Strategies to help children catch up	dpc27_t				TC	TC	TC
Strategies to promote attendance	dpc28_t				TC	TC	

Question/ variable label	Variable Name (excluding first letter indicating wave)	Wave					
		1	2	3	4	5	6
Teacher or Carer responses (continued)							
Other practices to involve parents	dpc26_8t				TC	TC	
How help parents support children	dpc30_t						TC
Regular attendance of SC – comment	dcc8a_t						TC
Reason SC is most frequently absent (other)	dcc9_9t						TC
Number of parent-teacher meetings attended by SC	dcc14_t						TC
SC receives specialised services in school due to disability – comment	dcc15_t						TC
SC has an Individual Education Plan – comment	dcc17_t						TC
What SC does particularly well	dcc35_t			TC	TC	TC	
Benefits of having SC in classroom	dcc36_t			TC	TC	TC	
Activities SC enjoys	dcc37_t	TC	TC	TC	TC	TC	
Comments about SC or Aboriginal and Torres Strait Islander Indigenous children	dcc38_t	TC	TC	TC	TC	TC	
Anything else TC wants to tell	dcc39_t				TC	TC	TC

Note: P1 – primary carer; P2 – secondary carer; SC – Study Child; TC – teacher or carer.

APPENDIX C

Examples of merging in Stata

```
*Stata example of merging P1 wave 1 and P1 wave 2 data

version 11  /*merge syntax is slightly different for earlier versions of
stata*/

use "[Substitute folder name here]\lsicp1w1_60c.dta", clear

merge 1:1  xwaveid using ///

     "[Substitute folder name here]\lsicp1w2_60c.dta.dta"



*Stata example of merging P1 wave 2 and P2 wave 2 data

version 11  /*merge syntax is slightly different for earlier versions of
stata*/

use "[Substitute folder name here]\lsicp1w2_60c.dta", clear

merge 1:1  xwaveid using ///

     "[Substitute folder name here]\lsicp2w2_60c.dta.dta
```