Pathways of care Longitudinal study: Outcomes of Children and Young People in Out-of-Home Care

Data User Training Resource

By NSW Department of Communities and Justice

October, 2019

Contents

POCLS website: https://www.facs.nsw.gov.au/resources/research/pathways-of-care

Introduction

Aims of Training

Aims of the Study

Aims of data user training

The aim of the data user training is to assist researchers to learn about the POCLS data.

This resource will also direct you to other important documents such as the questionnaires, data dictionaries, data books, measures manual and technical reports.

Training resource for the users of the POCLS data sets

Aims of the Study

Examines the impact of child protection history, parental risk factors, system response, type of court order, placement and carer characteristics on outcomes over time

The aim of the Pathways of Care Longitudinal Study is to provide significant new knowledge that will inform policy to improve the outcomes of children and young people in OOHC.

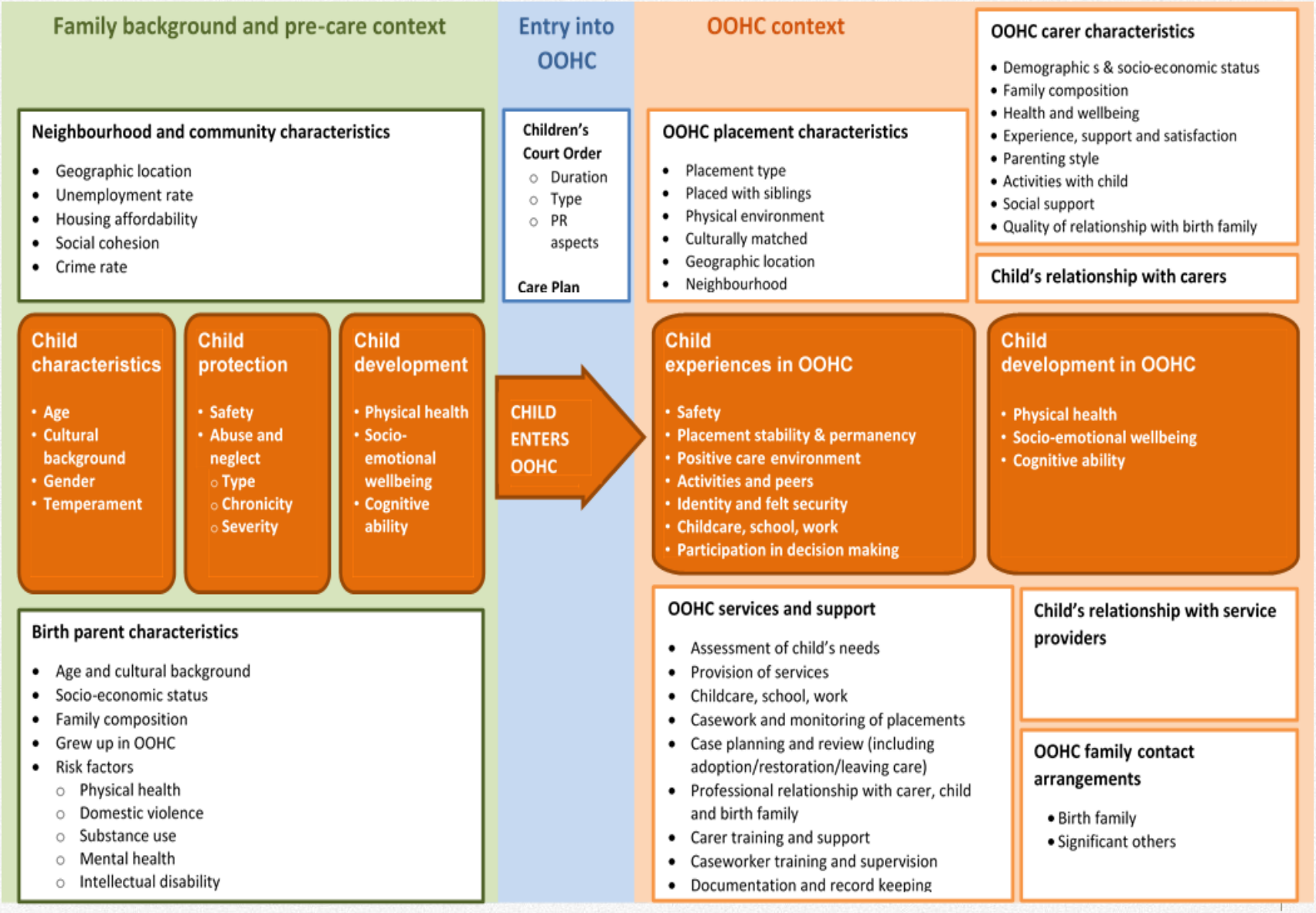
The *Pathways of Care Longitudinal Study* (POCLS), is a large-scale prospective study that follows children and young people aged 0–17 years entering out-of-home care (OOHC), under the NSW *Children and Young Persons (Care and Protection) Act 1998,* for the first time.

POCLS is designed to examine how child protection history, parental risk factors, system response, type of court order, placement and carer characteristics interact with each other to influence child and young person (hereafter child) outcomes over time.

POCLS objectives are to:

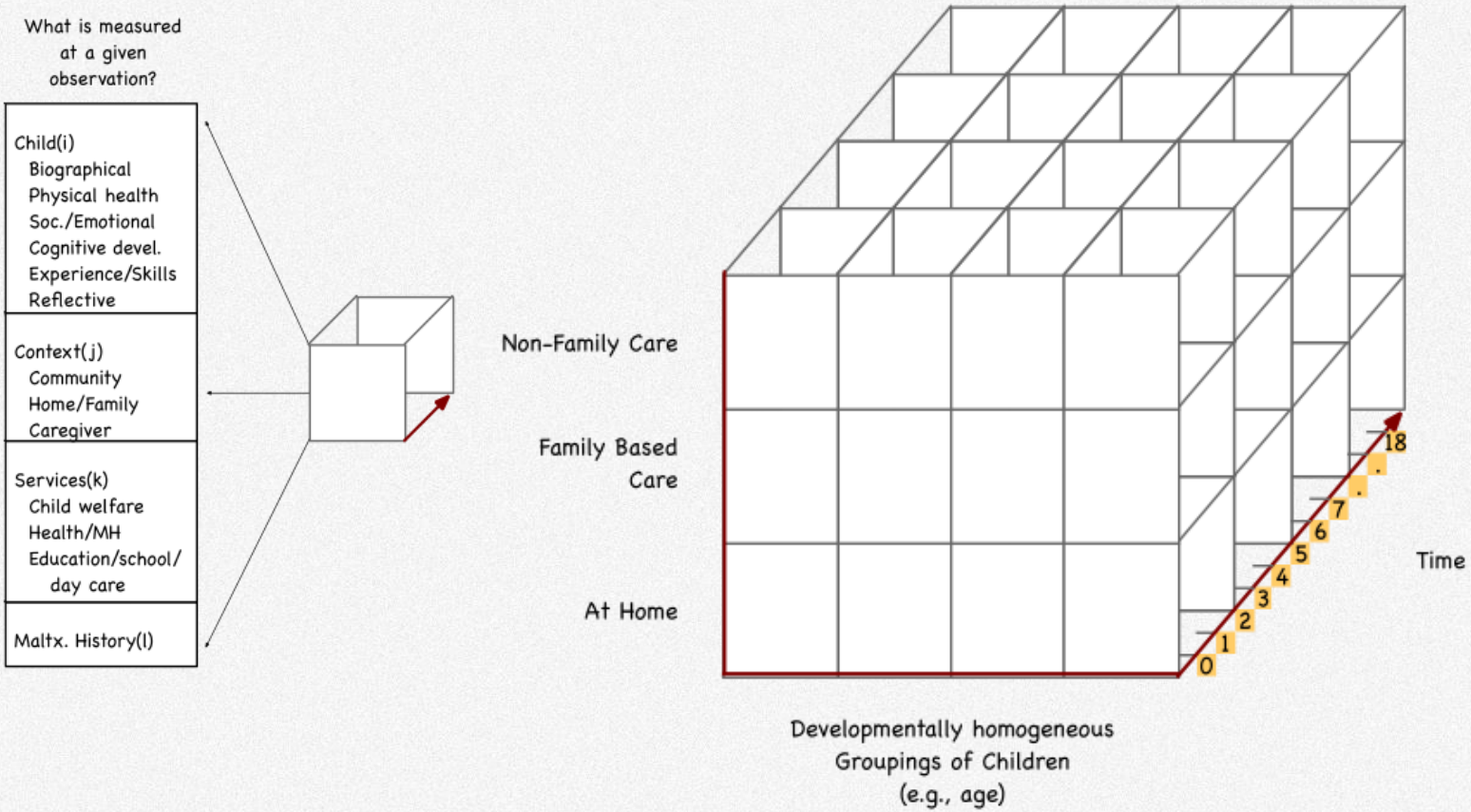
- describe the characteristics, child protection history, development & wellbeing of children at the time they first enter OOHC
- describe the services, interventions & pathways for children in OOHC, post restoration, post adoption & on leaving care at 18 years
- describe children's experiences while growing up in OOHC, post restoration, post adoption and on leaving care at 18 years
- understand the factors that influence the outcomes for children who grow up in OOHC, are restored home, are adopted or leave care at 18 years
- inform policy & practice to strengthen the OOHC service system in NSW to improve outcomes for children in OOHC (including permanency, safety, and wellbeing (including their physical health, socio-emotional wellbeing and cognitive/learning ability)

Factors influencing outcomes of children in OOHC - conceptual overview



Source: Literature review: factors influencing the outcomes of children and young people in OOHC, Walsh et al. (2018).

All these can be explored within a longitudinal analytic framework, with data being organised in a person-place-time structure



See technical report number 13 - Human Capital Formation During Childhood: Foundations of the Pathways of Care Longitudinal Study

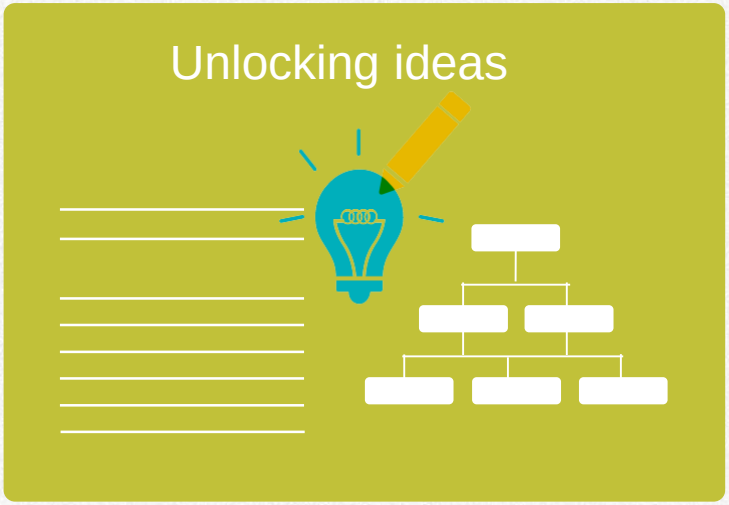
Accessing POCLS data and user resources

Access to POCLS data

Approval and access process

SURE

Access to POCLS data



Scientifically sound, ethically acceptable and feasible research proposals

Access to POCLS data is contingent on:

- a feasible research question answerable with the available data
- a scientifically sound and feasible research proposal
- ethics approval for the proposal and data custodian approval for access to linked data, if required

There are two ways to use the POCLS data:

1) Access the survey data and DCJ child protection and out-of-home care data only

2) Access all data including linkage data (i.e., health, education and offending etc.)

There are **additional conditions and requirements** for accessing linkage data

Access process

Step 1: EOI

Researcher submits a Expression of Interest (EOI) form.

POCLS Chief Investigator assesses feasibility and provides estimates of likelihood of approval. The researcher then seeks funding for the project.

Step 2: Application

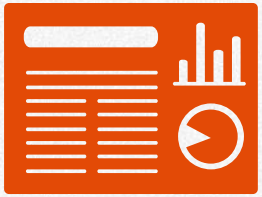
If scientifically sound, feasible and consistent with participants' consent, the Chief Investigator approves the application.

Step 3: Access

The researcher gains any necessary approvals and the researcher is given access to the data in SURE.

Step 4: Amendments

In the event of any changes to the approved project protocol, the researcher submits a Research Project Amendment form. Written approval for amendments must be obtained before they are implemented in practice.



Step 5: Reporting

A Project Progress and Final Report for all research projects is required. The information provided will be used to inform POCLS partners, Study participants and to update the website and other information sources.

For more information please see Data Access, Analysis and Publication Guidelines

Accessing record linkage data

Using record linkage data

There are specific conditions attached to the use of the record linkage datasets.

A data use guide on accessing these administrative datasets is available in the Technical Report *'Guidelines for using record linkage data'* .

Process for requesting access to linkage data*

For NAPLAN data

1. Researchers complete Statement Form and Letter in Section 3.2 by specifying the variables requested and research questions.
2. Researchers scan and send signed template letter and signed form to DCJ.
3. DCJ to sign off that questions and variables comply with ethics, and send the signed documents to the NSW Department of Education (DoE) for approval.
4. DoE returns the signed statement form to DCJ who will forward a copy to the named researcher..
5. DCJ to release data to researcher's SURE workspace.

For other linkage data (BOCSAR, AEDC, Health etc.)

1. Complete Self-declaration From in Section 3.1 by specifying linkage datasets requested and research questions.
2. Scan and send signed form to DCJ who will forward a copy to the relevant data custodian for reference.
3. *DCJ* to release relevant data to researcher's SURE workspace.

* Extract from the guidelines. For more information please see Guidelines for using record linkage data

Secure Unified Research Environment (SURE)

Secure Unified Research Environment (SURE)

It is necessary to manage risks to confidentiality and privacy inherent in release of unit record data, whilst supporting ready access to data collaboration amongst researchers.

Flexible data access and distribution control is therefore required.

To this end, data files will only be accessible to researchers through the Secure Unified Research Environment (SURE).

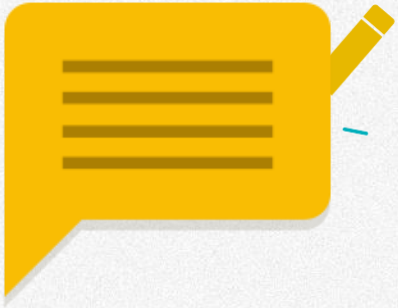
SURE is a high-powered computing environment where researchers remotely and securely access a data research laboratory to analyse project data.

A **project-data-curator controls import and export of files** to the project workspace.

A process map for access to POCLS data through SURE environment is available at the POCLS website.

Further details about SURE, including access costs are available at https://www.saxinstitute.org.au/our-work/sure/

POCLS SURE business rules for uploading and downloading files



- All users agree to only access documents that belong to their team
- Each team puts their folder name in as part of a file name for inbound and outbound files, such as "*USYD results part 1.docx*" etc.
- File Encryption: you can use 7zip to encrypt and password protect files (when required) for UPLOADING inbound or outbound files
- A random password can be created for you to use. Alternatively, you can create your own password. If you prefer to use your own password, please email the Data Custodian (Albert.Zhou@facs.nsw.gov.au) a copy of your password. This is necessary as we need the password to view and approve your files in the curated gateway.

- DCJ curates all the files that go into and out of SURE.

For more information, please see the POCLS SURE Business Rules document

User resources

Data User Guide
A detailed Data User Guide is available on the POCLS website.

Questionnaires & Data Dictionaries
Close review of the questionnaire items, skip and loop patterns and response options and codes is essential during analysis of the POCLS data. POCLS Questionnaires and Data Dictionaries are available on the POCLS website.

Data Books (only available in SURE)
Simple frequency tables for POCLS data items are useful when planning and checking analyses.

Data Books presenting frequency tables for all coded POCLS survey variables are available on the POCLS website.

Measures Manual
An overview of the standardized assessment tools and measures applied in the POCLS surveys are available on the POCLS website.

Guidelines for using record linkage data
An overview of the standardized assessment tools and measures applied in the POCLS surveys are available on the POCLS website.

Guidelines for survey, analysis and publication
Looping and conditional branching

POCLS technical reports (see next slide)

POCLS website
These documents and a whole range of other information can be found at
www.community.nsw.gov.au/pathways

The POCLS team

User resources

POCLS technical reports

(Available on the POCLS website)

- Wulczyn, F. & Huhr, S. (2018). Human Capital Formation During Childhood: Foundations of the Pathways of Care Longitudinal Study. Pathways of Care Longitudinal Study: Outcomes of Children and Young People in Out-of-Home Care. Technical Report Number 13. Sydney. NSW Department of Family and Community Services.
- Steel, D. & Navin-Cristina, T. (2018). Weighting for the Pathways of Care Longitudinal Study. Pathways of Care Longitudinal Study: Outcomes of Children and Young People in Out-of-Home Care. Technical Report Number 7. Sydney. NSW Department of Family and Community Services.
- Steel, D. & Navin-Cristina, T. (2018). Initial Wave Weighting for the Pathways of Care Longitudinal Study. Pathways of Care Longitudinal Study: Outcomes of Children and Young People in Out-of-Home Care. Technical Report Number 6. Sydney. NSW Department of Family and Community Services.
- Wulczyn, F., Collins, L., Chen, L. and Huhr, S. (2017). Statistical Power, Selection Bias, and Non-response Correction in the Pathways of Care Longitudinal Study. Pathways of Care Longitudinal Study: Outcomes of Children and Young People in Out-of-Home Care. Technical Report Number 5. Sydney. NSW Department of Family and Community Services.
- Australian Institute of Family Studies. (2017). Wave 1 data response patterns: length of time in out-of-home care and non-participation in questions. Pathways of Care Longitudinal Study: Outcomes of Children and Young People in Out-of-Home Care. Technical Report Number 4. Sydney. NSW Department of Family and Community Services.
- Australian Institute of Family Studies. (2017). Do Wave 1 participants differ from study-eligible non-participants? Results of non-response analyses. Pathways of Care Longitudinal Study: Outcomes of Children and Young People in Out-of-Home Care. Technical Report Number 3. Sydney. NSW Department of Family and Community Services.

The POCLS team

Current members in the POCLS team

- Merran Butler (Chief Investigator) Merran.Butler@facs.nsw.gov.au
- Marina Paxman (Project Manager)* Marina.Paxman@facs.nsw.gov.au
- Albert Zhou (Data Manager)# Albert.Zhou@facs.nsw.gov.au
- Sharon Burke (Senior Analyst) Sharon.Burke@facs.nsw.gov.au
- Courtney Breen (Senior Researcher) Courtney.Breen@facs.nsw.gov.au
- Robert Wells (Senior Researcher) Robert.Wells@facs.nsw.gov.au
- Nafisa Asif (Senior Researcher) Nafisa.Asif@facs.nsw.gov.au
- Henry Durant (Research Officer) Henry.Durant@facs.nsw.gov.au
- Toula Kypreos (Project Officer) Panagiota.Kypreos2@facs.nsw.gov.au

* Main contact for anything related to research agreement/contract, amendment to research agreement/research proposal and POCLS questionnaires etc.

Main contact for any data and analysis related issues.

POCLS design and samples

Governance and Ethics

Study timeline

Study cohorts

Governance and Ethics

DCJ leading the study

Expert team from AIFS, Chapin Hall, USYD, UA, UNSW, Sax Institute

Ethics approval from UNSW, AH&MRC, SERAP, and NSW PHSREC

NSW DCJ is funding and leading the study, with a team of experts contracted to provide advice on the study design and data analysis.

The expert team includes representatives from the Australian Institute of Family Studies (AIFS), Sax Institute, Chapin Hall Center for Children (University of Chicago), and Professor Judy Cashmore (University of Sydney), Professor Paul Delfabbro (University of Adelaide) and Professor Ilan Katz (University of NSW).

The fieldwork is being undertaken by I-view, an independent social research data collection agency.

University of New South Wales Human Research Ethics Committee (UNSW HREC) granted approval for POCLS (Approval Number HC10335 & HC16542).

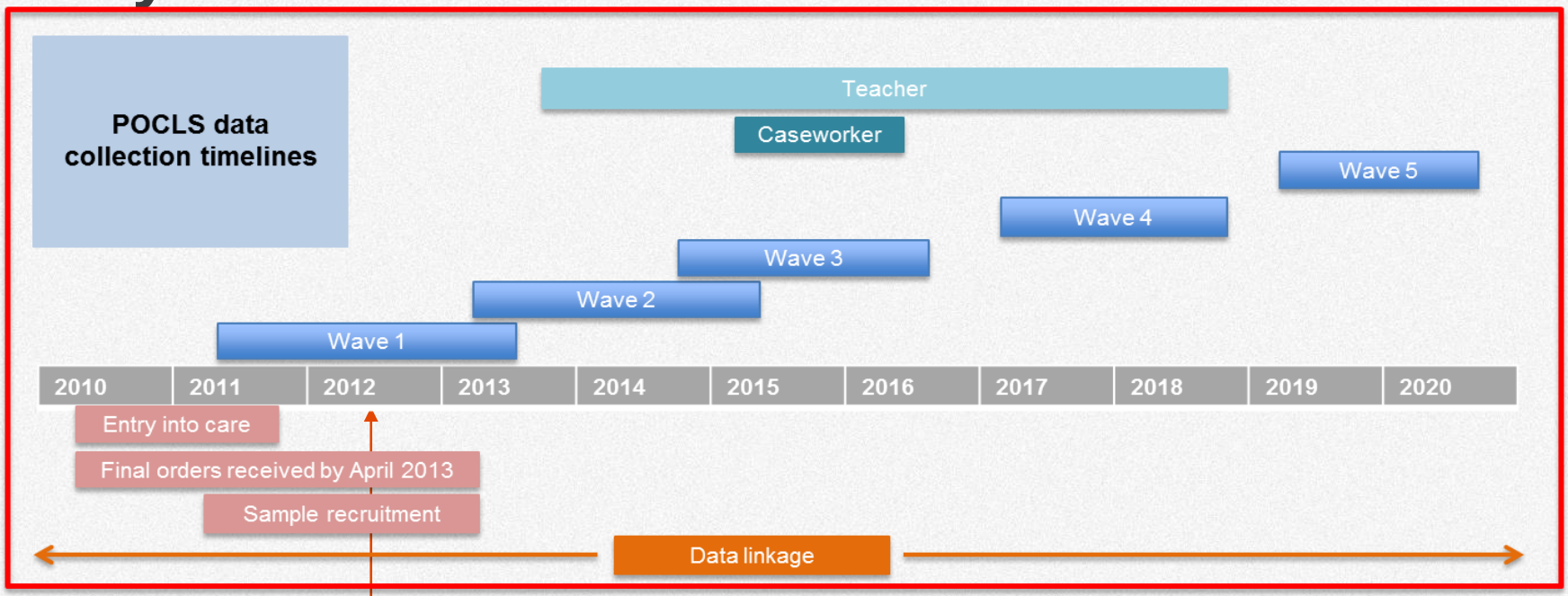
The Aboriginal Health and Medical Research Council (AH&MRC) of NSW Ethics Committee granted approval for POCLS (Approval Number 766/10).

NSW Department of Education and Communities State Education Research Approval Process (SERAP) granted approval for POCLS (Approval Number 2012260) and the Catholic Education Office (CEO) Sydney (and relevant Diocese) granted approval for the childcare worker and teacher survey.

Approval for record linkage was granted by the NSW Population and Health Service Research Ethics Committee (Approval Number Ref: HREC/14/CIPHS/74 Cancer Institute NSW: 2014/12/570). Record linkage was performed by the NSW Centre for Health Record Linkage (CHeReL).

Approval for record linkage to Australian Government-held datasets will be provided by the Australian Institute of Health and Welfare (AIHW) Ethics Committee and record linkage performed by the AIHW Data Linkage Unit (an Accredited Integrating Authority).

Study Timeline



Entry ≠ W1

Measures on outcomes from survey were not available at this point.

Repeated measurements (from interview) from wave 1 onward.

Data is currently available on 4 waves of interviews and captures information about OOHC which is not available through the administrative data.

Capture data on experiences and development of children in OOHC

Entry to study was from May 2010 to October 2011

Wave 1 data collection was from June 2011 to August 2013

Wave 2 data collection was from April 2013 to March 2015

Wave 3 data collection was from October 2014 to July 2016

Wave 4 data collection began in May 2017 to November 2018

Key reforms over the life of POCLS

Reforms as a result of inquiries and reviews

Year	Review	Outcome
2008	Wood Special Commission of Inquiry into Child Protection	Keep Them Safe (KTS) in 2009
2012	Child Protection Legislative Reforms	Safe Home For Life (SHFL) in 2014
2016	Independent Review of Out of Home Care	Their Futures Matter & Permanency Support Program (PSP) in 2017

For more information, see the technical report "Out-of-home care policy landscape in NSW: 2009-2018 (W1-4)"

Study cohorts

POCLS population cohort: all children aged 0-17 years entering OOHC for the first time between May 2010 – October 2011
(n=4,126)

No comparison group on children who have never entered OOHC

No final care and protection orders by April 2013
(n=1,298)

Final care and protection orders by April 2013
(n=2,828)

Record linkage data provides service use, broad outcome data (e.g., education, offending) and pre-care context (ROSH reports, OOHC placements)

Final orders interview sample pool
(n=1,789)

Two components within:
1. In-OOHC at W1 (n=2305)
2. Restored at the time of W1 recruitment (n=521) and not included at W1. Of these, n=96 participated at W2; n=60 at W3…

Child & caregiver face-to-face interviews (repeated every 18-24 months)
W1: 1285
W2: 1200
W3: 1033
W4: 962

Face-to-face interview provides rich data on developmental outcomes (via standardised measures), experiences in OOHC etc

Study cohorts

The sample was drawn from the DCJ (formerly FACS) Key Information Directory System (KiDS) and included all children entering care for the first time between May 2010 & October 2011 (n=4,126). Prior to recruitment of children and young people to the study the KiDS data was verified by regional staff to ensure the demographics data and care data was up to date.

Caregivers of children who went on to receive final orders by April 2013 (n=2,828) were recruited to participate in face-to-face interviews. Those that did not receive final orders by April 2013 (n=1,298) were not invited to participate in face-to-face interviews.

.

Final versus non-final orders:
The due date for receiving a final order (30/04/2013) doesn't bear any significance in terms of how a child was developing at that point in time.

Those who were not on final orders by April 2013 might have received a final order later, returned to their birth parents, adopted or received a guardianship order. Similarly, those on final orders might have returned to their birth parents, adopted or exited OOHC to guardianship.

1,789 carers and children agreed to participate in face-to-face interviews with 1,285 providing data in Wave 1, 1,200 providing data into Wave 2 and 1,033 providing data in Wave 3. Wave 4 962. Wave 5 is currently underway.

Participation in the POCLS interviews

Wave	n
Wave 1	1,285
Wave 2	1,200
Wave 3	1,033
Wave 4	962
All Waves	734
At least one wave	1,507

Main reasons for not participating in interview

- *Hard refusal (no longer wanted to be interviewed)*
- *Unable to contact*
- *Unable to find a convenient time for interview*
- *Child changed placement and carer before interview could be scheduled.*

Cohort Characteristics

	Population cohort		Final orders cohort		Wave 1 Interview		Wave 2 Interview		Wave 3 Interview		Wave 4 Interview	
	n	%	n	%	n	%	n	%	n	%	n	%
Age at first entry												
0-2 years	1,649	40.0	1,377	48.7	707	55.4	664	55.7	599	56.4	592	61.5
3-5 years	752	18.2	533	18.8	236	18.5	219	18.4	193	18.5	199	20.7
6-11 years	1,031	25.0	680	24.0	259	20.3	254	21.3	206	20.6	171	17.8
12-17 years	693	16.8	238	8.4	75	5.9	56	4.7	28	4.6	0	0.0
Sex												
Male	2,059	49.9	1,452	51.3	638	49.7	603	50.3	528	51.1	483	50.2
Female	2,066	50.1	1,376	48.7	647	50.4	597	49.8	505	48.9	479	49.8
Cultural background												
Aboriginal	1,323	32.1	927	32.8	438	34.1	420	35.0	357	34.6	331	34.4
CALD	429	10.4	298	10.5	131	10.2	110	6.2	100	9.7	96	10.0
Other Australian	2,373	57.5	1,603	56.7	659	51.3	610	50.8	514	49.8	484	50.3
Both CALD and Aboriginal					57	4.4	60	5.0	62	6.0	51	5.3
Placement type												
Foster care	2,372	57.5	1,816	64.2	661	51.4	555	51.5	483	60.8	415	58.4
Kinship/relative care	1,186	28.8	719	25.4	598	46.5	501	46.5	292	36.7	277	39.0
Residential care	38	0.9	22	0.8	26	2.0	21	1.9	20	2.5	19	2.7
Other	529	12.8	270	9.5	0	0.0	0	0.0	0	0.0	0	0.0
District												
Hunter new england	750	18.2	507	17.9	281	22.0	240	22.3	203	22.4	-	-
South western sydney	515	12.5	379	13.4	140	11.0	116	10.8	105	11.6	-	-
Western nsw	395	9.6	256	9.1	134	10.5	115	10.7	82	9.1	-	-
Western sydney	355	8.6	266	9.4	74	5.8	52	4.8	39	4.3	-	-
Nepean blue mountains	300	7.3	226	8.0	124	9.7	113	10.5	92	10.2	-	-
Illawarra shoalhaven	242	5.9	171	6.0	77	6.0	72	6.7	62	6.9	-	-
Murrumbidgee	240	5.8	155	5.5	79	6.2	65	6.1	58	6.4	-	-
Central coast	223	5.4	180	6.4	74	5.8	63	5.9	59	6.5	-	-
Northern nsw	223	5.4	121	4.3	73	5.7	45	4.2	38	4.2	-	-
South eastern sydney	218	5.3	144	5.1	58	4.5	58	5.4	53	5.9	-	-
Sydney	203	4.9	151	5.3	32	2.5	22	2.1	15	1.7	-	-
Mid north coast	197	4.8	125	4.4	68	5.3	57	5.3	49	5.4	-	-
Southern nsw	112	2.7	66	2.3	38	3.0	36	3.4	33	3.7	-	-
Northern sydney	81	2.0	47	1.7	17	1.3	14	1.3	10	1.1	-	-
Far west	45	1.1	np	np	np	np	np	np	np	np	-	-
Statewide services	16	0.4	np	np	np	np	np	np	np	np	-	-
Total	4,126	100.0	2,828	100.0	1,285	100.0	1,200	100.0	1,033	100.0	962	100.0

Other in the Placement type includes supported accommodation, parents etc.

Data sources and survey contents

Survey versus administrative data

Internal versus external

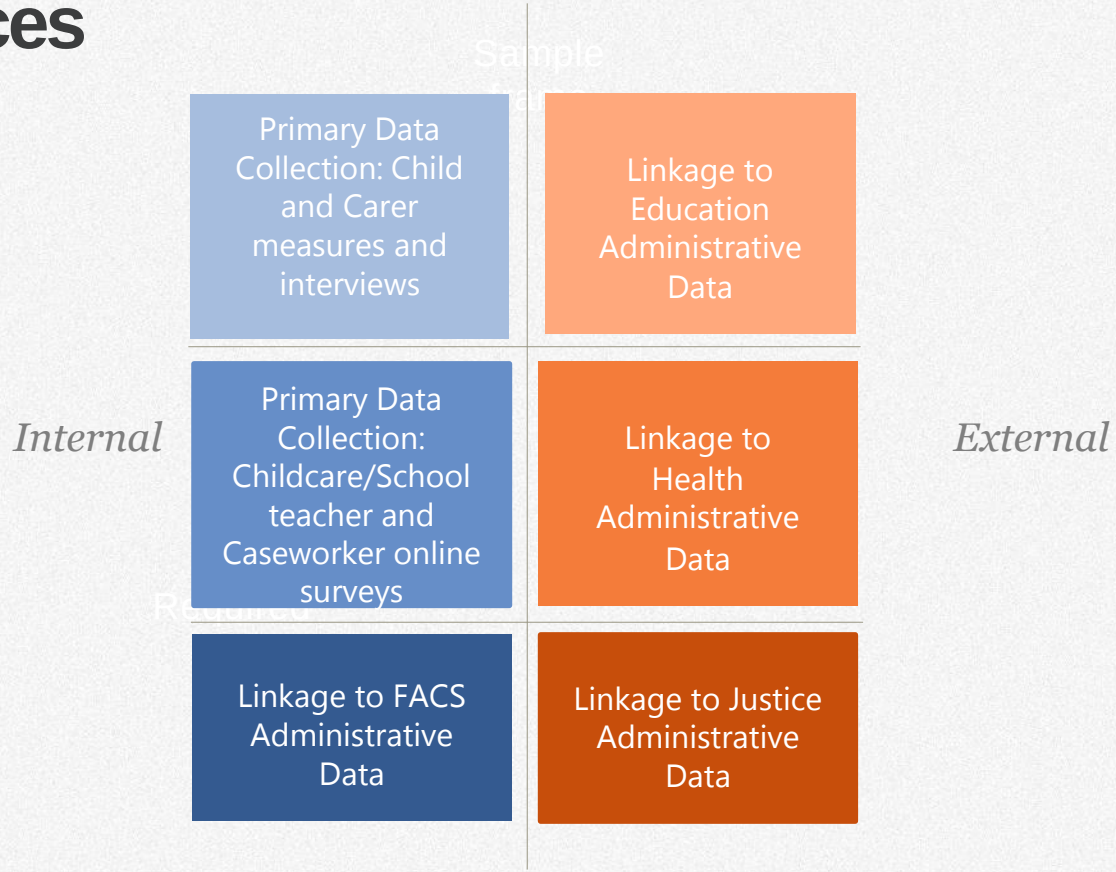
Child and Carer measures and interviews

Carer interview modules

Child interview modules

Childcare/School teacher and Caseworker online surveys

Data Sources

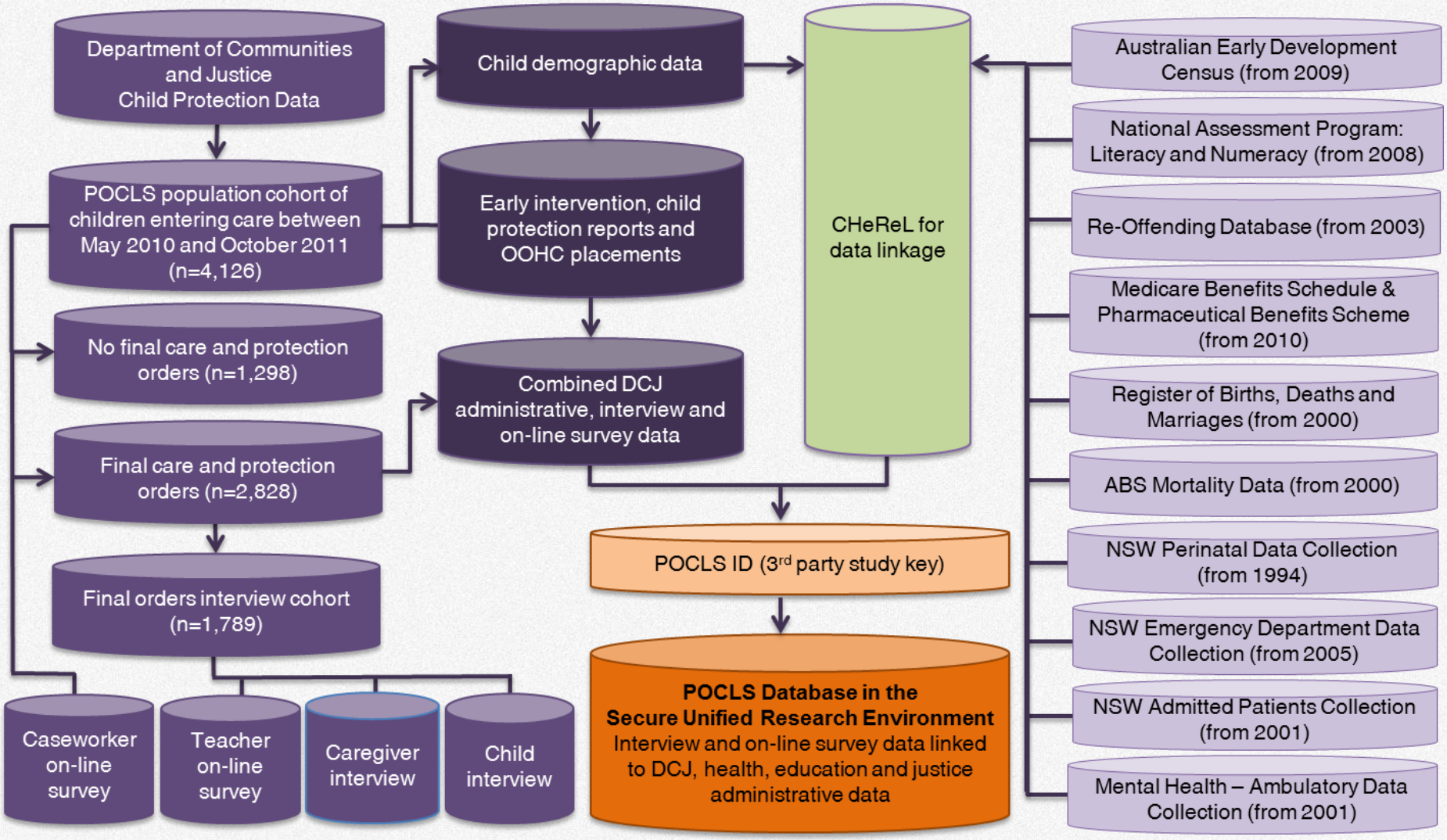


The POCLS has a multi-informant data approach and includes:

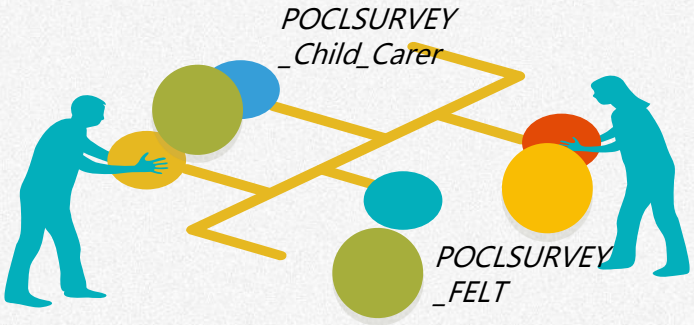
- Primary Data Collection from children and caregivers
- Primary Data Collection from Childcare/School teachers and Caseworkers.
- Record linkage to retrospective FACS Administrative data

- Record linkage to Education Administrative Data
- Record linkage to Health Administration Data
- Record linkage to Justice Administrative Data

POCLS Data Linkage Diagram



Child and Carer measures and interviews



Carer Measures and Interviews

By now, 4 waves of interviews, 18-24 months apart to capture information about OOHC (not available through the administrative data) have been conducted.

To ensure that the measures of infant development were reliable, carer face-to-face interviews were not conducted until the child was aged 9 months old.

Caregivers gave consent for the childcare and school teacher surveys.

Most open ended responses have been coded. The data file also contains all verbatim as collected.

Child Measures and Interviews

Children under 3 years did not participate directly in the data collection.

An interviewer-administered measure of language comprehension was undertaken with children aged 3 years and older.

An interviewer-administered measure of non-verbal reasoning skills was undertaken with children aged 6 to 16 years old .

A short questionnaire was completed by children aged 7–17 years.

Most open ended responses have been coded. The data file also contains all verbatim as collected.

Child FELT Security Activity

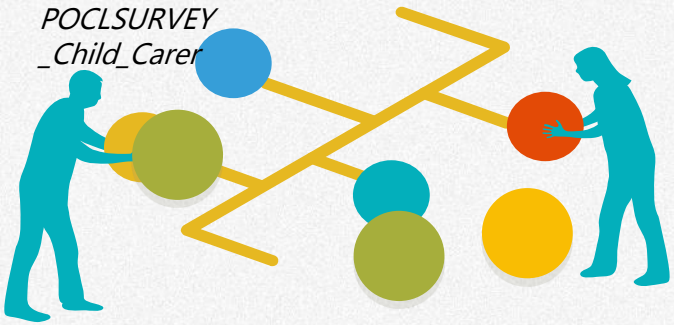
The Kvebaek Family Sculpture Technique (FKST) is a symbolic figure placement procedure used in family assessment and research. The technique was adapted for POCLS to measure the child's view of how close they feel to others (*FELT Security*).

The FELT Security activity was completed at each wave by children 7 years and older. The datasets that hold all of the FELT Security activity information are the INTV_felt_w1234_long .

(Note: For those who do not complete activity, questions are asked in ACASI)

The datasets that include all of the in-depth interview data collected from children and carers at each wave is called the INTV_cypc_w1234_long

Carer interview modules



- Carer experience and training
- General health
- Relationship with the study child
- Restoration experience
- Partner relationship
- Needs and support
- Details of the carer who cares most for the study child (Carer 1)
- Details of the spouse of Carer 1 (if applicable))
- Other household members
- Finances and housing

Standardised measures completed by carers include:

- Socio-emotional wellbeing -

  - Ages and Stages Questionnaire (ASQ-3) for children 9-66 months
  - Brief Infant Toddler Social Emotional Assessment (BITSEA) for children 12-35 months
  - Child Behaviour Checklist (CBCL) parent report and teacher report for children 1.5-17 years
  - Abbreviated Temperament Scales, adapted from the Revised Infant Temperament Questionnaire, the Toddler Temperament Questionnaire and the Childhood Temperament Questionnaire for Children and the School Aged Temperament Inventory (short form) for children 9 months-17 years.

- Cognitive and language ability -

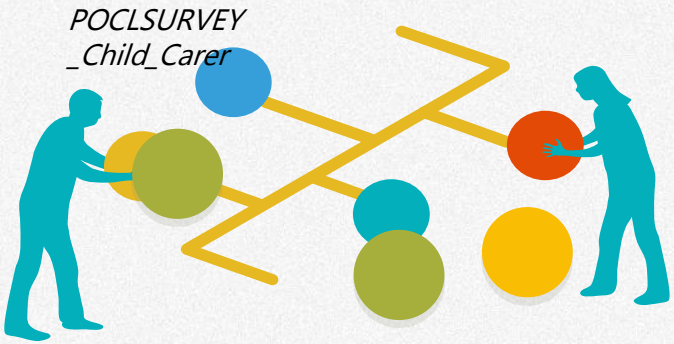
  - Communication and Symbolic Behaviour Scale Infant and Toddler Checklist (CSBS ITC) for children 9-23 months old
  - MacArthur Communicative Development Inventories—Short form for children 24-29 months old
  - MacArthur-Bates Communicative Developmental Inventories (MCDI-III) for children 30-35 months old.

Measures

The POCLS Measures Manual provides an overview of the standardised measures used in interviews, along with measure-specific references and suggested citation.

The Measures Manual is available on the POCLS website.

Child interview modules



- School and friends
- Health
- Wellbeing
- Placement
- Casework and support

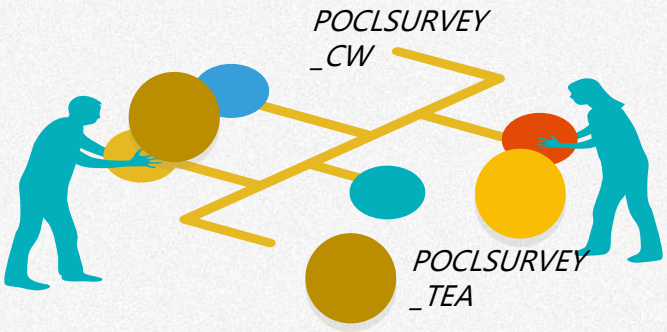
Additionally, young people aged 12-17 years were asked questions on:

- Further education and work
- Health concerns
- Smoking, alcohol and drug use
- Case plan development
- Other thoughts and comments
- Personal contact details (to support ongoing contact with the young person (aged 14 years and older))

Standardised measures completed by children included:

- School Problems Scale for children 12-17 years
- School Bonding Scale for children 12-17 years
- Short Mood & Feeling Questionnaire for children 12-17 years
- Self-Report Delinquency Scale for children 10-17 years
- Felt security activity (adapted from the Kvebaek Family Sculpture Technique) for children 7-17 years.
- Peabody Picture Vocabulary Test (PPVT-IV) for children 3-17 years
- Wechsler Intelligence Scale for Children (WISC-IV) for children 6-16 years

Childcare/School teacher and Caseworker online surveys



Caregiver's give consent for the childcare and school teacher surveys

Childcare and school teacher Surveys

Administered online from Wave 2. Captures rich information about the child's behaviour at school and support provided to the child (childcare and teacher surveys completed on n=779 children).

On-line cross sectional survey data collected from childcare or school teachers.

The dataset that holds the Childcare/Teacher survey information is ***SURV_TEA***

Caseworker Survey

Administered online in Wave 3 to caseworkers for the final care and protection orders cohort (Caseworker surveys completed on n=1652 children). The survey captures rich information about OOHC not available through the administrative data.

On-line cross sectional survey data collected from OOHC caseworkers.

Most open ended responses have been coded. The data file also contains all verbatim as collected.

The dataset that holds the Caseworker survey information is ***SURV_CW***

Important notes for using the data – Childcare/School teacher and Caseworker online survey dataset

Childcare/School teacher survey
Caseworker survey

Childcare/School teacher dataset

Where carer consent is provided, the school's principal or the childcare director was contacted to identify the worker/teacher who knows the child best.

The survey was voluntary and secondary school teachers with less involvement with the students may not have felt they knew the child well enough to participate.

Administered to 1,789 interview sample pool.

Response rate 43.5%

Caseworker dataset

The Caseworker survey was completed online by the OOHC Caseworker who was nominated to know the child best.

The Caseworker survey was voluntary.

Administered to 2,828 final orders cohort.

Response rate 58.4%

Administrative Data linkage in POCLS

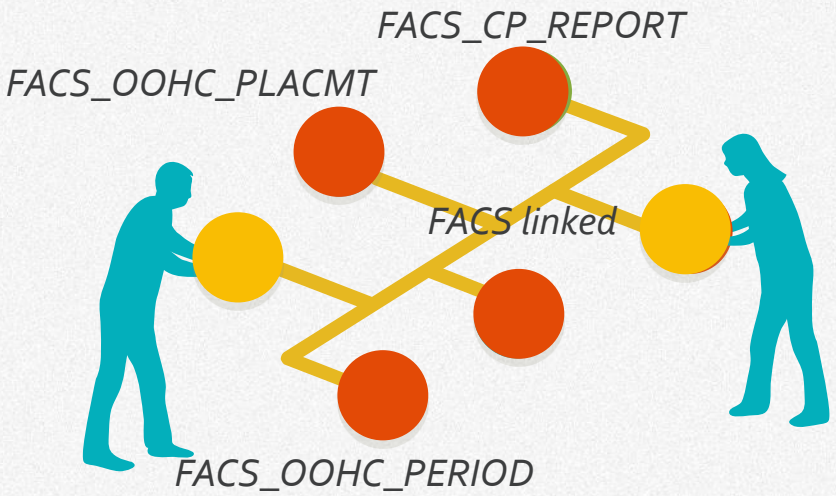
FACS Administrative Data

Education Administrative Data

Health Administrative Data

Justice Administrative Data

Linkage to DCJ Administrative Data



Historical data on child protection reports, legal status and OOHC placements

Provides *historical data* on child protection reports, legal status and OOHC placements for the study population cohort (n=4,126) up to 30 June 2016. This date corresponds to the completion of the Wave 3 survey data collection.

Deterministic linkage undertaken by DCJ.

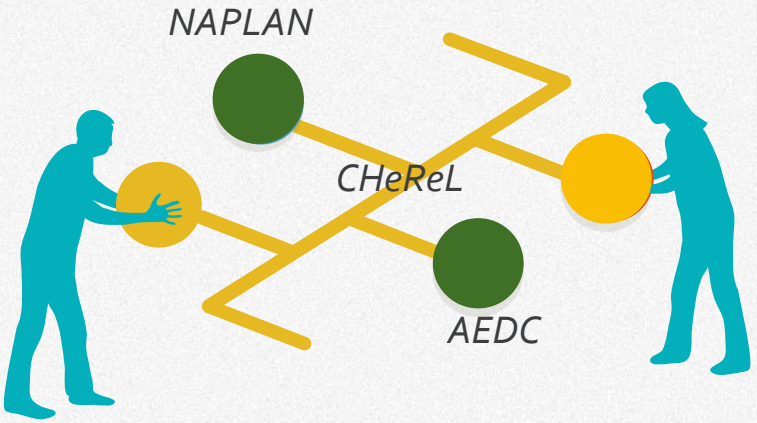
.

The four FACS administrative datasets are:

- *Child protection events data file (FACS_CP_REPORT);*
- *Detailed OOHC placements data file (FACS_OOHC_PLACMT)*
- *OOHC care periods data file (FACS_OOHC_PERIOD)*

A linked file comprising selected variables from the child protection episodes and OOHC care periods files is available (*FACS_SUMMARY*).

Linkage to Education Administrative Data



Data on child physical, language, communication, social and cognitive development in kindergarten.
Results from NAPLAN tests in Y3,5,7,9 – reading, writing, numeracy, spelling and grammar.

The education administrative data on child development and educational achievements consist of:

- The *Australian Early Development Census (AEDC)*
- The *National Assessment Program: Literacy and Numeracy data set (NAPLAN):*

Probabilistic linkage undertaken by CHeReL

The *AEDC* assesses physical health, language and cognitive skills, emotional maturity, social competence, communication skills and general knowledge at school start (Commonwealth Department of Education). The AEDC data is available for the calendar years 2009, 2012 and 2015.

NAPLAN looks at five dimensions of educational achievement: reading, writing, numeracy, spelling and grammar in Years 3, 5, 7 and 9 of school (NSW Department of Education and Communities). The NAPLAN data is available for the calendar years from 2008 to 2014.

Important notes for using the Education Administrative datasets

Education Administrative datasets - NAPLAN

NAPLAN

Children not registered in NSW government schools in years 3, 5, 7, 9 between 2008 & 2014, are not included in the current linked dataset.

We're currently sourcing NAPLAN from NSW Educational Standard Authority (NESA) to include all schools.

Refer to the study timelines above for relative timing of NAPLAN results of different test years

Consult the Technical Report 'Guidelines for using record linkage data' prior to applying for linked data.

Education Administrative datasets - continued

Education Administrative datasets - AEDC

AEDC

AEDC is a population based measure of children's development as they enter their first year of full time school. Data is collected nationally every three years.

Teachers complete the Australian version of the Early Development Instrument (AvEDI).

The AEDC measures five 'domains' of early childhood development:

- Physical health and wellbeing
- Social competence
- Emotional maturity
- Language and cognitive skills
- Communication skills and general knowledge

For each domain is scored 0 & 10, where 0 is most developmentally vulnerable.

Domain indicators are reported as proportion of children who are regarded as developmentally:

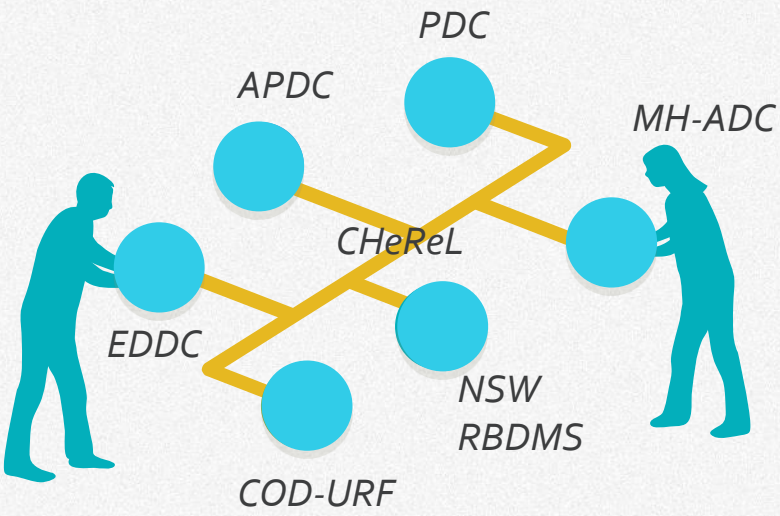
- on track (26th to 100th percentile)
- at risk (11th to 25th percentile)
- vulnerable (0 to 10th percentile)

Summary indicators

Summary indicators are:

- Developmentally vulnerable on one or more domains
- Developmentally vulnerable on two or more domains

Linkage to Health Administrative Data



Administrative health data on emergency department presentations, hospital admissions, perinatal and birth information, and mental health diagnoses and treatment

Provides information on attendance at hospital emergency departments and admissions to hospital, birth outcomes for mother and baby, and use of non admitted mental health services.

The availability of health administrative data varies depending on the type of data requested. For example, the NSW PDC data is available from 1 Jan 1994 to 31 Oct 2011, while the NSW EDDC is available up to 31 March 2016, corresponding to the completion of the Wave 3 survey data collection.

Probabilistic linkage undertaken by CHeReL.

The four NSW Ministry of Health administrative datasets are:

- *Perinatal Data Collection (PDC)*
- *Emergency Department Data Collection (EDDC)*
- *Admitted Patient Data Collection (APDC)*
- *Mental Health – Ambulatory Data Collection (MH-ADC)*

Two Death Registrations data sets are:

- *Registry of Births Deaths and Marriages death registrations (NSW RBDMS)*
- *Cause of Death Unit Record File (COD-URF)*

Important notes for using the Health Administrative datasets

Health Administrative datasets

Consult the Technical Report 'Guidelines for using record linkage data' prior to applying for linked data.

The Health Administrative datasets are for the most-part transactional, with each interaction with the health system recorded as a separate entry for the individual participant. So, for example, an individual will have many 'row's of hospitalisations data, each 'row' representing a hospital separation.

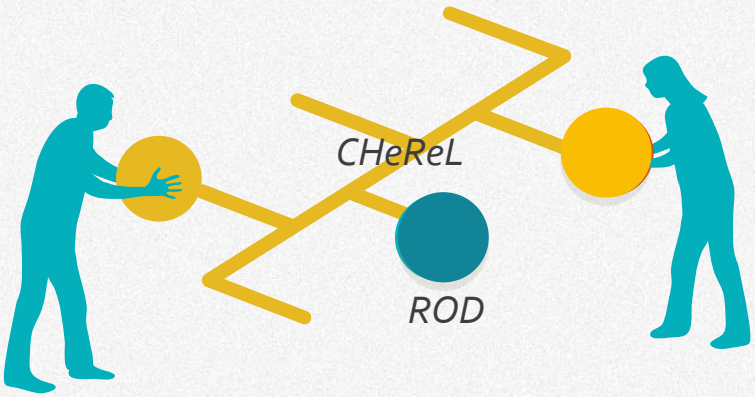
The Health Administrative datasets are complex in others ways also and it is important that the relevant Data Dictionary, provided by the Data Custodian, is consulted prior to use.

Useful links:

HealthStats NSW: *http://www.healthstats.nsw.gov.au/ [Indicator / methods / codes tabs]*

Data Dictionaries (CHeReL): *http://www.cherel.org.au/data-dictionaries*

Linkage to Justice Administrative Data



Historical data on child reports on proven offences

- The *Re-Offending Database (ROD).* The ROD data is available from 1 Jan 2003 to 30 June 2015.

Probabilistic linkage undertaken by CHeReL

ROD provides data on dates of proven offences, severity of offence, penalties and custodial episodes.

Two files were received from ***BOCSAR*** (Bureau of Crime Statistics and Research) relating to either offences (proven/unproven) or custody.

The two BOCSAR datasets are *BOCSAR-Custody* and *BOCSAR-Proven*

Important notes for using the Justice Administrative datasets

Justice Administrative datasets

Consult the Technical Report 'Guidelines for using record linkage data' prior to applying for linked data.

Some of the offending variables have a particular interpretation and it is important that the relevant Data Dictionary, provided by the Data Custodian, is consulted prior to use.

Of note:

- indexdate: Court finalisation date
- index_pooffdate: date of the proven offence that received the most significant penalty
- provenoff: nature of finalisation - whether all charges proven or some (no unproven matters)
- index_polawpart: offence level description of principal offence

POCLS variable naming convention

Data dictionary layout – core fields

All data dictionaries include a standard set of core fields

VARIABLE	LABEL	CODES	INSTRUCTIONS	ELIGIBILITY	APPLICABILITY	TYPE	LENGTH
Variables: unique identifiers for each piece of data	*Labels :* short descriptions of the meaning of the variable	*Codes:* sets of possible values assigned to the variable and if appropriate value labels	*Instructions:* important information to know when using the variable	*Eligibility:* information on who was eligible to answer the question and/or provide the information (eg age group, sex)	*Applicability* information on whether the question was relevant dependant on previous answers (eg skip patterns)	*Type:* how the data are provided eg character, numeric, date	*Length :* the maximum field length in characters and number of decimal places

Data dictionary layout – additional fields

The questionnaire data dictionaries also include Module, Questionnaire item, Mode, History and Source

MODULE	QUESTIONNAIRE _ITEM	MODE	HISTORY	SOURCE
Module: group of related variables (ie related questions or service events)	*Question identifier:* a link to the questionnaire item asked of the participant	*Mode:* description of how the data was collected (eg Admin, CAPI, online survey) and who provided the data	*History* date when the variable was defined in its current form as well as any changes in question wording and/or codes	*Source:* reference for the questionnaire item and/or information (eg LSAC)

Data dictionary – an example

Child Young Person_Carer Data Dictionary_waves1-4 FINAL 30Aug2019 - Excel

B9: CARER: Days in last week spent doing activities with Study Child - Involved Study Child in everyday activities at home, such as cooking or caring for pets

POCLS DATA DICTIONARY

Child, Young Person & Carer Interview Data

VARIABLE	LABEL	CODES	INSTRUCTIONS	W1_APPLICABILITY	W2_APPLICABILITY	W3_APPLICABILITY	W4_APPLICABILITY	TYPE	LENGTH	MODULE	QUESTIONNAIRE_ITEM	MODE	HISTORY
pocls_id	Pre filled: Participant ID							Numeric	6				
wave		1=Wave 1, 2=Wave 2, 3=Wave 3, 4=Wave 4	Wave of data collection					Numeric	8				
AC_CRR_ACT_COOKN	CARER: Days in last week spent doing activities with Study Child - Involved Study Child in everyday activities at home, such as cooking or caring for pets	-2=Dk, -3=Refused, -9=Not applicable, 0=Not in the past week, 1=1 day, 2=2 days, 3=3 days, 4=4 days, 5=5 days, 6=6 days, 7=7 days, 8=7 days		9 months-5 years;	9 months - 5 years	9 months - 5 years	Ask all	Numeric	3	CHILD ACTIVITIES	ACTIV6	CAPI	
AC_CRR_ACT_DRAWN	CARER: Days in last week spent doing activities with Study Child - Drawn pictures or done other art or craft activities	-2=Dk, -3=Refused, -9=Not applicable, 0=Not in the past week, 1=1 day, 2=2 days, 3=3 days, 4=4 days, 5=5 days, 6=6 days, 7=7 days, 8=7 days		9 months-5 years;	9 months - 5 years	9 months - 5 years	Ask all	Numeric	3	CHILD ACTIVITIES	ACTIV3	CAPI	
AC_CRR_ACT_INDRN	CARER: Days in last week spent doing activities with Study Child - Played with toys or games indoors, for example with dolls or toy cars	-2=Dk, -3=Refused, -9=Not applicable, 0=Not in the past week, 1=1 day, 2=2 days, 3=3 days, 4=4 days, 5=5 days, 6=6 days, 7=7 days, 8=7 days		9 months-5 years;	9 months - 5 years	9 months - 5 years	Ask all	Numeric	3	CHILD ACTIVITIES	ACTIV5	CAPI	
AC_CRR_ACT_OUTDRN	CARER: Days in last week spent doing activities with Study Child - Played a game outdoors or exercised together like walking, swimming, cycling	-2=Dk, -3=Refused, -9=Not applicable, 0=Not in the past week, 1=1 day, 2=2 days, 3=3 days, 4=4 days, 5=5 days, 6=6 days, 7=7 days, 8=7 days		9 months-5 years;	9 months - 5 years	9 months - 5 years	Ask all	Numeric	3	CHILD ACTIVITIES	ACTIV7	CAPI	
AC_CRR_ACT_READN	CARER: Days in last week spent doing activities with Study Child - Read to Study Child from a book	-2=Dk, -3=Refused, -9=Not applicable, 0=Not in the past week, 1=1 day, 2=2 days, 3=3 days, 4=4 days, 5=5 days, 6=6 days, 7=7 days, 8=7 days		9 months-5 years;	9 months - 5 years	9 months - 5 years	Ask all	Numeric	3	CHILD ACTIVITIES	ACTIV1	CAPI	
AC_CRR_ACT_SINGN	CARER: Days in last week spent doing activities with Study Child - Played music, sung songs, danced or done other musical activities	-2=Dk, -3=Refused, -9=Not applicable, 0=Not in the past week, 1=1 day, 2=2 days, 3=3 days, 4=4 days, 5=5 days, 6=6 days, 7=7 days, 8=7 days		9 months-5 years;	9 months - 5 years	9 months - 5 years	Ask all	Numeric	3	CHILD ACTIVITIES	ACTIV4	CAPI	
AC_CRR_ACT_STORYN	CARER: Days in last week spent doing activities with Study Child - Told Study Child a story, not from a book	-2=Dk, -3=Refused, -9=Not applicable, 0=Not in the past week, 1=1 day, 2=2 days, 3=3 days, 4=4 days, 5=5 days, 6=6 days, 7=7 days, 8=7 days		9 months-5 years;	9 months - 5 years	9 months - 5 years	Ask all	Numeric	3	CHILD ACTIVITIES	ACTIV2	CAPI	
AC_CRR_ACT_TXT	CARER: FREE TEXT: Activities attended by Study Child - Any other organised play or activity group - Specify			9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	ASK IF SCHOOL = 'no' .(code 2)	Character	113	CHILD ACTIVITIES	ED8	CAPI	8/5/14: Remove question beca 16/10/14: Question re-added to commencement of interviewing like to keep it across waves. 3-6 be asked ED8. The CBCL social c questions start at 6 years. Ther missing data for 4-5 year olds a
AC_CRR_ACTIV_CHURCH	CARER: Activities attended by Study Child - Church/Sunday school	-2=Dk, -3=Refused, -9=Not applicable, 0=No, 1=Yes		9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	ASK IF SCHOOL = 'no' .(code 2)	Numeric	3	CHILD ACTIVITIES	ED8	CAPI	Extra response option/variable
AC_CRR_ACTIV_DANCE	CARER: Activities attended by Study Child - Dancing/Ballet	-2=Dk, -3=Refused, -9=Not applicable, 0=No, 1=Yes		9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	ASK IF SCHOOL = 'no' .(code 2)	Numeric	3	CHILD ACTIVITIES	ED8	CAPI	
AC_CRR_ACTIV_GYM	CARER: Activities attended by Study Child - Gym/Gymnastics	-2=Dk, -3=Refused, -9=Not applicable, 0=No, 1=Yes		9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	9 months-6 years;.9months-3 years or if SCHOOL=No;	ASK IF SCHOOL = 'no' .(code 2)	Numeric	3	CHILD ACTIVITIES	ED8	CAPI	
AC_CRR_ACTIV_MUSIC	CARER: Activities attended by Study Child - Music	-2=Dk, -3=Refused, -9=Not applicable, 0=No, 1=Yes		9 months-6	9 months-6	9 months-6	ASK IF SCHOOL = 'no'	Numeric	3	CHILD ACTIVITIES	ED8	CAPI	

Variable naming convention

Variable naming convention

Variable name structure

Each variable is named using a standard naming convention. The variable name structure is:

Module_ Informant_QuestionDescriptor_Answer

For example, the variable regarding changes to the carer's family routine in preparation for the child's arrival is PC_CRR_PREP_FAMILY.

The structure being:

- Module: eg Setting up child's placement and casework (PC)
- Informant: eg Carer (CRR)
- Question descriptor: eg Preparation (PREP)
- Answer: eg Family routine (FAM)

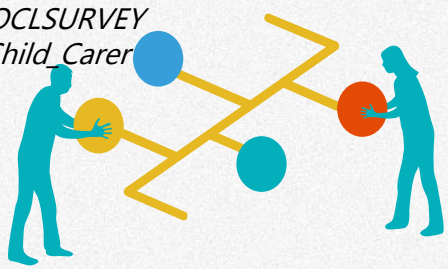
Standard suffixes are used to indicate variables for which free-text response is one of the available response options (*CODE*) and the actual text response (*TXT*).

Variable Label

The variable label is based on the Questionnaire item from which the variable is derived.

The label contains descriptors which indicate the Informant (eg *CARER*), whether the data is derived from administrative sources (*PREFILLED*), whether the variable contains free-text (*FREE TEXT*), and whether the data were coded from a free-text response back to a predetermined response (*RECODE*).

Derived variables

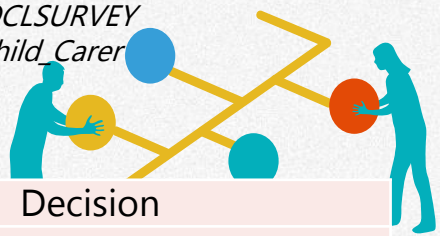


- *Placement type at time of interview – based on the relationship variable (PL_CRR_CAREER1_RELNCODE)*
- *Flags of restoration, adoption and guardianship*
- *Binary and non-binary variables of Aboriginality and CALD*
- *Admin variables at time of interview, including:*
  - District
  - Community Services Centre (CSC)
  - Postcode
  - Placement purpose
  - Parental Responsibility status, etc

Recruitment

Data confidentialisation

POCLSURVEY_Child_Carer



Variable		Decision
Survey data		
Geographical		
	Suburb	Remove
Child	Child Date of birth (DOB)	Replaced by Month and Year of Birth.
	ID (Study ID)	Replaced by ID.
	Height	Calculate BMI and remove Height/ Weight.
	Weight	Calculate BMI and remove Height/ Weight.
Carer 1	Carer 1 ID	Replaced by ID
	Carer 1 Date of birth (DOB)	Replaced by Month and Year of Birth.
Carer 2		
	CarerSpouse ID	Replaced by ID.
	CarerSpouse DOB	Replaced by Month and Year of Birth.
Administrative data		
Child	ID	Replaced by ID.
Carer	ID	Replaced by ID.

Recorded response options

Recorded response options

Recorded response options

Available response options to questionnaire items are listed in the Data Dictionaries.

Response to a questionnaire item is often split across several related variables. For example:

- The Carer questionnaire asks the respondent about "Do you know what things about your family were considered as suitable for the child's placement here?". The allowed responses are 'Yes (WRITE IN)[TEXT BOX]', 'No', 'DON'T KNOW', 'REFUSED;'.

  The questionnaire item requires that a 'Yes' response is accompanied by further, free-text, explanation. The text responses are captured in the variable IN_CRR_FAM_SUIT_TXT.

  For this example the free-text response has also been coded and is available from the variables IN_CRR_FAM_SUIT_FAM, IN_CRR_FAM_SUIT_SAFE, ... IN_CRR_FAM_SUIT_OTH.

  These variables have the codes -9=not applicable, -7=not asked, 0=no, 1=yes.

You can see that analysis of this question may require inclusion of three levels of variables, i/ the basic coded response; ii/ the recoded free-text variables; and iii/ un-coded free-text.

Sorting the dataset by the variable name will group related variables.

Close review of the POCLS Questionnaires, response options and codes is essential prior to and during analysis of the POCLS data. POCLS Questionnaires and Data Dictionaries are available on the POCLS website.

Looping and conditional branching

It is critical to refer to the relevant questionnaire and data dictionary

Looping and conditional branching

All questionnaires include items that, depending on the response to the question, require the interviewer to 'loop' back to a previous question, repeat ('loop') the current question, or 'skip' a question.

'Looped' questions result in multiple response variables per question and each of these may align with multiple other variables.

'Skip' patterns (conditional branching) force the respondent to take a customised path through the questionnaire, the path will vary based on the response to the questions.

'Skip' patterns result in missing (blank) responses for specific questions for specific respondents, thus affecting frequency counts and having direct influence on selecting the denominator for calculation of proportions.

It is critical to refer to the relevant questionnaire and data dictionary to ensure the appropriate variables are identified and aligned.

Refer to the technical paper 'Looping and Conditional Branching' for further details.

Looping and conditional branching (continue)

- *An example of looping:*

  "What are three things you like doing?" – this question allows the respondent to provide up to three responses.

  Where the respondent provides activities of interest, the follow-up question asks, "…. how often do you get to do these activities?" Each of the activities requires a frequency response.

  Hence at data collection the "… how often do you get to do these activities?" needs to be repeated ('looped' through) up to three times..

Data analysis issues

Data weights

Small cell counts and confidentiality

Sample seize and statistical power

Sample heterogeneity

Left censoring

Definition of Aboriginality and CALD

Data weights

Data weights

Being a longitudinal study, POCLS enables cross sectional estimation and analysis, estimation and analysis of changes between waves, and longitudinal data analysis involving several waves.

At each wave of the study a proportion of the population will not respond or not provide sufficient information for use in producing estimates. Non-respondents may also differ in key characteristics leading to bias.

Adjustments can be made to the estimates calculated from the responding sample that may reduce biases due to non-response.

Cross sectional and longitudinal weights have been calculated for the survey waves.

Notes on the derivation of the weights are available in the Technical Report *'Weighting for the Pathways of Care Longitudinal Study'*

Data weights – treatment of two sub-populations

Data weights

- The population has two components: restored, who were not included in Wave 1, and those in OOHC, who were included in Wave 1.
- Substantive consideration of the restored cases suggested that they were different in many ways from the in-OOHC children.
- These two components of the population should be analysed separately, not least for the practical reason that there are no restored cases in Wave 1.
- If there are analyses that substantively make sense that combine the two components that can be achieved using the weights that have been calculated.
- For estimation of the variances and standard errors of estimates each component should be treated as a stratum in the statistical software being used.

Small cell counts and confidentiality

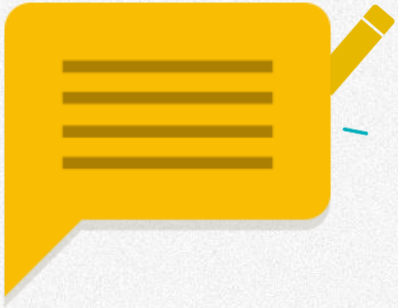
Small cell counts and confidentiality

Presentation/reporting of small counts may pose some disclosure risks.

Deciding on a guideline regarding reporting small counts is often a trade-off between maintaining the usefulness of the data and maintaining the confidentiality of individual participants.

Further detailed guidance is available in the Technical Report *'Guidelines for reporting results with small sample sizes '*

POCLS Guidelines for reporting small numbers



- *A frequency threshold value of 5 is adopted for reporting on analyses involving geographic location and/or demographic variables (i.e., age, sex, Aboriginality, primary cultural identity and language spoken).*
- *For analyses involving response variables (i.e., variables other than the geographic and demographic variables) or their interaction with geographic/demographic variables, the above rule can be relaxed.*
- *Use weighted data for analysis and reporting purposes where available unless there are specific reasons not to use weights in the analysis*
- *Report on percentages and column or row totals (rather than the actual frequency value for each cell) in the tables and/or graphs if possible.*

For more information, please see the POCLS Guidelines for reporting results with small sample sizes

Minus codes

Minus codes

These are the set of minus codes used in the questionnaire data:

- Don’t Know: ‘-2’
- Refused to answer: '-3’
- No response: ‘-4’
- Text response available: '-5’
- Missing (in W1 because question added in W2 – back-coded at W1): ' -6’
- Missing (because question added during W1): '-7’
- Missing (due to technical error): ‘-8’
- Not Applicable: '-9'.

Treatment of minus codes in the data

- *While other minus codes can be considered as non valid/meaningful categories, the category 'don't know' is usually one of the valid responses and has some meaning.*

- *For example, for the question "Does Study Child have an OOHC education plan?", the carer can choose from 'Yes', 'No', 'Don't know' and 'Refused'.*

  A response of 'don't know' could mean different things. It could mean:

  "I don't know what that document is" – which could suggest that they haven't ever seen it or

  it may mean "I received lots of documents and can't recall if that was one of them" or

  it could mean "I can't remember at all" or something.

-

Treatment of minus codes in the data (continue)

- *Users are reminded to check the frequency distributions of the relevant variables as part of the initial/ preliminary analysis before making a decision on how to treat '-2',*

  e.g., whether to recode it, to combine it with other category or to exclude it from analysis altogether.

- *The POCLS data books provide the frequency tables for all numeric variables from each wave.*

Sample size and statistical power

- A sample size of at least 500 children from a homogeneous group (e.g., infants) was calculated as needed to support robust analysis of child development linear and quadratic growth by at least four major factors at a time (for example region, cultural background, placement type and child protection background).
- Sample size calculation used a 5% or 10% statistical significance level and 80% statistical power and was informed by National Study of Child and Adolescent Well-Being (NSCAW).

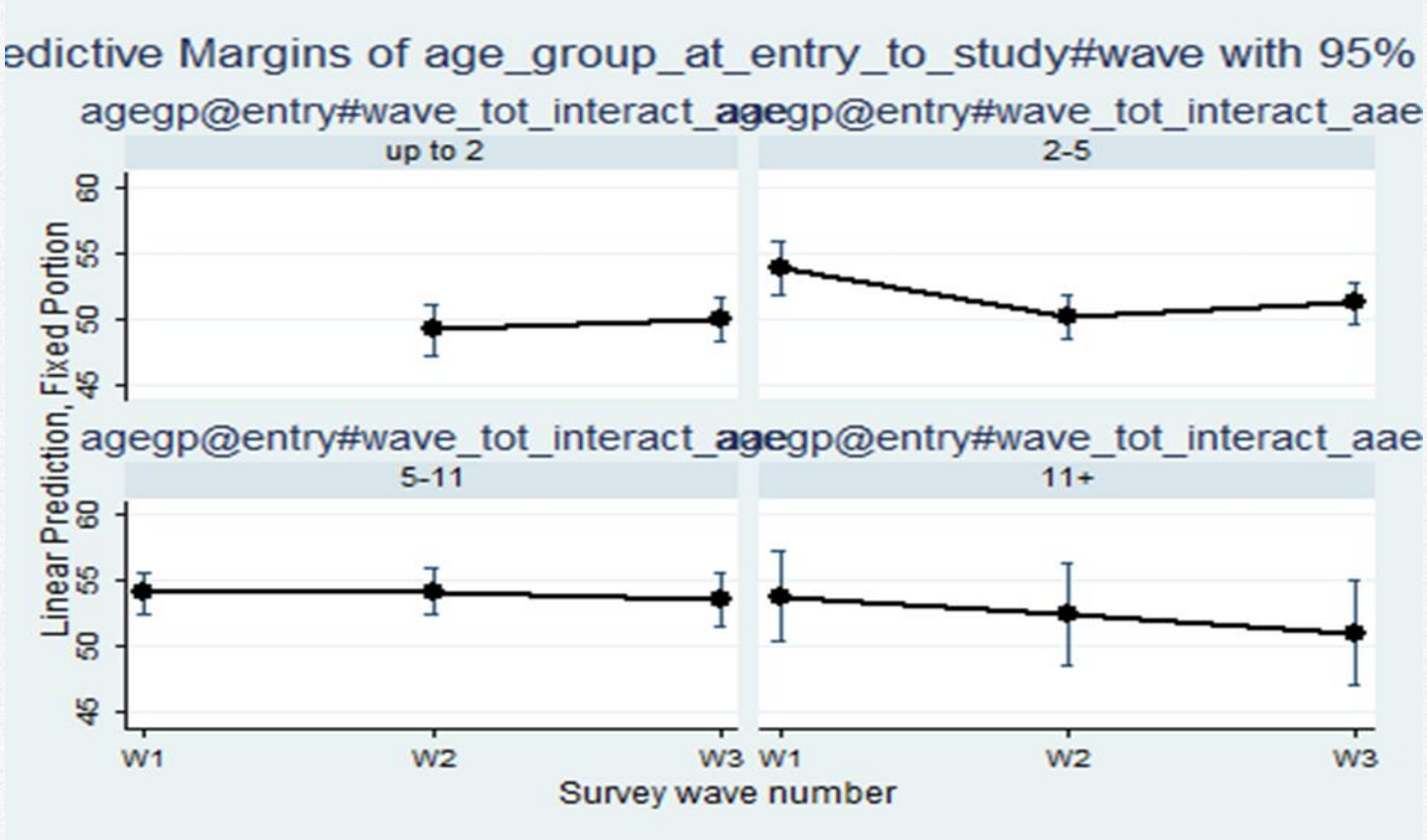
- For more information, please see the POCLS technical report number 5 - Statistical Power, Selection Bias, and Non-response Correction in the Pathways of Care Longitudinal Study. Pathways of Care Longitudinal Study: Outcomes of Children and Young People in Out-of-Home Care.

Sample heterogeneity

- The assumption of homogeneity – mixed effects model generally assumes that the population/sample is homogenous with respect to the association between predictors and outcomes.
- Because the POCLS cohort is a mixed bag of ages, their developmental trajectory would be very different given their age at entry (from the outset). So the POCLS cohort is heterogeneous in terms of the makeup of the children and their outcomes (see next slide).
- To address sub-group heterogeneity, alternative approaches, such as growth mixture models, may be worth considering.
- For example, the group-based semiparametric mixture modelling approach is designed to identify distinctive, prototypal developmental trajectories within the population; to calibrate the probability of population members following each such trajectory; and to related those probabilities to covariates of interest (Nagin, 2005).

Sample heterogeneity (continue)

Socio-emotional trajectories over the first three waves by age at entry using CBCL total problems scores



Left censoring

- Left censoring refers to the fact that we weren't picking the child up at the time of initial placement from a measurement perspective.
- In other words, their developmental status and/or the condition they were in at the time of their initial placement cannot be observed.
- This arises as repeated measures only started from the wave 1 (i.e., baseline) interviews, not at the time of the first entry to care.
- This means little or no data exists to allow us to account for the initial condition of the child (e.g., socio-emotional well-being) at the start of placement, which may help explain their subsequent developmental trajectory (at W1, 2 etc).

Definition of Aboriginality and CALD

- There are the differences in demographic data (e.g. Aboriginal status, cultural background) for some POCLS children across waves and from different sources of collection (admin vs. survey).
- This is an issue of change of classification.
- Instead of allowing a time-varying Aboriginal/CALD variable, POCLS has adopted the following definitions:
  - Definition of Aboriginality - A child is counted as Aboriginal if he/she was identified as Aboriginal or Torres Strait Islander in the FACS child protection administrative data at Wave 1 or Wave 2 or if the caregiver indicated that the child was Aboriginal or Torres Strait Islander at Wave 3.
  - Definition of CALD - A child is counted as CALD if he/she was identified as CALD in the FACS child protection administrative data at Wave 1 or Wave 2 or if the caregiver indicated that the child was CALD at Wave 3.
  - Some children have dual membership of both groups. There are n=56 children who were identified to have the dual membership at wave 4.
  - The POCLS data includes two binary variables (for Aboriginality and CALD each) and a categorical variable with four categories (i.e., Aboriginal only, CALD only, both Aboriginal and CALD and Other Australian children).

Selected measures for child developmental outcome domains by age

OUTCOME DOMAINS	9-35 mths	3-5 yrs	6-11 yrs	12-17 yrs
Safety	ROSH (Reported abuse and neglect)	ROSH	ROSH	ROSH
Physical health	Carer rating (Number of health problems)	Carer rating	Carer rating	Carer rating
Physical development	ASQ (Fine and Gross Motor Scales)	ASQ	-	-
Socio-emotional development	BITSEA (W1) CBCL (W2) (Behaviour Problem Scale)	CBCL	CBCL	CBCL
Cognitive development - non verbal	ASQ (Problem-Solving Scale)	ASQ	MR-WISC	MR-WISC
Cognitive development - verbal	CSBS MCDI-III	PPVT	PPVT	PPVT

Use of standardised measures for longitudinal data analysis

- The use of multiple measures across domains and ages poses challenges for statistical analyses and the interpretation of the results, especially for analyses examining changes over time.
- A change in the outcome might be due, in part, to the use of different measurement instruments over time (i.e., ASQ vs. WISC).
- At this stage, we don't have a single interval measure that covers the entire age range in an outcome domain, so it is not possible to model changes over time in an outcome domain for all children using interval measures.
- We're exploring the feasibility of deriving a composite developmental outcome index with scaling properties harmonized across the age ranges assessed at each wave.
- In the meanwhile, here are some suggested approaches: 1) focus on a single outcome measure over time, e.g., CBCL; 2) derive a categorical outcome variable by aligning different measures across different age groups at each wave using either the established cut-offs or the suggested consistent cut-offs.

Use of standardised measures for longitudinal data analysis (continue)

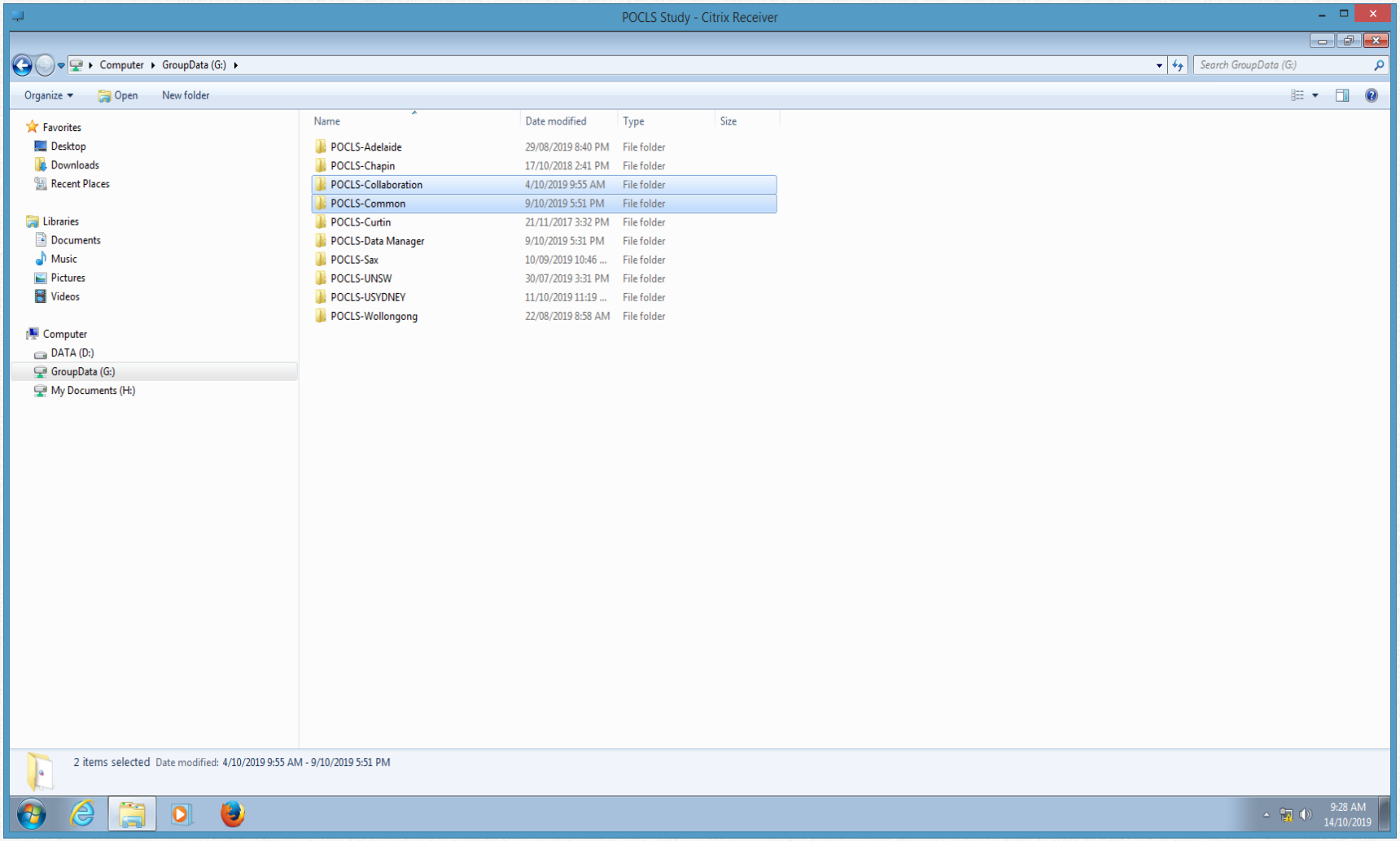
Suggested consistent cut-off points are:

- up to one standard deviation from the mean to categorise a child's development as being typical
- more than 1 to 1.3 standard deviations to identify a child's development as being at risk and needing support
- more than 1.3 to 2 standard deviations as signifying the 'clinical' range or children needing professional intervention
- more than two standard deviations from the mean as indicating that a child is in need of ongoing intensive professional support.

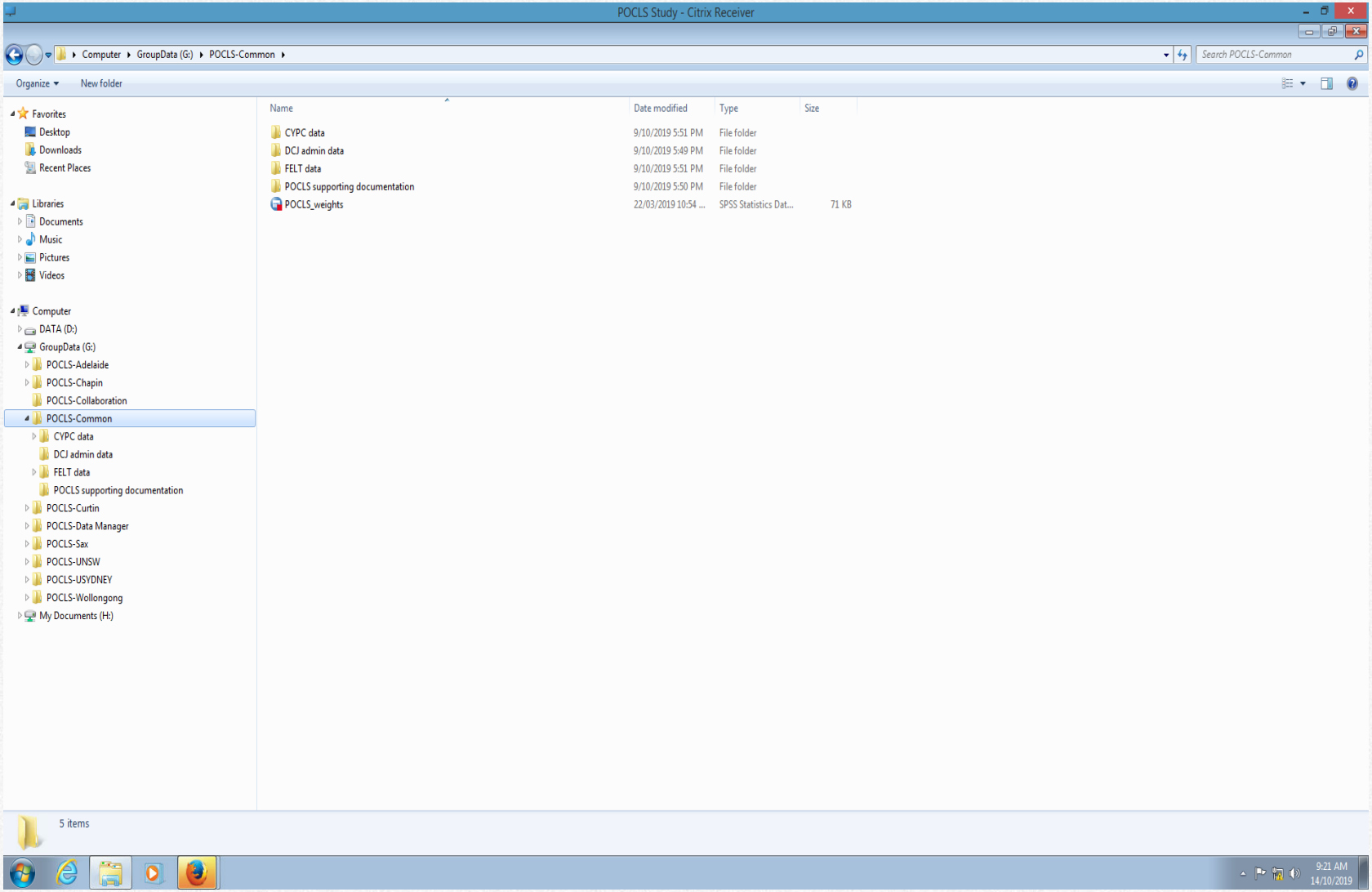
For more information, please see the discussion paper "Measuring child developmental outcomes: approaches and methods"

SURE demonstration

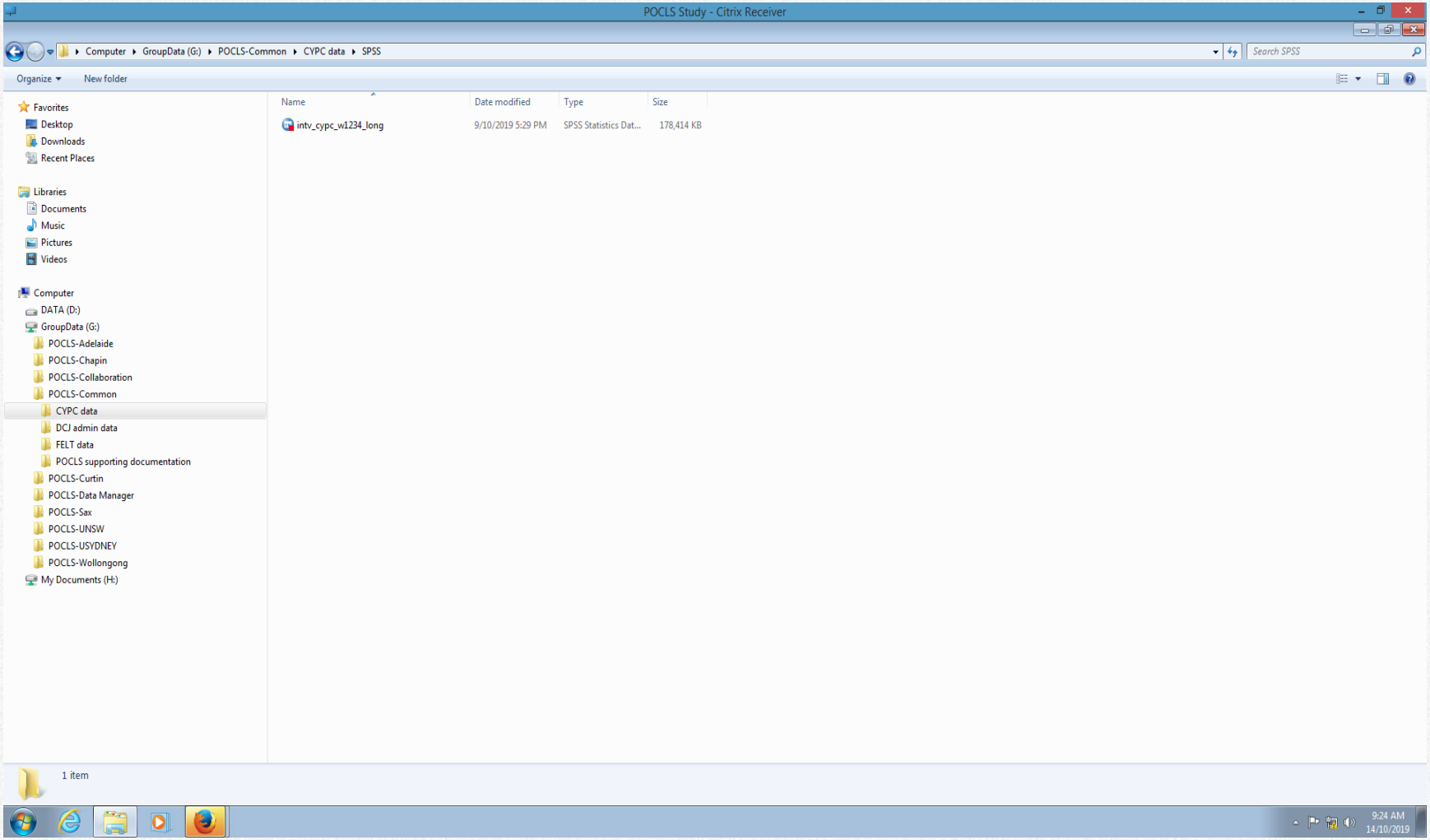
POCLS space in SURE



POCLS space in SURE



POCLS space in SURE



POCLS space in SURE

POCLS Study - Citrix Receiver

intv_cypc_w1234_long.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1	pocls_id	Numeric	6	0	Pre filled: Participant ID	None	None	8	Right	Scale
2	wave	Numeric	8	0		{1, Wave 1}...	None	8	Right	Nominal
3	AC_CRR_CHORES_JOBA_TXT	String	180	0	CARER: FREE TEXT: Study Childs jobs or chores - Job A (Specify)	None	None	50	Left	Nominal
4	AC_CRR_CHORES_JOBB_TXT	String	180	0	CARER: FREE TEXT: Study Childs jobs or chores - Job B	None	None	50	Left	Nominal
5	AC_CRR_CHORES_JOBC_TXT	String	180	0	CARER: FREE TEXT: Study Childs jobs or chores - Job C (Specify)	None	None	50	Left	Nominal
6	AC_CRR_CLUBA_TXT	String	180	0	CARER: FREE TEXT: Organisations, clubs, teams, or groups Study Child belongs to - Organisation A (Specify)	None	None	50	Left	Nominal
7	AC_CRR_CLUBB_TXT	String	180	0	CARER: FREE TEXT: Organisations, clubs, teams, or groups Study Child belongs to - Organisation B (Specify)	None	None	50	Left	Nominal
8	AC_CRR_CLUBC_TXT	String	180	0	CARER: FREE TEXT: Organisations, clubs, teams, or groups Study Child belongs to - Organisation C (Specify)	None	None	50	Left	Nominal
9	AC_CRR_HOBBA_TXT	String	180	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL) - study child's favourite hobbies, activities, and games, other than sports (descri...	None	None	50	Left	Nominal
10	AC_CRR_HOBBYB_TXT	String	180	0	CARER: FREE TEXT: Study Childs favourite hobbies, activities and games - Hobby B (Specify)	None	None	50	Left	Nominal
11	AC_CRR_HOBBYC_TXT	String	180	0	CARER: FREE TEXT: Study Childs favourite hobbies, activities and games - Hobby C (Specify)	None	None	50	Left	Nominal
12	AC_CRR_SPORTA_TXT	String	180	0	CARER: FREE TEXT: Sports Study Child most likes to take part in - Sport A (Specify)	None	None	50	Left	Nominal
13	AC_CRR_SPORTB_TXT	String	180	0	CARER: FREE TEXT: Sports Study Child most likes to take part in - Sport B (Specify)	None	None	50	Left	Nominal
14	AC_CRR_SPORTC_TXT	String	180	0	CARER: FREE TEXT: Sports Study Child most likes to take part in - Sport C (Specify)	None	None	50	Left	Nominal
15	BE_CRR_CBCL3_BEHAV_TXT	String	741	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Strange behaviour (describe)	None	None	50	Left	Nominal
16	BE_CRR_CBCL3_EAT_TXT	String	711	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Doesn't eat well (describe)	None	None	50	Left	Nominal
17	BE_CRR_CBCL3_EYE_TXT	String	192	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Problems with eyes (without medical cause) (describe)	None	None	50	Left	Nominal
18	BE_CRR_CBCL3_FEAR_TXT	String	1035	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Fears certain animals, situations, or places (describe)	None	None	50	Left	Nominal
19	BE_CRR_CBCL3_NOTFOOD_TXT	String	402	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Eats or drinks things that are not food (describe)	None	None	50	Left	Nominal
20	BE_CRR_CBCL3_PICK_TXT	String	834	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Picks nose, skin, or other parts of body (describe)	None	None	50	Left	Nominal
21	BE_CRR_CBCL3_PROB1_TXT	String	1347	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Other problem 1 (Specify)	None	None	50	Left	Nominal
22	BE_CRR_CBCL3_PROB2_TXT	String	399	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Other problem 2 (Specify)	None	None	50	Left	Nominal
23	BE_CRR_CBCL3_PROB3_TXT	String	112	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Other problem 3 (Specify)	None	None	50	Left	Nominal
24	BE_CRR_CBCL3_SLEEP_TXT	String	822	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Sleeps less than most kids during day and/or nigh (describe)	None	None	50	Left	Nominal
25	BE_CRR_CBCL3_SPEECH_TXT	String	702	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Speech problem (describe)	None	None	50	Left	Nominal
26	BE_CRR_CBCL3_TOILET_TXT	String	1056	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Resists toilet training (describe)	None	None	50	Left	Nominal
27	BE_CRR_CBCL3_TWITCH_TXT	String	516	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Nervous movements or twitching (describe)	None	None	50	Left	Nominal
28	BE_CRR_CBCL3_UPSET_TXT	String	879	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 3-5 yrs) - Upset by new people or situations (describe)	None	None	50	Left	Nominal
29	BE_CRR_CBCL6_ALC_TXT	String	372	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Drinks alcohol without approval (describe)	None	None	50	Left	Nominal
30	BE_CRR_CBCL6_ANIMAL_TXT	String	759	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Fear animal (describe)	None	None	50	Left	Nominal
31	BE_CRR_CBCL6_BEHAV_TXT	String	864	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Strange behaviour (describe)	None	None	50	Left	Nominal
32	BE_CRR_CBCL6_DRUG_TXT	String	282	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Uses drugs for nonmedical purposes (describe)	None	None	50	Left	Nominal
33	BE_CRR_CBCL6_EYES_TXT	String	209	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Physical problem without known cause - eyes (describe)	None	None	50	Left	Nominal
34	BE_CRR_CBCL6_IDEA_TXT	String	690	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Strange ideas (describe)	None	None	50	Left	Nominal
35	BE_CRR_CBCL6_OBSES_TXT	String	957	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Obsessions (describe)	None	None	50	Left	Nominal
36	BE_CRR_CBCL6_OTH_TXT	String	705	0	CARER: FREE TEXT: Carers view of Study Child's behaviour (CBCL - 6-18 yrs) - Physical problem without known cause - other (Specify)	None	None	50	Left	Nominal

Data View | Variable View

IBM SPSS Statistics Processor is ready | Unicode:ON

9:26 AM 14/10/2019

AEDC data

Using data from the Australian Early Development Census for the Pathways of Care Longitudinal Study

Pathways of Care Longitudinal Study

Study Working Group meeting

AEDC

6 March 2018

Talking points

1. *Who participates in the AEDC?*
2. *What is the AEDC used for in schools?*
3. *What are the 'valid' variables? How should they be used?*
4. *What is the best way to report results for the domains?*
5. *Are there any standards we can compare to?*

AEDC essentials

Population based measure of children's development as they enter their first year of full time school

Data collected nationally every three years

Teachers complete the Australian version of the Early Development Instrument (AvEDI) for each child in their class

The AEDC measures five 'domains' of early childhood development:

Physical health and wellbeing

Social competence

Emotional maturity

Language and cognitive skills (school-based)

Communication skills and general knowledge

AEDC essentials

Domain indicators

For each domain, children receive a score of between zero and ten, where zero is most developmentally vulnerable

Domain indicators reported as proportion of children who are regarded as:

*'Developmentally **on track**' (26th to 100th percentile)*

*'Developmentally **at risk**' (11th to 25th percentile)*

*'Developmentally **vulnerable**' (0 to 10th percentile)*

Cut off percentile for each domain based on the baseline set in Cycle 1 to provide a reference point for comparison of results over time

AEDC essentials

Summary indicators

*Developmentally vulnerable on one or more domains (**DV1**)*

*Developmentally vulnerable on two or more domains (**DV2**)*

No scores or cut offs – a child either 'Yes' or 'No' for each summary indicator

Indicators essentials

Developed and validated for use as a population measure at a group level

Not psychometrically tested for application in relation to individual children

Who participates in the AEDC?

Project element	Cycle 1 (2009)	Cycle 2 (2012)	Cycle 3 (2015)
Child participation			
Estimated child population	267,772	300,504	312,832
Number of participating children	261,147	289,973	302,003
Child participation rate	97.5%	96.5%	96.5%
School participation			
Estimated in-scope schools	7,765	7,758	7,765
Number of participating schools	7,422	7,417	7,510
School participation rate	95.6%	95.6%	96.7%

Who participates in the AEDC?

Under-coverage - schools

Independent sector

Potential for under-coverage – children

Children attending independent sector schools

Children who move schools

Opted out children

Indigenous, LBOTE, overseas born children

Dual placement, school of the air

- *Non-coverage - children*

Home schooled

What is AEDC used for in schools?

Schools with six or more children participating receive standard template-based data products

AEDC School Profile

AEDC School Summary

'School stories' section of the AEDC website provides good examples of how the data is used in schools:

'Community development, early intervention and student services feed into full service and extended school model to lower childhood vulnerability'

'Socialising in the sandpit and more – schoolyard revamped to support learning'

'School engages isolated new families with an onsite playgroup'

What is AEDC used for in schools?

'School stories' section of the AEDC website provides good examples of how the data is used in schools (continued):

'Primary school partners with kindergarten services to improve outcomes for children'

'Results trigger action to improve physical skills of migrant children'

'How the AEDC data has changed teaching and family support practices'

'Birth to Year 7 - school uses the results to create a coordinated approach to Early Years Planning'

'Authentic relationships and tailored support create space for families to flourish'

What are the valid variables?

Variable groupings in PoCLS data request

Demographic variables
Child - based geography
AvEDI variables / general variables - Teacher observation at school
AvEDI variables / general variables - Teacher knowledge of child circumstances outside school
Local community based geography
Domain variables
Sub-domain variables

What are the valid variables?

Official line on sub-domain variables

> *Sub-domain data is only made available for exploratory research purposes and further research is being undertaking in Australia and overseas to investigate the validity of the sub-domain scores*

How should they be used?

Confidentiality rules

Non-disclosure of adverse information

90 per cent vulnerability rule

Rule of three

Interpretability rules

15 valid AEDC children rule

80 per cent coverage rule

ERP rule

Refer to AEDC Data Guidelines for full details

Best way to report results for domains

Typically presented as a proportion of children in each category for each group

Extracts from miscellaneous data products

School summary

School profile

Data explorer

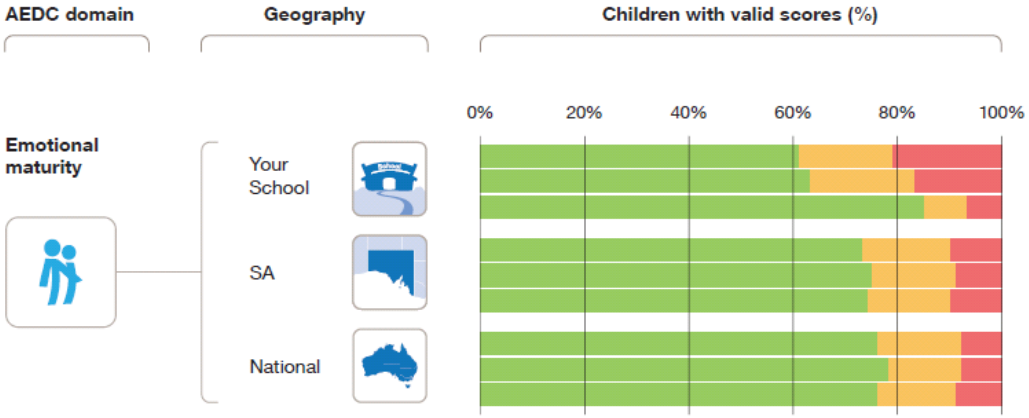
Community profile

National report

Best way to report results for domains

Emotional maturity

This domain measures children's pro-social and helping behaviours and absence of anxious and fearful behaviour, aggressive behaviour and hyperactivity and inattention



		Children with valid scores						
		Developmentally on track		Developmentally at risk		Developmentally vulnerable		Total
		(n)	(%)	(n)	(%)	(n)	(%)	(n)
Your School	2015	23	60.5	7	18.4	8	21.1	38
	2012	26	63.4	8	19.5	7	17.1	41
	2009	23	85.2	2	7.4	2	7.4	27
SA	2015	13,461	72.9	3,218	17.4	1,793	9.7	18,472
	2012	13,075	75.3	2,685	15.5	1,610	9.3	17,370
	2009	11,146	74.4	2,301	15.4	1,541	10.3	14,988
National	2015	218,341	76.4	43,594	15.3	23,866	8.4	285,801
	2012	213,059	78.1	38,778	14.2	20,845	7.6	272,682
	2009	186,210	75.6	38,160	15.5	21,827	8.9	246,197

Table 3: Emotional maturity domain category definitions.

Developmentally on track	Almost never show aggressive, anxious, or impulsive behaviour. Children will have good concentration and will often help other children.
Developmentally at risk	Experience some challenges in the following areas: helping other children who are hurt, sick or upset, inviting other children to join in activities, being kind to other children, and waiting their turn in activities. They will sometimes experience problems with anxious behaviours, aggressive behaviour, temper tantrums, or problems with inattention or hyperactivity.
Developmentally vulnerable	Experience a number of challenges related to emotional regulation. For example problems managing aggressive behaviour being prone to disobedience and/or is easily distracted, inattentive, and impulsive. Children will usually not help others and are sometimes upset when left by their caregiver.

Note on results: data is shown only for children with valid AEDC scores. For any given child, scores may be valid for only some domains (e.g. due to a certain number of AEDC questions not being answered). In such cases that child's results do not contribute to the domain's analysis. Totals may therefore vary across the domains as a result of this. Results for children with chronic special needs are not included in the results.

Best way to report results for domains

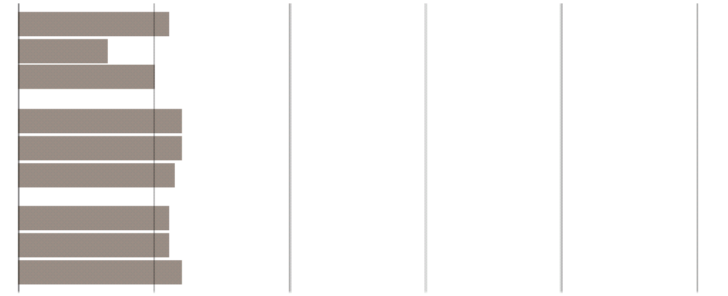
Developmentally vulnerable on ≥1 and ≥2 domain(s)

Summary indicators of developmental vulnerability on 'one or more' and on 'two or more' domains

Summary indicators | Geography | Children with valid scores (%)

Developmentally vulnerable on one or more domain(s)

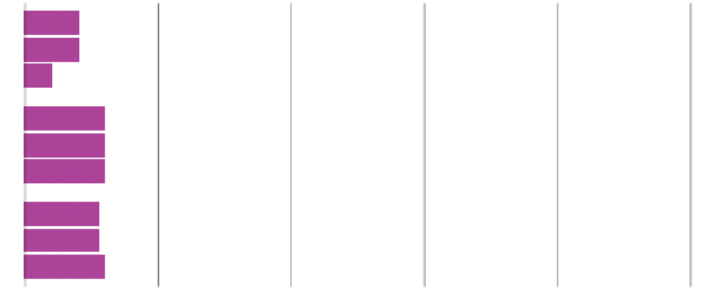
Vuln 1



Year	Children with valid scores: Number (n)	Percentage (%)	Total (n)
2015	20	21.5	93
2012	12	13.2	91
2009	14	20.3	69
2015	4,338	23.5	18,451
2012	4,115	23.7	17,355
2009	3,419	22.8	15,009
2015	62,960	22.0	286,041
2012	59,933	22.0	272,282
2009	58,036	23.6	246,421

Developmentally vulnerable on two or more domains

Vuln 2



Year	Children with valid scores: Number (n)	Percentage (%)	Total (n)
2015	7	7.5	93
2012	7	7.7	91
2009	3	4.3	69
2015	2,259	12.2	18,509
2012	2,126	12.2	17,399
2009	1,730	11.5	15,031
2015	31,754	11.1	286,616
2012	29,543	10.8	273,275
2009	29,227	11.8	246,873

Best way to report results for domains

Overall AEDC domain results for your school

Table 2.1 – Overall AEDC domain results for your school.

Domain	Total number of children with valid results	Developmentally on track (Number of children)	Developmentally on track (Percentage of children – %)	Developmentally at risk (Number of children)	Developmentally at risk (Percentage of children – %)	Developmentally vulnerable (Number of children)	Developmentally vulnerable (Percentage of children – %)
Physical health and wellbeing	7	3	42.9	2	28.6	2	28.6
Social competence	7	5	71.4	0	0.0	2	28.6
Emotional maturity	7	4	57.1	2	28.6	1	14.3
Language and cognitive skills (school-based)	7	6	85.7	0	0.0	1	14.3
Communication skills and general knowledge	7	5	71.4	2	28.6	0	0.0

In Table 2.1, percentage values have been rounded.

Best way to report results for domains

Developmentally vulnerable children

Table 3.1 reports the number of children in your school who are vulnerable on one or more developmental domain(s)

Table 3.1 – Overall results on one or more AEDC domain(s).

Total number of children with valid results	**Developmentally vulnerable on one or more domain(s)** (Number of children)	**Developmentally vulnerable on one or more domain(s)** (Percentage of children – %)
7	3	42.9

In Table 3.1, percentage values have been rounded.

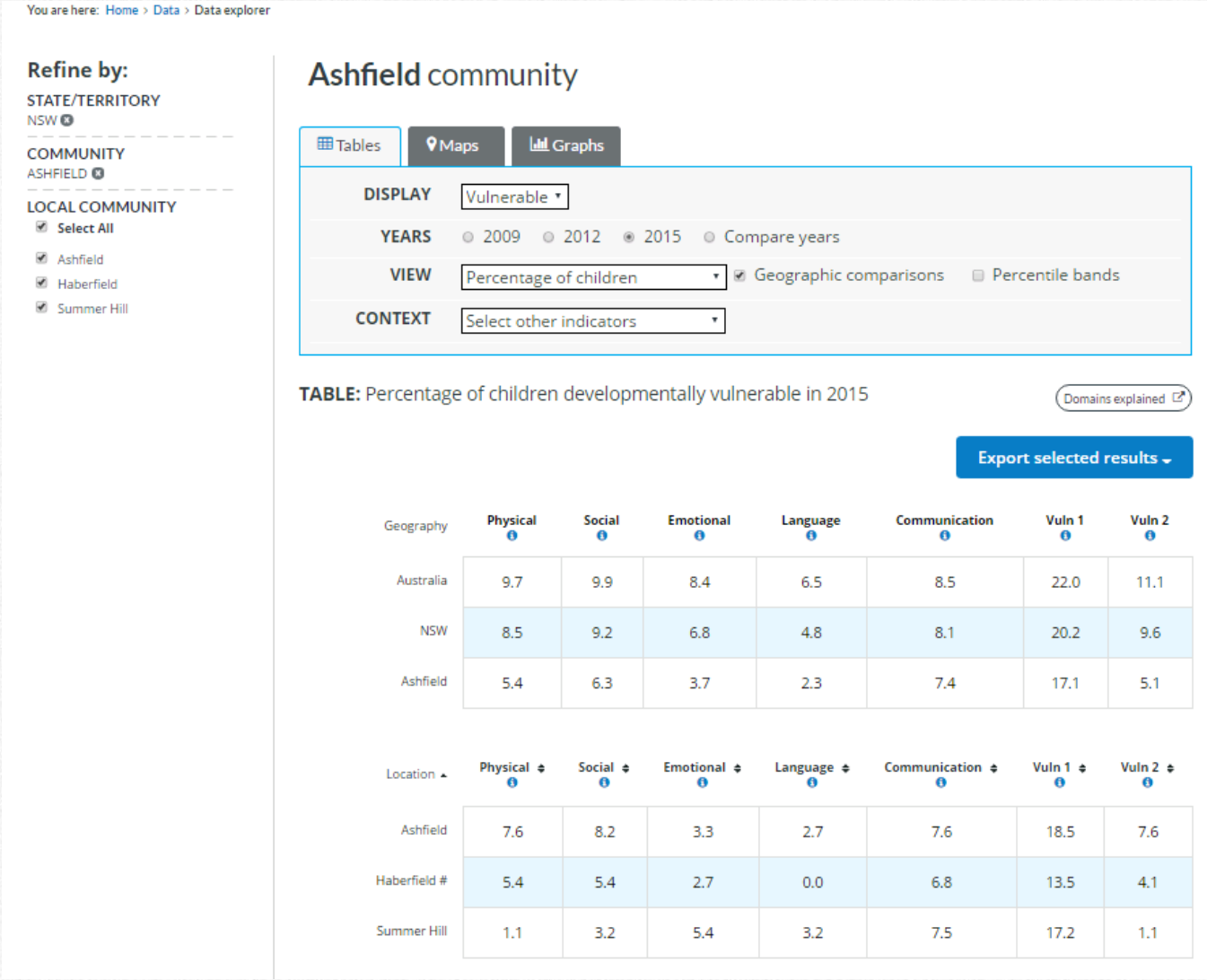
Table 3.2 reports the number of children in your school who are vulnerable on two or more developmental domains.

Table 3.2 – Overall results on two or more AEDC domains.

Total number of children with valid results	**Developmentally vulnerable on two or more domains** (Number of children)	**Developmentally vulnerable on two or more domains** (Percentage of children – %)
7	2	28.6

In Table 3.2, percentage values have been rounded.

Best way to report results for domains



Geography	Physical	Social	Emotional	Language	Communication	Vuln 1	Vuln 2
Australia	9.7	9.9	8.4	6.5	8.5	22.0	11.1
NSW	8.5	9.2	6.8	4.8	8.1	20.2	9.6
Ashfield	5.4	6.3	3.7	2.3	7.4	17.1	5.1

Location	Physical	Social	Emotional	Language	Communication	Vuln 1	Vuln 2
Ashfield	7.6	8.2	3.3	2.7	7.6	18.5	7.6
Haberfield #	5.4	5.4	2.7	0.0	6.8	13.5	4.1
Summer Hill	1.1	3.2	5.4	3.2	7.5	17.2	1.1

Best way to report results for domains

Emerging trends on the communication skills and general knowledge domain

Figure 7 – Emerging trends on the communication skills and general knowledge domain.

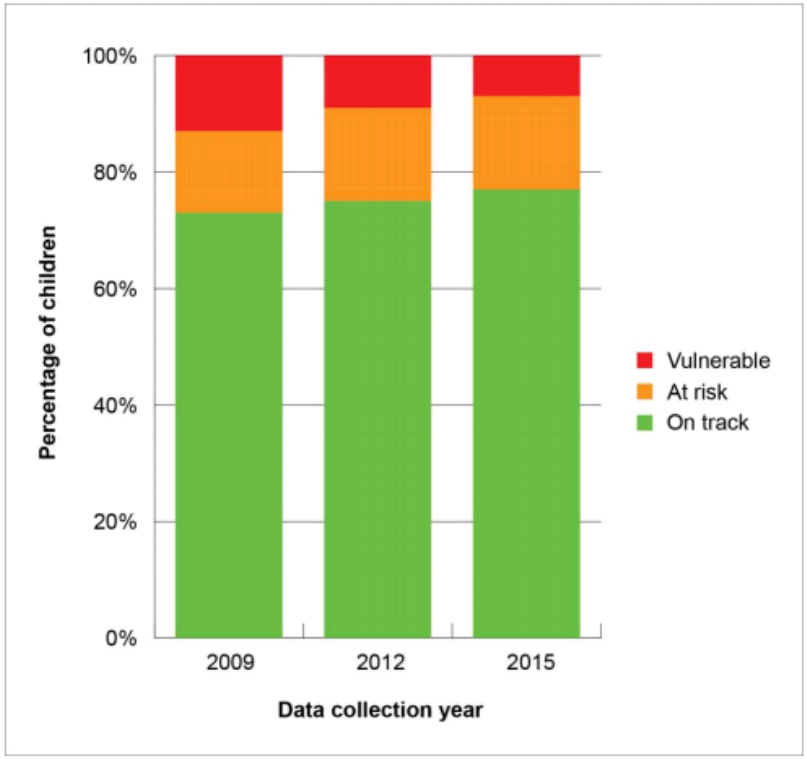


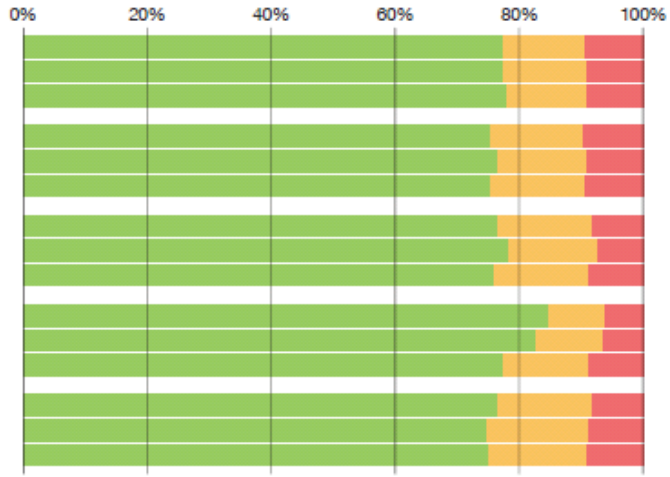
Table 19 – Emerging trends on the communication skills and general knowledge domain (Percentages shown).

Emerging trend	2009	2012	2015
Percentage of children developmentally on track (%)	72.7	75.1	77.2
Percentage of children developmentally at risk (%)	14.1	16.3	15.4
Percentage of children developmentally vulnerable (%)	13.2	8.7	7.4

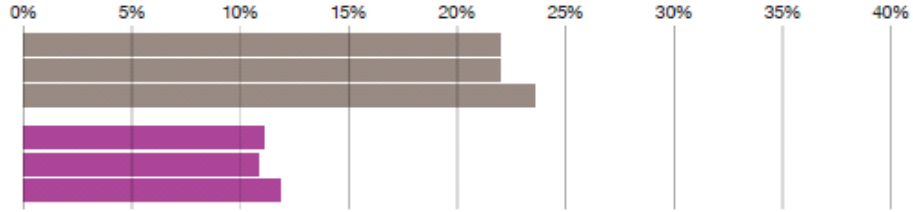
Note: Figures may not add up to 100% due to rounding.

Best way to report results for domains

National emerging trends by domain and developmental vulnerability (2009, 2012, 2015)



AEDC domain	Year	Developmentally on track (n)	Developmentally on track (%)	Developmentally at risk (n)	Developmentally at risk (%)	Developmentally vulnerable (n)	Developmentally vulnerable (%)	Total* (n)
Physical health and wellbeing	2015	221,855	77.3	37,347	13.0	27,711	9.7	286,913
	2012	211,806	77.3	36,637	13.4	25,479	9.3	273,922
	2009	192,031	77.7	32,157	13.0	23,044	9.3	247,232
Social competence	2015	215,605	75.2	42,892	15.0	28,351	9.9	286,848
	2012	209,149	76.5	39,018	14.3	25,367	9.3	273,534
	2009	186,265	75.4	37,499	15.2	23,425	9.5	247,189
Emotional maturity	2015	218,341	76.4	43,594	15.3	23,866	8.4	285,801
	2012	213,059	78.1	38,778	14.2	20,845	7.6	272,682
	2009	186,210	75.6	38,160	15.5	21,827	8.9	246,197
Language and cognitive skills (school-based)	2015	242,518	84.6	25,597	8.9	18,533	6.5	286,648
	2012	226,260	82.6	29,072	10.6	18,564	6.8	273,896
	2009	190,298	77.1	34,579	14.0	21,933	8.9	246,810
Communication skills and general knowledge	2015	219,023	76.3	43,415	15.1	24,475	8.5	286,913
	2012	204,702	74.7	44,633	16.3	24,520	9.0	273,855
	2009	185,484	75.0	39,027	15.8	22,701	9.2	247,212



Summary indicators	Year	Number (n)	Percentage (%)	Total* (n)
Developmentally vulnerable on one or more domain(s) (Vuln 1)	2015	62,960	22.0	286,041
	2012	59,933	22.0	272,282
	2009	58,036	23.6	246,421
Developmentally vulnerable on two or more domains (Vuln 2)	2015	31,754	11.1	286,616
	2012	29,543	10.8	273,275
	2009	29,227	11.8	246,873

*Total children with valid scores

AEDC National Report 2015 | 15

Questions

Email: support@aedc.gov.au

Phone: 03 9236 8523

Web: aedc.gov.au

NAPLAN data

Using NAPLAN data linked to the Pathways of Care Longitudinal Study

Dr Nadine Smith, Principal Statistical Analyst
Statistics and Analysis, CESE
Education, Centre for Education Statistics and Evaluation

6th March 2018

Overview

- *What is NAPLAN?*
- *POCLS linkage: Who is missing NAPLAN data and why?*
- *NAPLAN participation and performance indicators*
- *Data considerations*

What is NAPLAN ?

National Assessment Program – Literacy and Numeracy

- *Nationwide annual assessment*
- *Assesses **literacy and numeracy** skills required for students to progress through school and life*
- *Years 3, 5, 7 and 9*

Example POCLS NAPLAN student data:

- *Year 3 in 2008*
- *Year 5 in 2010*
- *Year 7 in 2012*
- *Year 9 in 2014*

NAPLAN tests

- ***Reading***
- ***Numeracy***
- *Writing* *Genre changes: narrative or persuasive*
- *Language conventions* *Spelling, grammar and punctuation*

NAPLAN scaled scores

- *One scale for each of the 5 domains*
- *Years 3, 5, 7 and 9 on the same scale*
- *Calendar years on the same scale*
  - *Example, Reading score of 400 reflects same level of attainment for a:*
    - **Year 3 student in 2008, and**
    - **Year 9 student in 2017**
      (ignoring measurement/equating error)

POCLS/NAPLAN data linkage: Who was linked?

CHeReL project person number (PPN)

- *1711 PPNs linked to NAPLAN student identifiers*
  - *36 PPNs linked to multiple NAPLAN student identifiers*
    - **Students with multiple student IDs?**
    - **Incorrect linkage?**
    - **Recommend excluding these records from analysis**
  - *1675 PPNs linked to unique NAPLAN student identifier*
    - **3373 NAPLAN records**
      - Between 1 and 4 records per student

POCLS/NAPLAN data linkage: Who was not linked?

- *Students not registered in NSW government schools in Years 3, 5, 7 and 9 between 2008 and 2014*
  - *Student age/year level out of scope*
  - *NSW non-government student, out of state/country*
  - *Missed linkage*

    e.g. timing of enrolment vs NAPLAN school registration, poor identifiers
  - *Anything else?*

NAPLAN participation

- *Present*
  - *Sat the test*
  - *Received score/band*
- *Absent*
  - *Not present for testing (Disengaged from school? Error in school registration?)*
  - *No score/band*
- *Withdrawn*
  - *Withdrawn from the testing program by their parent/carer*
  - *No score/band*
- *Exempt*
  - *Students with significant disabilities may be exempted from testing*
  - *Language background other than English, arrived less than a year before test*
  - *No score, but deemed **below** national minimum standard*

https://www.nap.edu.au/docs/default-source/default-document-library/naplan-national-report-2017_final_04dec2017.pdf?sfvrsn=0

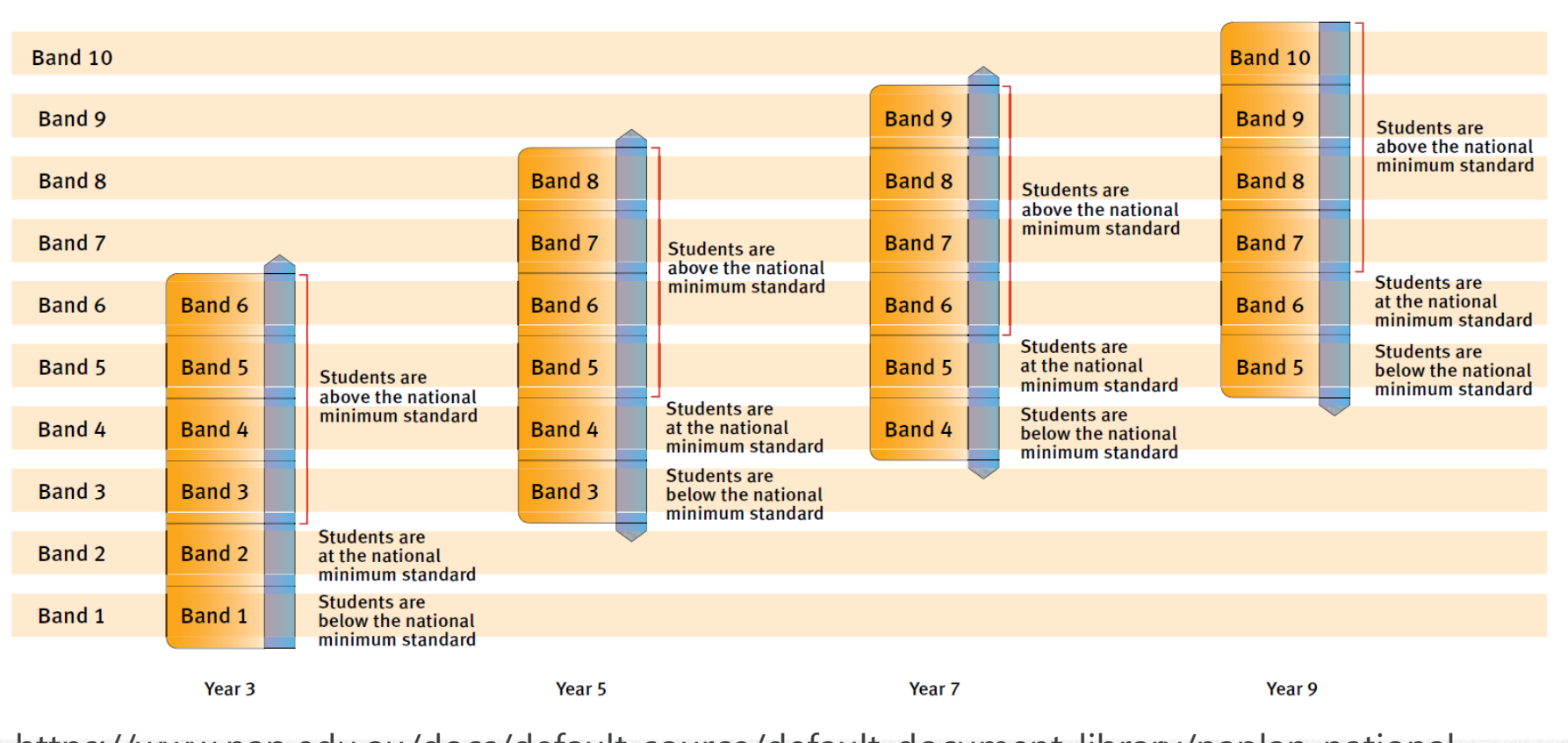
NAPLAN national minimum standard

- *Nationally agreed minimum acceptable standard of knowledge and skill, without which a student will have difficulty making sufficient progress at school*
- *Students **below** are likely to need focused intervention and additional support to help them achieve the skills they require to progress in schooling*
- *Student **at** national minimum standard are often considered to also be at risk of having difficulty making sufficient progress at school*

https://www.nap.edu.au/docs/default-source/default-document-library/naplan-national-report-2017_final_04dec2017.pdf?sfvrsn=0

NAPLAN band structure

Percentage of students in bands varies by domain and year level, based on the **selected** cut-points. Only compare group differences or difference over time **within** a domain and year level.



https://www.nap.edu.au/docs/default-source/default-document-library/naplan-national-report-2017_final_04dec2017.pdf?sfvrsn=0

NAPLAN performance indicator: At or below national minimum standard

- ***At or below*** *minimum standard (educationally at risk)*
    - **Bottom two bands for year level, and**
    - **Exempt students**
- ***Above*** *minimum standard*
    - **Top four bands for year level**
        - Can spilt if sample size permits
            - Middle two bands (on track)
            - Top two bands (premier's target, well on track)
- *Absent and withdrawn students excluded from numerator and denominator*

Data considerations

- *Sample size*
  - *Risk of identifying students, do not report cell sizes less than 5*
    - Try combining band categories
    - Use words not numbers

      e.g More students were above min. standard in cohort 1 than cohort 2
  - *Challenging to drawing conclusions from small samples*
- *Measurement/equating error*
- *Comparing like with like*
  - *NAPLAN linkage*
  - *NAPLAN participation*
  - *Starting scores*
  - *SES*

Data considerations

Socio-economic status

- *Index of Community Socio-Educational Advantage (ICSEA)*
  - *School level indicator of average SES of student's school at the time of NAPLAN testing*
  - *Variable linked to POCLS*
    - **ICSEA value (lower = lower SES)**
    - **ICSEA decile within NSW government school**

      e.g. Decile 1 – student's school (at time of testing) was in the lowest 10% of NSW government schools by SES

Data considerations

Socio-economic status

- *ICSEA limitations*
  - *School not student level*
  - *Parent/carer SES information may be out of date*
    - **From school enrolment form**
    - **Changes in parent/carer, e.g. OOHC**
    - **Changes prior to NAPLAN testing**
  - *Combines SES variables*
    - **Researchers cannot look at impact of individual SES variables**
- *Student level SES*
  - *Other SES variables in POCLS?*

Data considerations

- *Individual student growth*
  - *Highly related to starting score*
    - **Greater growth at the bottom of scale**
    - **Lower growth at top of scale**
    - **Potential for negative growth at the top end**
  - *Acceptable level of growth?*
    - **Challenging to determine what is expected**
    - **Compare students with similar starting scores**

Contacts

Dr Nadine Smith

Principal Statistical Analyst, Statistics and Analysis, CESE

nadine.smith@det.nsw.edu.au

9561 8226

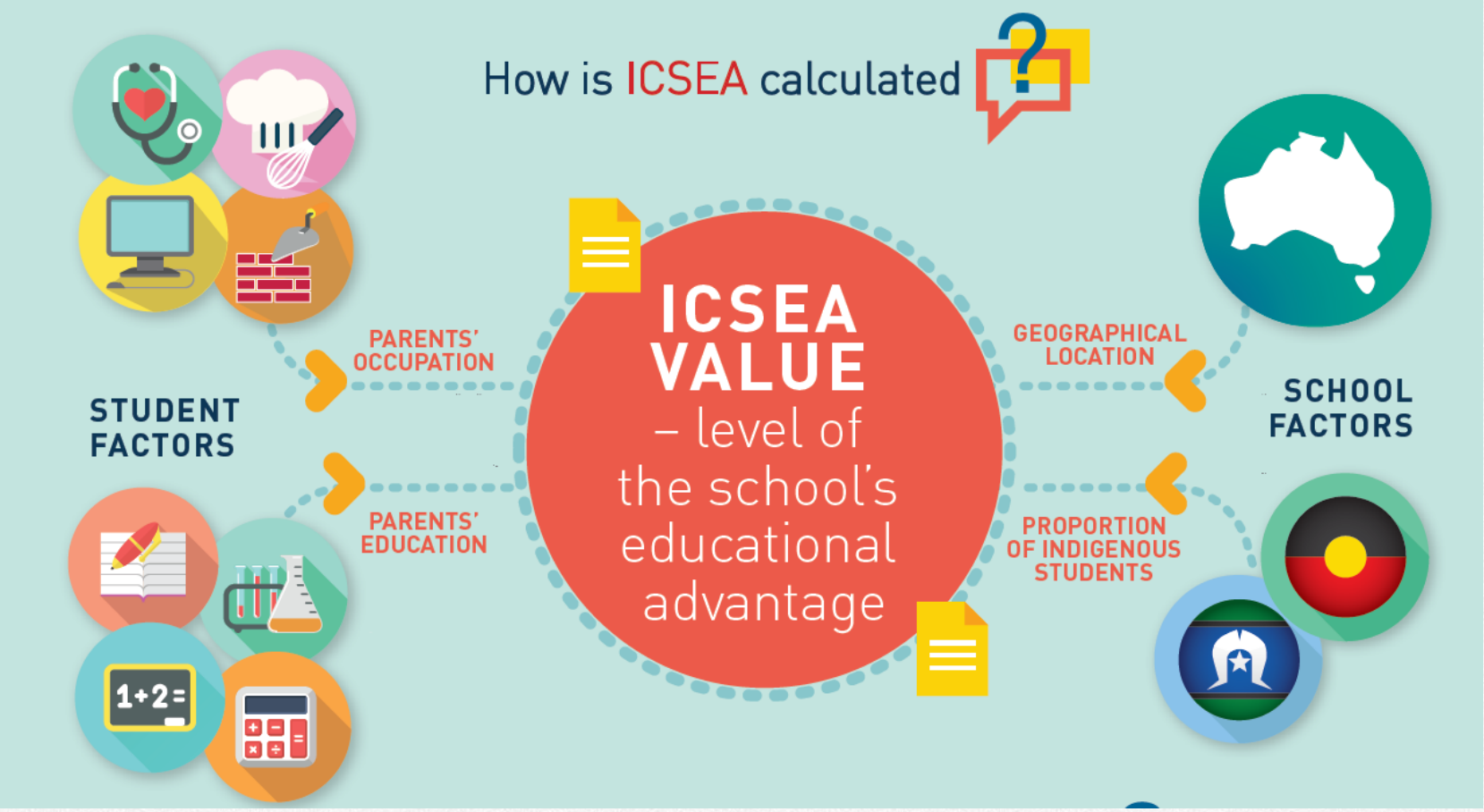
Dr Lucy Lu

Director, Statistics and Analysis, CESE

Lucy.lu@det.nsw.edu.au

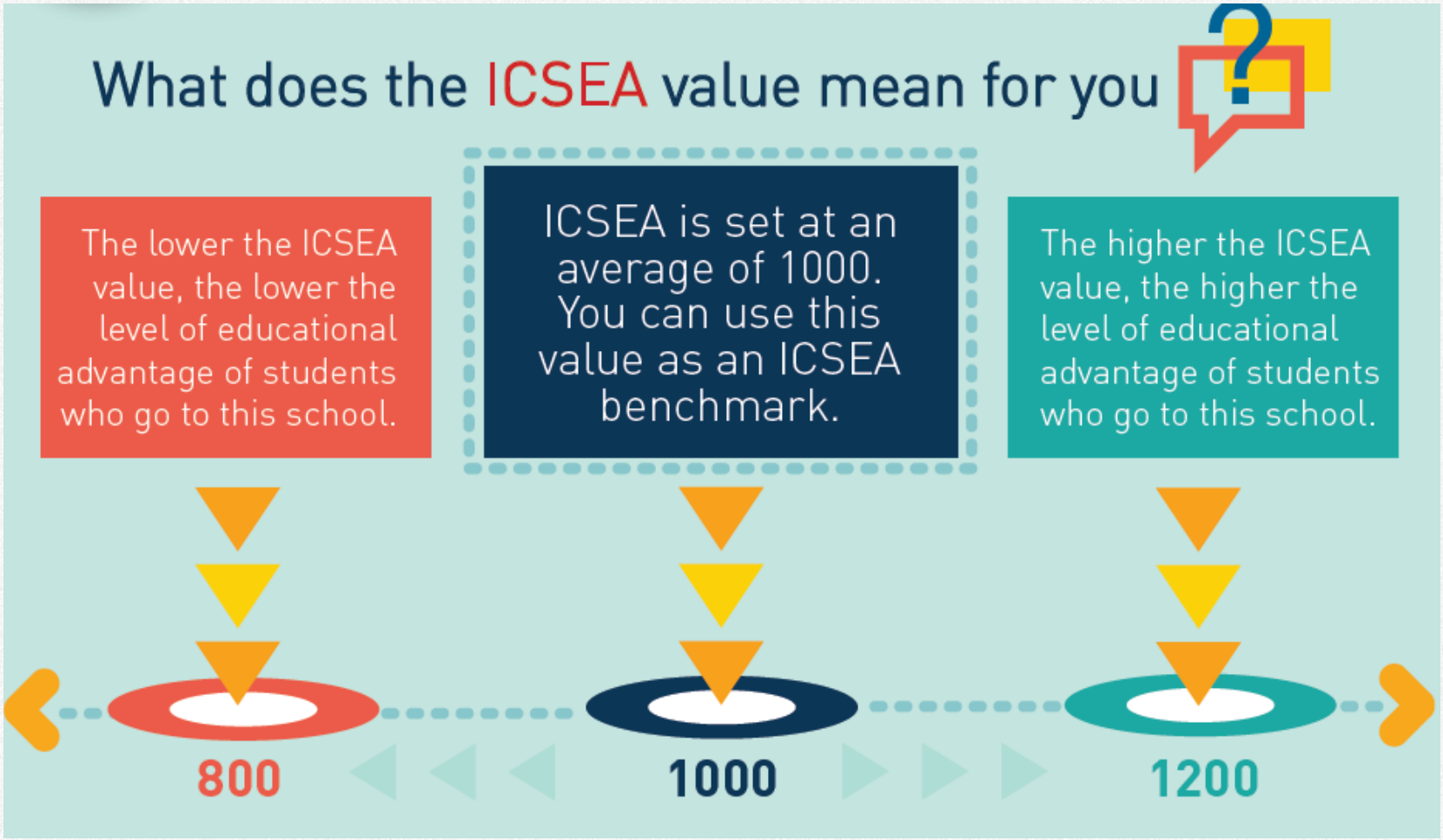
9561 8691

School socio-educational disadvantage



http://docs.acara.edu.au/resources/About_icsea_2014.pdf

School socio-educational disadvantage



http://docs.acara.edu.au/resources/About_icsea_2014.pdf

NSW Health data

POCLS Study Working Group

Health data: Tips and Tricks

Prepared by **Michael Nelson**
Principal Analyst, Strategic Information
Centre for Epidemiology and Evidence
NSW Ministry of Health
April 2018

NSW GOVERNMENT | Health

Admitted Patient Data (APDC)

All inpatient separations (discharges, transfers and deaths) from all NSW:

public, private, psychiatric and repatriation hospitals

public multi-purpose services, private day procedure centres and public nursing homes.

Episode of care level data (Service Category changes: Acute / Rehab / Palliative Care)

Reporting by separation date

Diagnosis and procedures coded after separation (by trained clinical coders)

Patients are transferred between hospitals

Contract care arrangements may see care recorded in two facilities simultaneously

APDC – Variables requested

PPN

Episode Start Date

Days in Psych unit

The number of days the person was accommodated in a designated psychiatric unit, if they were admitted to a designated psychiatric unit at any time during the episode of care

Note from July 2017 there is a specific care type for mental health inpatient units

Episode length of stay

= episode end date – episode start date – leave days

Diagnosis codes

Major Diagnostic Category

APDC – details

Diagnoses and procedures coded using ICD10AM / ACHI

Classification and coding rules

Updated / changed every 2 years (10th Edition 1 July 2017)

Codes can change [eg: haemorrhoids]

Coding rules can change

Diabetes

Viral Hepatitis

Rehabilitation and primary diagnoses

https://www.accd.net.au/Icd10.aspx

Injuries have additional information:

External Cause [Accidents / Intentional Self Harm / Assault/ V00 – X59]

Place [Y92]

Activity [Uxx.x]

APDC – details

Major Diagnostic Category

DRG category (similar to primary diagnosis)

Versions change similarly to ICD10AM

See https://www.ihpa.gov.au/what-we-do/ar-drg-classification-system

Emergency Department Data (EDDC)

Presentations to Public Hospital Emergency Departments

Coverage improving over time. Varies by region

Eg: Southern NSW – 1 hospital reporting.

Diagnosis coding – variation in coverage and classifications used

ICD9 / ICD10 / SNOMED

Not all facilities will report diagnosis information

Coded by staff at point of care

Overlap with APDC – patients admitted from / to ED

Details on SNOMED: https://www.digitalhealth.gov.au/get-started-with-digital-health/what-is-digital-health/clinical-terminology

RBDM Death Registrations

Deaths registered in NSW

Medical certificate cause of death (free text)

Condition Directly Related / leading to death

Antecedent Causes

Other significant conditions

Some deaths are:

Reportable (Coroners act 2009 Section 6)

Examinable (Coroners act 2009 Section 23); (Coroners act 2009 Section 24)

NSW MOH receives daily feed of "registered" deaths

Coroners deaths may be slower

Cause information depends on coroner findings

RBDM Deaths linked every 6 & 10 Weeks

Cause of Death Unit Record File

Deaths registered in NSW

Cause of death information coded by ABS

http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3303.0Explanatory%20Notes12016

Using Coronial and MCCD data

Data released ~ annually. Currently available to 2016

Underlying cause

All contributing causes

Deaths coded to ICD10 (WHO)

https://www.aihw.gov.au/about-our-data/our-data-collections/national-mortality-database/deaths-data

Cause of Death Unit Record File

Underlying Cause:

The disease or injury which initiated the train of morbid events leading directly to death. Accidental and violent deaths are classified according to the external cause, that is, to the circumstances of the accident or violence which produced the fatal injury rather than to the nature of the injury.

Record Axis (RACS) Data

The ICD-10 coded data representing all morbid conditions, diseases and injuries associated with the death as they are recorded after application of the ICD-10 coding rules and procedures for the selection of underlying and associated causes of death for mortality tabulation. Part of the process applies modification rules, improbable sequence rules and in addition duplicate codes and noise codes are removed.

Perinatal Data Collection (PDC)

All live births, and stillbirths of at least 20 weeks gestation or at least 400 grams birth weight in NSW public and private hospitals, as well as homebirths

Revised in 1998, 2006, 2011, 2016

Project person number

Mother's age

Mother's SLA of residence

Number of previous pregnancies

Gestational age

Birth weight

APGAR score (5 min)

Admitted to neonatal intensive care unit

Admission to Special Care Nursery or Neonatal Intensive Care

Questions?

Other useful links:

http://www.healthstats.nsw.gov.au/ [Indicator / methods / codes tabs]

CHEREL Data Dictionaries:

http://www.cherel.org.au/data-dictionaries

Questions??? comments???

Please send feedback to albert.zhou@facs.nsw.gov.au

NSW GOVERNMENT