Australian Early Development Census

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Social Research Centre

Report prepared for:

AEDC Team

Early Learning Collections and Analysis | Early Childhood and Child Care

Australian Government Department of Education

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List of acronyms

ABN	Australian Business Number
ABS	The Australian Bureau of Statistics
ABS SCH	Australian Bureau of Statistics Statistical Clearing House
ACN	Aboriginal Community Number
AEDC	Australian Early Development Census
AEDI	Australian Early Development Index
ATSI	Aboriginal and Torres Strait Islander
ATSI CC	Aboriginal and Torres Strait Islander Cultural Consultant
AvEDI	Australian version of the Early Development Instrument
CCCH	Centre for Community Child Health
CURF	Confidentialised Unit Record File
CWG	Communications Working Group
EDI	The Early Development Instrument (developed in Canada)
ESL	English as a Second Language
EWG	Executive Working Group
LBOTE	Language Background Other Than English
MCDS	Measuring Children's Developmental Strengths pilot
SAS	Statistical Analysis System (data analysis software)
SPSS	Statistical Package for the Social Sciences
SRC	The Social Research Centre
STC	State / Territory Coordinator
SWG	Strategic Working Group
TKI	Telethon Kids Institute
URF	Unit Record File

Glossary

Australian Early Development Census or AEDC	A population measure of young children's development based on a teacher completed instrument across five developmental domains (AEDC domains). Prior to 1 July 2014, the AEDC was known as the Australian Early Development Index (AEDI).
Australian version of the Early Development Instrument ('the instrument')	The Early Development Instrument, which has been adapted for use in Australia.
Community	AEDC Communities are a geographic area, usually equivalent to a Local Government Area (LGA), and are made up of Local Communities (see 'Local Community').
Community Profile	The AEDC Community Profiles report the percentage of children on track, developmentally at risk and developmentally vulnerable for each developmental domain at the suburb or small area locality (Local Community) of the child.
Cut-off scores	For each of the five AEDC domains, children receive a score between zero and ten, where zero is most developmentally vulnerable. In 2009, when the AEDC was first completed nationally, a series of cut off scores was established for each of the five domains. Children falling below the 10th percentile were considered developmentally 'vulnerable', children falling between the 10th and 25th percentile were considered developmentally 'at risk', and all other children were considered to be 'on track'. The cut off scores set in 2009 provide a reference point against which later AEDC results can be compared. These have remained the same across the three collection cycles. For example, in the 2018 AEDC only 6.6 per cent of children were considered developmentally 'vulnerable' on the Language and Cognitive Development domain, using the cut off scores established in 2009.
Data collection system	A secure data entry system designed specifically to manage data collection for the AEDC.
Developmentally at risk	The cut-off for an AEDC score to represent 'at risk' is based on the baseline set in the 2009 AEDC data collection. In 2009, children who scored between the 10th and 25th percentile of the national population were classified as at risk.
Developmentally on track	The cut-off for an AEDC score to represent 'on track' is based on the baseline set in the 2009 AEDC data collection. In 2009, children who scored above the 25th percentile (in the top 75 per cent) of the national population were classified as on track.

Developmentally vulnerable	The cut-off for an AEDC score to represent 'vulnerable' is based on the baseline set in the 2009 AEDC data collection. In 2009, children who scored below the 10th percentile (in the lowest 10 per cent) of the national population we classified as vulnerable.
Developmentally vulnerable on one or more domain/s (Vuln1)	The percentage of children who are classified as developmentally vulnerable on one or more AEDC domains.
Developmentally vulnerable on two or more domains (Vuln2)	The percentage of children who are classified as developmentally vulnerable on two or more AEDC domains.
Domain score	An AEDC score is calculated for each child for each domain that has 75 per cent or more questions completed. The AEDC scores range from 0 to 10 (0 is the lowest score; 10 is the highest score).
Domains	The AEDC measures five areas, or domains, of early childhood development that form the foundations for later good health, education and social outcomes. These domains are: • Physical health and wellbeing • Social competence • Emotional maturity • Language and cognitive skills (school-based) • Communication skills and general knowledge.
Early Development Instrument (EDI)	The Early Development Instrument (EDI) was developed in Canada to measure the developmental health and wellbeing of populations of young children. An Australian adapted version of the EDI is the teacher completed instrument used in the AEDC program
English as a Second Language (ESL) children	Children are considered to have ESL status where English is not their first language and they need additional instruction in English; or, where English is not their first language and they have conversational English but are not yet proficient in English.
Geocode	A geographic location code, expressed as latitude and longitude) based on other geographic data, such as street address, locality or post code.
Implied informed consent	Refers to the process by which parents / carers are informed about the AEDC (*the Parent Information Letter*) and have the opportunity to opt-out, in writing or verbally, if they do not want information to be recorded for their child for the AEDC.

Indigenous Adaptation Study	The purpose of this study was to adapt the Instrument to ensure its relevance and sensitivity to the needs of Australian Indigenous children. It was initiated by the Centre for Developmental Health and the Kulunga Indigenous Research Network at Perth's Telethon Institute for Child Health Research in 2007, on behalf of the national partnership between the Centre for Community Child Health and Telethon Institute for Child Health Research.
Language Background Other Than English (LBOTE)	Children are considered 'LBOTE' if they speak a language other than English at home, or if they speak English at home but are still considered to have ESL status.
Local community	A small area locality, usually representing a suburb or town. For its results to be reported Local Communities must have a minimum of 15 children and two teachers. Results are not reported if more than 20 per cent of children were identified as children with special needs.
Measuring Children's Developmental Strengths	A pilot project conducted in a small number of schools during Cycle 4 to explore the possibility of extending the range of development that is measured by the AvEDI through the addition of items measuring children's developmental strengths.
Parent information letter	Letter provided in the *School Leader Pack*, and available for download from the AEDC website, for distribution by schools to parents / carers of children in the first year of full time school. The letter informs parents / carers about the AEDC and stipulates the privacy and confidentiality provisions that apply.
Participation rate (child)	The number of completed instruments, as a proportion of the total estimated number of children eligible to participate in the AEDC.
Participation rate (school)	The number of schools which participated in the AEDC, as a proportion of the total estimated number of schools eligible to participate in the AEDC.
Pre-population	The population of background / demographic items in the Instrument, such as child name, residential address and date of birth, from administrative data, in advance of the commencement of instrument completion.
Post-population	The population of items in the Instrument, such as child demographics or attendance data, from administrative data, as part of post-data collection activities. These items are suppressed in the data collection system during instrument completion.
Proficient in English	Proficient in English refers to what is expected of the average monolingual English speaker in a similar phase of development. For the AEDC, children are considered proficient in English if teachers answered 'average' or 'good / very good' to the Australian version of the Early Development Instrument question: 'How would you rate this child's ability to use language effectively in English?'

	This question refers to the child's use of the appropriate words and expressions at appropriate times, as well as the child's contribution to conversations. Effective use is defined as 'use sufficient to convey the desired message'. Only basic grammatical concepts need to be adhered to, so long as the meaning is clear. Teachers were asked specifically to consider English language skills.
School activation	Process of schools 'registering' for the AEDC and 'setting up' the school on the secure data collection system, prior to the commencement of instrument completion by teachers.
School frame	A reference table containing contact and location information for each school with children who are in scope for the AEDC.
School Leader Pack	Information provided to schools to assist with planning for the AEDC, as well as the completion of school activation.
School Profile	School principals receive an AEDC School Profile which provides information about the number of children attending the school who are considered to be developmentally vulnerable, and those performing well, compared with all other children across Australia. School Profiles can be used for school planning, but are not intended for general publication.
School Profile Addendum	The addition of comparative state / territory and national results to the School Profile.
Small schools	A school with less than 6 children enrolled in the first year of full time school
Special needs	A child requiring special assistance because of chronic medical, physical, or intellectually disabling conditions (e.g. Autism, Cerebral palsy, Down syndrome) based on a medical diagnosis or diagnoses.
Special schools	A school dedicated to children with special needs
State / Territory Coordinators	State and Territory Coordinators provide leadership, oversight and co-ordination of the implementation of the AEDC in their jurisdiction.
Teacher Pack	Information provided to schools to support teacher training for the AEDC.
Valid domain scores	Scores are flagged as invalid for children who have been in class for less than one month, are less than four years old or where teachers complete less than 75 per cent of the items in any given domain.
Valid instrument	A completed instrument for a child aged four, five or six years, where the child is not considered to have 'special needs'; and where sufficient instrument responses have been completed for a domain score to be calculated.

Executive summary

I.I AEDC background, objectives and scope

The Australian Early Development Census (AEDC) is a population-based measure of children's development as they enter school, adapted from the Early Development Instrument (EDI) developed in Canada.

The AEDC measures five areas of early childhood development from information collected through a teacher-completed research tool:

- physical health and wellbeing – measures children's physical readiness for the school day, physical independence and gross and fine motor skills
- social competence – measures children's overall social competence, responsibility and respect, approaches to learning and readiness to explore new things
- emotional maturity – measures children's pro-social and helping behaviours, and absence of anxious and fearful behaviour, aggressive behaviour and hyperactivity and inattention
- language and cognitive skills (school-based) – measures children's basic literacy, advanced literacy, basic numeracy, and interest in literacy, numeracy and memory
- communication skills and general knowledge – measures children's communication skills and general knowledge based on broad developmental competencies and skills.

Although information is collected from teachers, results are reported for the community where children live, not where they go to school.

Following the success of the first and second national implementations of the AEDC, Cycle 1 in 2009, and Cycle 2 in 2012, the Australian Government made a commitment to collect these important data every three years. The third national implementation (Cycle 3) was conducted in 2015 and the fourth collection (Cycle 4) in 2018.

I.II Instrument and workflow changes for Cycle 4

A key theme for Cycle 4 was to maintain overall consistency of approach relative to Cycle 3 and this was reflected in only minor instrument refinements and modifications to the workflow. This technical report highlights where processes and workflows were updated relative to Cycle 3.

Instrument changes for Cycle 4 were minor and included replacement of 'Indigenous Cultural Consultant' with 'Aboriginal and Torres Strait Islander Cultural Consultant' throughout the Instrument, the addition of the words 'medically diagnosed' to the on-screen definition of special needs, the display of a secondary list of common conditions at the 'special needs' and 'emerging needs' questions, filtering of item D9 'trauma, isolation or difficulties associated with resettlement' to children not born in Australia, and for forms of non-parental care in the year before entering full time school in Section E, the Cycle 3 items 'other person (includes friend or neighbour) and 'other' were collapsed into 'other (includes friend or neighbour) for Cycle 4.

The main workflow changes for Cycle 4 included: the creation of 'testing modules' for data collection system testing; refinements to the AEDC Coordinator and Principal roles; development of a school frame specification and school frame management activities driven from jurisdictional lists rather than Australian Government lists; the option for jurisdictions to send *School Leader* and *Teacher Packs* out together; the simplification of the invoicing workflow; a specific ATSI CC engagement strategy that

included an update of all ATSI CC engagement materials; the ability for ATSI CCs to register on the system (optional) and complete a similar registration and training workflow as teachers; enhanced awareness-building communication strategy that extended to 'small schools' and 'special schools'; expanding the bulk upload option available to individual schools not covered by central pre-population; extending post-population options to include child attendance data; instrument changes to accommodate items for the Measuring Children's Developmental Strengths pilot; and changes to School Profile dissemination method.

I.III Achieved participation rate summary

Between 1 May and 24 August 2018, a total of 17,508 teachers from 7,507 Government and non-Government schools completed instruments for 308,953 children in their first year of full time school.

The school participation rate for Cycle 4 was 96.7 per cent, exceeding the target school participation rate of 95 per cent, matching the school participation rate achieved in Cycle 3 (96.7 per cent) and exceeding the rate in Cycle 2 and 1 (both 95.6 per cent).

The child participation rate for Cycle 4 was 96.4 per cent, exceeding the target child participation rate of 95 per cent, very similar to the child participation rate achieved in Cycles 2 and 3 (both 96.5 per cent) and marginally below the child participation rate reported for Cycle 1 (97.5 per cent). The absolute number of children for whom an instrument was completed increased by 6,950, from 302,003 in Cycle 3 to 308,953 in Cycle 4.

I.IV Key issues for future collections

Key issues for future collections include:

- the development of strategies to maintain the overall school and child participation rates and maximise the independent schools sector participation rate
- enhancements to the modular approach to data collection system testing and a comprehensive testing schedule that covers the entire workflow (both front end and back end tasks) with sufficient time for feedback and re-testing prior to going 'live'. Investigate effective strategies to better engage STCs in system testing and providing feedback
- facilitating a strong start to data collection through awareness building activities, timely distribution of supporting materials to schools for initial planning, and timely access to the data collection system to facilitate school 'set up' activities upon receipt of materials
- improvements to the school frame preparation and finalisation processes
- minimising teacher burden through attention to timely forward planning for the pre-population process and, potentially, expanding the items to post-populate
- the maintenance of a schedule which provides an adequate window for post-collection activities including post-population, data cleaning, data quality assurance processes and report preparation.

1. Introduction

1.1 About the AEDC

The Australian Early Development Census (AEDC) is a national measure of children's development, as they enter their first year of full time school.

The AEDC highlights what is working well and what needs to be improved or developed to support children and their families, and helps communities know how their children are progressing.

The AEDC is undertaken every three years, with the 2018 AEDC being the fourth round of data collection ('Cycle 4').

The census involves teachers of children in their first year of full time school completing a research tool, the Australian version of the Early Development Instrument ('the Instrument'), which has been adapted from the Early Development Instrument (EDI) developed in Canada.

The Instrument collects data relating to five key areas of early childhood development referred to as 'domains', these include:

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

The AEDC domains have been shown to predict later outcomes in health, wellbeing and academic success.

The total number of children included in the AEDC, and the number of teachers and schools contributing to the results of the four collections, is summarised in Table 1.1.

Table 1.1 Number of children, teachers and schools participating in the AEDC nationally

Year of data collection	2009	2012	2015	2018
Cycle	1	2	3	4
Total number of children included	261,147	289,973	302,003	308,953
Teachers contributing to the results	15,522	16,425	16,968	17,508
Schools contributing to the results	7,422	7,417	7,510	7,507

For further background information about the AEDC program and results, refer to http://www.aedc.gov.au/about-the-aedc.

1.2 About this report

This report sets out to document the technical aspects of the 2018 AEDC Data Collection, with a particular emphasis on the evaluation of processes, workflows and response dynamics.

With the program in its fourth cycle, a large number of these processes and workflows are well established and required only minor refinements relative to Cycle 3.

This report seeks to:

- provide a detailed description of Cycle 4 data collection processes (Section 2), highlighting particularly where refinements were made relative to Cycle 3
- analyse selected aspects of the collection, with a view to identifying opportunities for improved execution of future implementations (Section 3)
- summarise issues for consideration for future implementations (Section 4).

Detailed technical and reference information is appended to this report.

For detailed information about AEDC data, including a comprehensive *AEDC Data Dictionary*, as well as a range of data management policy documents, refer to http://www.aedc.gov.au/researchers.

For analysis of the Cycle 4 results, refer to the *2018 AEDC National Report* which can be downloaded from https://www.aedc.gov.au/resources/detail/2018-aedc-national-report.

2. Review of AEDC data collection processes

2.1 Project establishment and governance

This section provides an overview of key project stakeholders, project governance arrangements, and other key establishment tasks, such as ethics clearance.

2.1.1. Key stakeholders

The AEDC is a collaborative project, involving a number of entities. The Australian Government, represented by the Department of Education and Training (the department), works in partnership with eminent child health research institutes, the Centre for Community Child Health (CCCH) at the Royal Children's Hospital, Melbourne, and the Telethon Kids Institute ('the Institute'), Adelaide, as well as State and Territory Governments, to implement the AEDC program.

State and Territory Coordinators (STCs) are funded by the department to provide leadership, oversight and coordination of the implementation of the AEDC in their jurisdiction. The focus of the STC role is to engage key stakeholders for the successful implementation of the AEDC, to support communities, schools and teachers in the successful implementation of the AEDC, to increase awareness of the AEDC and to assist communities to use the AEDC results.

The Institute supports all states and territories to implement the AEDC including:

- facilitating regular teleconferences and meetings
- undertaking research and analysing the ways in which the AEDC data is currently used in communities
- identifying the development needs of STCs
- facilitating the delivery of online support and training to STCs
- developing AEDC resources
- developing written materials to assist STCs investigate and access other sources of funding
- hosting the AEDC Conference (held in Melbourne in March 2018).

Key stakeholders in the data collection included schools, school sector organisations, teachers and parents.

2.1.2. Overview of project management arrangements

The AEDC team within the Early Learning Collection and Analysis section of the Early Childhood and Child Care branch, was responsible for overall program management within the department.

The AEDC National Committee comprised representatives from the department, each jurisdiction, the Australian Bureau of Statistics, the Australian Institute of Health and Welfare, the Department of Health and the Department of Social Services. The Institute, as a content expert, and the Social Research Centre (SRC), as the data collection management contractor, were represented as non-voting members.

The role of the AEDC National Committee was to guide the national implementation to ensure the potential value of the AEDC to contribute to early childhood outcomes is realised through:

- monitoring the progress and issues reported by the STCs
- overseeing the AEDC implementation, including collection, processing and dissemination of findings and data
- overseeing the development of the refreshed AEDC national, community and school reporting templates
- acting as a forum to share knowledge and expertise on how the findings can translate into services that improve outcomes for children
- identifying successful strategies to use the findings to influence change more broadly.

The Strategic Working Group (SWG) was formed in early 2018 and comprised representatives from the department, CCCH, the Institute and the SRC. The role of the SWG is to provide advice to the department on:

- future strategic applications and directions of the AEDC
- technical and policy issues involving the AEDC and the AvEDI (for example on the MCDS project and expanding use of the AvEDI platform)
- clinical issues relating to the AvEDI and AEDC (e.g. reporting on children with special needs).

The Communications Work Group (CWG), which was formed in 2014 and reconvened for Cycle 4 in November 2017, comprises representatives from the department, the Institute and the SRC. The role of the CWG is to work collaboratively to:

- develop AEDC communication materials
- co-ordinate engagement and activation of channels
- ensure all AEDC communication materials are consistent, technically accurate and practical
- ensure overarching communication objectives are met.

AEDC project issues were addressed and open communications were maintained through a series of structured meetings, including:

- biannual AEDC National Committee meetings
- quarterly STC face-to-face meetings
- monthly STC teleconferences
- Communications Working Group
- Quarterly SWG meetings
- weekly teleconferences between the department and the SRC.

Additional meetings were convened as required.

2.1.3. Ethics

The existing AEDC ethics application, which was submitted by the department to the Royal Children's Hospital Human Research and Ethics Committee (HREC) for Cycle 3 was amended and extended to cover Cycle 4 with CCCH (Professor Sharon Goldfeld) as Principle Investigator.

To support the amended request, the following documents were provided in the HREC submittal:

- a copy of the Instrument
- an updated version of the Parent letter (dated 1 December 2017)
- an updated version (v13) of the Protocol (dated 13 November 2017)
- the Annual Report (dated 11 December 2017)
- a Change of Investigator form to update staffing from previous departmental representative (dated 7 December 2017)
- an updated Modification form (dated 11 December 2017).

Ethics approval was received from the Royal Children's Hospital Human Research and Ethics Committee, Melbourne on 19 December 2017.

2.1.4. Privacy and confidentiality

At all stages of the AEDC data collection and data preparation processes, the privacy of individuals involved either as data collectors (the teachers) or as data sources (the children) was maintained in accordance with the *Privacy Act 1988 (Privacy Act*), the Australian Privacy Principles and state / territory privacy legislation and policies.

For a brief discussion of privacy issues relating specifically to the provision of pre-population information, refer to Section 2.6.5.

2.2 Data collection system specification and workflow development

This section describes how the specification for the data collection system for Cycle 4 evolved, and how workflows were developed and refined in response to stakeholder needs and feedback.

Key aspects of the workflow and system features are reviewed at Section 3.7.

2.2.1. Challenges to address from Cycle 3

Challenges to address for Cycle 4, as informed by the Cycle 3 Technical Report and subsequent consultations with stakeholders included:

- the data collection system to be tested, finalised, and available for demonstration in its final form, two to three months ahead of the start of Cycle 4 data collection
- minor refinements to AEDC Coordinator-related workflows, authorities and system features
- understanding the implications of jurisdiction specific variations to the standard pre-population workflow as early as possible in the system specification cycle
- development of a school frame specification so that jurisdictional data managers can generate school frame information to support pre-data collection awareness building activities as required

- further scope to improve the invoicing preparation workflow, the invoice authorisation process and the school finalisation process, as well as features and functionality related to Financial Managers responsible for multiple schools
- as part of the Instrument Review, give careful consideration to the continued inclusion and / or format of a number of non-licensed items that are 'difficult' for teachers to answer
- stronger messaging and improved engagement materials specific to ATSI CC usage (previously referred to as ICCs)
- improved options for de-centralised pre-population, particularly for schools in the independent sector.

Initial workflow development for the Cycle 4 data collection system specifically sought to address these issues, with a view to delivering an improved overall user experience and enhanced features, relative to Cycle 3.

2.2.2. Workflow development consultation process

An initial meeting was held with STCs on 27 July 2017 to confirm the main areas for workflow development and data collection system enhancement for Cycle 4, and seek feedback on proposed approaches to address areas for improvement from Cycle 3.

Over the following months, additional feedback was sought through the monthly STC teleconference on specific aspects of workflow, including the school frame preparation and maintenance process, data collection system functionality for ATSI CCs, centralised pre-population and de-centralised pre-population options, the activation workflow, finalisation / invoicing workflows and the STC dashboard.

The key features of the proposed data collection system workflow for Cycle 4 were presented to STCs in October 2017 through a 'design preview' process with screenshots that demonstrated progression through the workflow and illustrated the overall 'look and feel' of the updated data collection system.

Following consolidation of feedback on the concepts presented through the design preview process, the data collection system specifications were finalised, and scripting of the data collection system commenced.

2.2.3. Final workflow overview

Following consultation with stakeholders, the final workflow incorporated the following 'roles' within each 'unit' (school campus) for Cycle 4:

- **AEDC Coordinator** – set up the school on the data collection system, identify the teachers who would be completing instruments, coordinate the entry of child demographic information where there was no centralised pre-population, invite teachers to register on the data collection system, monitor overall progress with the collection at the school, act as the focal point for system generated alerts and reminders, sign off that all teachers had finished instrument completion activity, and review the parameters of the teacher relief reimbursement invoice (number of teachers trained, number of instruments completed, etc) prior to invoice preparation by the Financial Manager. AEDC Coordinators also had the capacity to assign children to teachers to create a 'class list' for each teacher, and to provide feedback via the AEDC Coordinator feedback survey.
- **Principal** – receive the *School Leader Pack*, commence the process of setting up the school on the data collection system (where this was not delegated directly to the AEDC Coordinator) and subject to workflows, the principal may also be required to verify the

identity of the person playing the role of AEDC Coordinator. Where the principal delegates the role of AEDC Coordinator, the principal is not required to create an account in the data collection system.

- **Financial Manager** – responsible for the provision of school bank account details and the preparation of the teacher relief reimbursement invoice, based on information verified by the AEDC Coordinator. The AEDC Coordinator could opt to play the Financial Manager role.
- **Teacher** – responsible for the completion of teacher registration questions, completion of teacher training, class list preparation, provision of reason for child non-participation, instrument completion, class list maintenance and the completion of the teacher feedback questions.
- **Aboriginal and Torres Strait Islander Cultural Consultant** (ATSI CC) – new for Cycle 4 was the creation of a distinct 'role' in the data collection system for an ATSI CC, with the option for the ATSI CC to register on the data collection system, like a teacher and go through a similar registration, training and feedback provision process.

Refer to Appendix 2.2.4 for an overview of the data collection workflow including the ATSI CC workflow.

2.2.4. The Measuring Children's Developmental Strengths Pilot

The department funded a pilot project to explore approaches to addressing the 'ceiling effect' in the AvEDI, including trialling a set of new 'harder' items during the Cycle 4 collection. This project is referred to throughout this report as the 'Measuring Children's Developmental Strengths (MCDS) pilot'.

All schools on the school frame for the 2018 collection were randomly assigned into one of three different conditions, as follows:

- Condition one - Teachers in these schools completed the standard AvEDI (approx. 95 per cent of schools).
- Condition two - Teachers in these schools completed all additional items for all children in the school (approx. 135 schools to achieve a sample of 5,000 children).
- Condition three - Teachers in these schools completed additional items only for those children who receive the highest possible score of 10 for a specific domain (approx. 16 schools to achieve a sample of 600 children).

This pilot project impacted a number of AEDC workflows including instrument refinement (refer to Section 2.3.4), communications (refer to Section 2.8), progress reporting, invoicing and data deliverables and has been included in the relevant sections of this technical report.

For further background on the MCDS Pilot project, refer to the series of reports authored by TKI, covering feasibility of proposed approaches to address 'ceiling effects', development of a set of harder items and defining the sampling frame for the MCDS Pilot, trialling the items during Cycle 4 and equating the new and old scales to compare the AEDC over time.

2.2.5. Data collection system security features

Robust security features have been developed in response to the stringent data security requirements of the project.

Account creation for any individual playing one or more 'roles' in the data collection system featured a two-step user authentication process similar to that used in Cycles 2 and 3.

The data collection system first generated an email to the individual seeking to create an account and access the system. The email address used was either the principal's email address as provided in the school frame (principal playing the role of AEDC Coordinator), or the AEDC Coordinator email address (as provided by the individual commencing school activation), or the email address for the Teacher(s) or Financial Manager as specified by the AEDC Coordinator at school activation. The email contained a secure link with a 24-hour time limit.

The second step required the individual seeking to create an account to click the link, demonstrating 'ownership' of the email address. The link took the individual to an account creation page to set and confirm his or her password. Passwords were required to be a minimum of thirteen alphabetic characters, in accordance with *Australian Government Information Security Manual* standards.

As part of the AEDC Coordinator account creation process, the data collection system sent the principal an email requesting approval, which if unanswered within 72 hours, was sent to the STC for review. Where the domain name of the AEDC Coordinator email address matched that of principal email address or generic school email address from the school frame, account creation proceeded without principal or STC approval. Refer to Appendix 2.2.4 for further details.

To prevent denial of service and brute force attacks, the data collection system also featured:

- a ten second pause between each failed login attempt
- lock out from the system if five successive incorrect login attempts were detected for a given account (with a requirement for locked accounts to be reset by the system administrator).

The user was also automatically logged out of the data collection system after one hour of inactivity.

To avoid data collection system users registering in the wrong place on the AEDC website, there was suppression of the 'Register' page on the main AEDC website (intended for researchers wishing to set up an account to receive AEDC newsletters and other bulletins) throughout the data collection period.

2.2.6. Workflow innovations and system enhancements for Cycle 4

The main workflow innovations and system enhancements for Cycle 4 included:

- use of jurisdictional school frames instead of a centralised Australian Government list (refer to Section 2.5.3)
- inclusion of the activation code on the 'key steps' document to reduce instances of the activation code being misplaced
- consistent placement of clear and concise instructions and explanations on the right-hand side of the school activation, school set up and other user registration screens – this also included links to fact sheets and explanatory videos
- re-working of the invoicing and finalisation process to simplify invoice preparation through the use of a single rate, remove principal approval of the invoice, and make invoice submission the final step in the workflow
- jurisdictions with a centralised account could arrange for their school's bank account details to be pre-filled in the invoicing module
- addition of address information in the 'bulk import' feature for schools which were not included in centralised pre-population
- Aboriginal and Torres Strait Islander Cultural Consultant added as a distinct role in the data collection system with a similar registration and training process as a Teacher

- updates made to the instrument to include MCDS items.

Refer to Sections 2.3.2, and 3.7 respectively for details of enhancements to the Instrument for Cycle 4, and evaluative analysis of data collection system features and workflows.

2.3 Instrument refinement

This section provides an overview of instrument changes, relative to Cycle 3, and a brief description of the features of the online instrument.

Refer to Section 3.5 for an initial evaluation of instrument performance.

2.3.1. Instrument overview

The Instrument used for the AEDC is an adapted version of the Early Development Instrument (EDI), created by the Offord Centre for Child Studies at McMaster University, Canada.

The Australian Government has been licensed by McMaster University to use the EDI in Australia. The license acknowledges that McMasters owns the scoring syntax that creates the five domains and the 16 sub-domains, which are derived from approximately 100 items on the core Instrument.

A range of other information is also collected as part of the Australian version of the Early Development Instrument. This includes demographic information, such as the child's sex, age and Indigenous status, higher level skills or talents along with information about the child's attendance at early childhood programs prior to commencing school. All of these 'non-licensed' items, although collected as part of the AEDC, do not form part of the domains or sub-domains.

Whilst demographic information is collected for all children, the core instrument items are 'skipped' if the Teacher has known the child for less than one month and does not feel that he or she can accurately complete an instrument for that child.

2.3.2. Instrument refinements for Cycle 4

The SRC undertook a review of the Instrument, focussing on non-domain and non-licenced items, and evaluating the changes made for Cycle 3, which were implemented as a result of the comprehensive instrument review undertaken by CCCH in 2014.

Following extensive consultation with stakeholders, a number of very minor changes were proposed for the Cycle 4 Instrument, based on factors such as data quality and reliability and reduced teacher burden.

To assist with the Cycle 4 Instrument refinement process, a MS Word version of the Instrument was maintained, documenting changes, question filters and response lists for specific questions.

The Instrument changes that were accepted by National Committee, operationalised and implemented for Cycle 4 included:

- the replacement of 'Indigenous Cultural Consultant' with 'Aboriginal and Torres Strait Islander Cultural Consultant' throughout the Instrument
- the words 'medically diagnosed' added to the on-screen definition of special needs to reiterate definitional information from the question stem
- the display of a secondary list of common conditions at the 'special needs' question, and at the 'emerging needs' question

- the filtering of item D9 ‘trauma, isolation or difficulties associated with resettlement’ to children not born in Australia (this had been an ‘ask all’ item in previous cycles)
- in the response frame for forms of non-parental care in the year before entering full time school in Section E, the Cycle 3 items ‘other person (includes friend or neighbour) and ‘other’ were collapsed into ‘other (includes friend or neighbour) for Cycle 4.

The review found that key instrument changes made for Cycle 3, including the changes in the response frame for ‘conditions / impairments’ items, to differentiate between ‘Yes – affects learning’ and ‘Yes – does not affect learning’, the presentation of a pre-coded list of common conditions at the ‘special needs’ question and ‘emerging needs’ section, and the re-structuring of Section E questions relating to preschool / kindergarten attendance, were found to have performed well. These questions were each retained for Cycle 4 in their respective Cycle 3 formats.

The Cycle 4 Instrument was also adapted to accommodate post-population of ‘days absent’ information for children in specific jurisdiction / sector cells as well as various jurisdictional requirements.

Refer to Appendix 2.3.2 for the MS Word version of the Instrument, incorporating a detailed list of the changes made for Cycle 4, a list of the filters that applied and a summary of the logic checks that were applied to the Cycle 4 Instrument.

The *AEDC Data Dictionary* (refer to https://www.aedc.gov.au/researchers/resources-for-data-users/data-dictionary) provides comprehensive information about item history, data formats and derivations.

2.3.3. Instrument functionality and presentation

The Instrument was designed to function in a similar way to the Australian Bureau of Statistics online Population Census form, where the online form ‘expands’ or ‘collapses’ to reveal the appropriate questions, based on responses to preceding questions.

The Cycle 4 Instrument was presented across 16 screens to minimise the need for the Teacher to scroll down to view all the questions on a given screen. The on-screen presentation assumed instrument completion on a desktop, laptop, notebook, or tablet.

To facilitate the review of responses to previously completed questions in any one instrument, a ‘screen navigator’ function was included. Instrument responses were saved each time the Teacher selected ‘next’ to move to the subsequent screen.

The ‘information icon’ was used extensively throughout the instrument. The explanatory text present in the *Guide to completing the Instrument,* which offered detailed guidance for answering instrument questions, was displayed when the Teacher hovered over the information icon. This aspect of online instrument content was dependent on the finalisation of content for the *Guide to completing the Instrument*. Definitional information relating to special needs in the background information section was displayed permanently.

As in the *Guide to completing the Instrument*, there was no text or explanation associated with the ‘cultural icon’ flags. As for previous cycles, there was a ‘general’ cultural icon flag to denote that there are supplementary considerations because the item is subject to cultural sensitivity for children from a linguistically and culturally diverse background. For Cycle 4, for the first time, an Aboriginal and Torres Strait Island cultural icon flag was added, to denote cultural sensitivity for children from Aboriginal and Torres Strait Islander background.

Child residential address information was captured and validated with reference to *Intech IQ* address verification software, where, from the first few letters of the address, the software presents a list of possible matches that are valid addresses, and the user selects the appropriate match. This functionality, together with procedures to clean child residential address information provided as part of pre-population (refer to Section 2.6) enhanced the quality of residential address information captured as part of the Instrument.

2.3.4. Instrument changes for the MCDS pilot

There were a number of instrument changes relating to the MCDS pilot.

MCDS items were placed immediately following the relevant domain items, with eight additional items in the physical health and wellbeing domain, four in communications skills and general knowledge, six in language and cognitive skills, six in social competence and four in the emotional maturity domain.

Unlike the core domain items, which were presented in a 'grid' format in the online instrument and had supporting information regarding the use of the response options in the *Guide to completing the Instrument*, it was agreed that MCDS items would be presented *one by one* (as opposed to in a grid), with the *full moderation information permanently displayed* for teachers to reference. It was acknowledged that the presentation of MCDS pilot items in this format required the Teacher to do more 'scrolling' to work through the MCDS questions.

The business rules identifying whether the MCDS items were to be presented for completion by the Teacher, based on 'condition' (refer to Section 2.2.5) and the domain score for the core domain items, were incorporated into the Instrument.

2.4 Data collection system testing

This section outlines the data collection system testing process, up to the launch of data collection on 1 May 2018.

The specification for the 2018 AEDC data collection system was based on that used in 2015, and sought to address workflow issues identified in the 2015 Technical Report.

2.4.1. Internal testing / role play

Comprehensive internal testing was undertaken by the web development and the SRC project management teams prior to the initial release of test products to the department and other stakeholders.

System testing initially focused on those aspects of the workflow where there had been most change since 2015 (e.g. STC dashboard) and those features of the system that were critical for the opening of the data collection system for school activation.

2.4.2. Load testing

Comprehensive load testing in advance of data collection was undertaken by the web development team through January and February 2018. This involved the development and application of a series of scripts to test the performance of the data collection system at the anticipated activity levels.

Anticipated activity levels were informed by analysis of system load patterns from Cycle 3, with significant excess capacity in the hosting infrastructure to optimise system performance.

In addition, a number of scripts were re-written for Cycle 4 to enhance the efficiency of report generation and system response times.

As a result, the utilisation of physical resources never exceeded 10 per cent at any point in time across the Cycle 4 data collection period, which was a reduction from 20 per cent in Cycle 3.

2.4.3. Australian Bureau of Statistics Statistical Clearing House

The Australian Bureau of Statistics Statistical Clearing House (ABS SCH) approval secured for Cycle 3 on 30 March 2015 (approval number 02401-02) was valid for a period of five years and hence notionally covered the Cycle 4 collection.

However, the ABS SCH ceased reviewing and approving Commonwealth agency surveys from 18 August 2017. There is no longer a requirement for Commonwealth agencies to submit surveys for ABS SCH approval, with the ABS noting that 'Commonwealth agencies will be directly responsible for minimising survey burden on business.'

In accordance with ABS SCH instructions distributed by email on 4 August 2017, the ABS SCH approval number was removed from all Cycle 4 materials.

2.4.4. STC data collection system orientation sessions

STCs were first introduced to data collection system workflows for Cycle 4 during STC meetings in late 2017. The purpose of these sessions was to demonstrate key workflows or where there had been significant change since 2015 and sought to identity where further system refinements were needed, with a focus on:

- STC dashboard
- activation workflow
- finalisation / invoicing workflow.

Concepts were demonstrated to STCs in classroom-like sessions and there were interactive activities to understand STCs pain points from the Cycle 3 data collection system.

A 'data collection system orientation session' with STCs was held in late January 2018, where a demonstration version of the data collection system was available that incorporated all agreed functionality, with the exception of jurisdiction-specific requirements and Measuring Children's Developmental Strengths (MCDS) project requirements. An additional system orientation session was held for new STCs in May 2018.

2.4.5. STC and stakeholder system testing

Unlike in Cycle 3, system testing for Cycle 4 was limited to STCs / approved stakeholders (i.e. no field testing was conducted with principals or teachers).

Twelve discrete 'test modules' were produced by the web development team and their release to STCs for testing was staggered from December 2017 through to April 2018. The test modules were not 'live' but were clickable HTMLs produced to illustrate proposed flow and general 'look' of the data collection system. Test module release was accompanied by a workflow diagram and annotated screenshots as well as details of how the 'test' system differed to the 'live' system. STCs were invited to review the test modules and provide feedback to refine content, wording and flow.

Table 2.4.5 on the next page shows the STC system testing schedule.

Table 2.4.5 STC system testing schedule for Cycle 4

Module	Testable prototype	Release date	Feedback due
1	STC dashboard	19-Dec-17	29-Jan-18
2	Instrument completion (standard)	19-Dec-17	29-Jan-18
3	School activation	19-Dec-17	29-Jan-18
4	Teacher registration / training	19-Dec-17	05-Feb-18
5	ATSI CC registration	08-Jan-18	05-Feb-18
6	Financial Manager registration	19-Dec-17	05-Feb-18
7	Class list creation	19-Dec-17	29-Jan-18
8	School finalisation / invoicing	19-Dec-17	29-Jan-18
9	ATSI CC feedback survey	12-Feb-18	19-Feb-18
10	Full data collection system (data collection)	12-Feb-18	26-Feb-18
11	Instrument completion (jurisdictional requirements)	26-Feb-18	05-Mar-18
12	Instrument completion (MCDS)	03-Apr-17	10-Apr-17

These discrete ‘test modules’ were developed for Cycle 4 in response to suggestions for how to improve system familiarisation and testing from Cycle 3. The idea was that this would offer a more flexible approach to testing, where discrete modules, such as instrument completion, could be identified, tested and signed off, independent of other modules.

In practice, this concept was challenging to implement. By way of example, some elements of the instrument completion module, such as the information icon text, jurisdiction specific modifications, and system interaction with address verification software, lagged the finalisation of the core instrument. As such, the test modules performed the function of introducing stakeholders to the broad workflow and ‘look and feel’ of the data collection system, rather than forming part of final user acceptance testing.

The test module ‘mock ups’ of the data collection system also had the benefit of allowing different pathways to be demonstrated without having to start over in the actual system, as well as providing the ability to annotate screens with screen numbers / workflow diagrams, to make it easier for STCs to follow the workflow stages and become familiar with the data collection system.

At the time of release of the test modules or ‘testable prototypes’, not all content had been updated for Cycle 4. Where this was the case, the release was cover-noted with details of any elements that were unfinished, unresolved, or awaiting updated content.

There was limited feedback received from STCs during this testing phase.

2.4.6. Vulnerability assessment

In Cycle 4, the department’s vulnerability assessment team undertook a security audit of the AEDC data collection system environment in late May 2018, a couple of weeks after the opening of the data collection system for instrument completion.

This assessment revealed a number of minor vulnerabilities as outlined in the ‘Vulnerability Assessment Report’ provided to the web development team. These were rectified and re-assessed where necessary, with department sign off on the vulnerability assessment on 12 June 2018.

Refer to Appendix 2.4.6 for a copy of the vulnerability assessment report.

2.5 School frame

This section describes the process of constructing the school frame for Cycle 4 data collection.

2.5.1. School frame overview

The school frame is a reference table that plays three main roles:

- it acts as the repository of school and principal contact details, where the school mailing address is used for School Leader and Teacher Pack dissemination, and the principal email address is a critical component of the validation and security features of the school activation process in the data collection system
- it provides details of school participation history in the AEDC, which can be used by STCs to guide non-response follow up activities
- it provides data elements for the subsequent analysis of AEDC results, including various school-type measures, geographical coordinates and a remoteness indicator.

The unit of enumeration in the school frame is campus, not school. Each school / campus combination was provided a unique AEDC school identifier which could be mapped back to the schools census data (at the 'Campus ID' level) held by the department. For convenience the term 'school' is used throughout this report rather than 'school / campus'.

2.5.2. Vision for the school frame in Cycle 4

The vision for school frame management for the 2018 collection was the same as in 2015, in terms of a master list of *all* schools which could *possibly* be in scope for the collection would be loaded into the data collection system, complete with school contact information, participation history by school, details of multi-campus schools (whether they are to participate and / or receive their communication via head campus) and other administrative data.

It was anticipated that the frame would be loaded into the data collection system in advance of data collection opening, and that relevant updates to the frame (e.g. updating of school scope status, minor updates to school contact details) would be undertaken from *within* the data collection system.

The primary rationale for including all schools that could *possibly* be in scope for 2018, was to avoid the need to add schools to the frame after the collection had started as it would only be necessary to change the participation status of the school from 'out of scope' to 'in scope', rather than add schools to the frame. Despite best efforts to prepare a comprehensive school frame, it was necessary to add five schools to the school frame during Cycle 4 data collection.

2.5.3. Initial school frame preparation

Unlike for previous collections where an initial master list of schools was prepared from department (Australian Government) lists, an attempt was made in 2018 to drive school frame preparation to support initial AEDC awareness building activities from jurisdictional lists. The rationale was that experience from previous implementations of the AEDC suggested some jurisdictions held more up to date and comprehensive school lists~~, particularly for Government sector schools,~~ and that some information that is critical for AEDC workflows, such as principal email address, must be sourced from jurisdictional records.

Prior to developing a school frame 'specification' for Cycle 4 that outlined the required frame fields, consultations were undertaken by the SRC with jurisdictional data managers in September 2017 to understand their jurisdictional system's ability to identify the following:

- a definitive list of in scope schools
- Australian Government Campus ID and Australian Government School IDs (as well as jurisdictional IDs)
- 'New schools', i.e. those opened after 1 Jan 2016
- 'Special schools', i.e. those dedicated to special needs children
- the 'head campus' of multi campus schools.

These consultations resulted in confirmation that *all* jurisdictions / sectors were able to provide the necessary school frame information to proceed with this approach. As such, the SRC circulated a school frame 'specification' document to STCs and jurisdictional data managers that detailed the required frame fields and the schedule to generate a list of schools three times between November 2017 and February 2018 (to support pre-collection communications, School Leader and Teacher Pack distribution and the final school frame to be loaded into the data collection system).

Table 2.5.3 lists the 54 items on the school frame in Cycle 4. In requesting data from the jurisdictions, nine items were identified as 'Core 1' and were the minimum requirement for the school frame to support November 2017 and February 2018 email communications. Twelve items were identified as 'Core 2' and were required to support paper copy School Leader and Teacher pack distribution in February 2018.

On provision of the final school frame, the SRC appended historical participation information to the frame, as well as additional Australian Government information such as school and campus name, special school and distance education indicators (referred to as 'SRC' and 'SRCAG' items respectively in Table 2.5.3).

Queries resulting from school frame preparation were resolved between the SRC, STCs and jurisdictional stakeholders. This process produced many inconsistencies and highlighted that school frame variables and concepts were not as well understood by jurisdictional data managers as anticipated (e.g. IDs - Australian Government Campus and School ID, 'In scope' and which schools should be included on the list, multi-campus flags etc. Resolution of these queries resulted in minor delays to *School Leader Pack* mailing.

Table 2.5.3 School Frame items for the 2018 AEDC

Type	Description	Field name
Core 1	Flags schools which are in scope for AEDC Cycle 4	InScope
Core 1	Jurisdictional campus identifier	JCampusID
Core 1	Jurisdictional campus name	JCampusName
Core 1	Australian Government campus identifier	AGCampusID
Core 1	Australian Government school identifier	AGSchoolID
Core 1	School sector	Sector
Core 1	School Location State	LocationState
Core 1	School Email Address	SchoolEmail
Core 1	Principal Email	PrincipalEmail
Core 2	School Location Address	LocationAddress

Table 2.5.3 *continued* School Frame items for the 2018 AEDC

Type	Description	Field name
Core 2	School Location - town or suburb	LocationLocation
Core 2	School Location Postcode	LocationPostcode
Core 2	School Postal Address	PostalAddress
Core 2	School Postal Address - town or suburb	PostalLocation
Core 2	School Postal Address State	PostalState
Core 2	School Postal Address Postcode	PostalPostcode
Core 2	School Phone Number including area code	PhoneNumber
Core 2	Principal's first and last name	PrincipalName
Core 2	Principal Phone Number including area code	PrincipalPhoneNumber
Core 2	Jurisdictional school name	JSchoolName
Core 2	Number of children in Y1-1 (from jurisdiction records)	Children18
STC	New school opened after 1 Jan 2016	NewSchool
STC	Reason why not in scope	NotInScopeReason
STC	Non-participating in scope school flag (school refusal)	NonPart
STC	Reason for non-participation (school refusal)	NonPartReason
STC	AEDC participation through head campus	MultiCampusFlag
STC	Jurisdictional ID of head campus for AEDC participation	HeadCampusIDPart
STC	AEDC communications to head campus only	MailingLocation
STC	Jurisdictional ID of head campus for AEDC communications	HeadCampusIDComms
STC	School region	SchoolRegion
STC	School cluster	Cluster
STC	Financial Manager's first name	FMFirstName
STC	Financial Manager's last name	FMLastName
STC	Financial Manager's email	FMEmail
SRC	School activation code	ActivationCode
SRC	AEDC school identifier used in Cycle 4	SchoolID18
SRC	AEDC school identifier used in Cycle 3	SchoolID15
SRC	AEDC school identifier used in Cycle 2	SchoolID12
SRC	AEDC school identifier used in Cycle 1	SchoolID09
SRC	Date on which last instrument completed in Cycle 3	LastCompletionDate
SRC	Number of children who participated in Cycle 3	Children15
SRC	Number of children who participated in Cycle 2	Children12
SRC	Number of children who participated in Cycle 1	Children09
SRC	Number of Teachers who participated in Cycle 3	Teachers15
SRC	Number of Teachers who participated in Cycle 2	Teachers12
SRC	Number of Teachers who participated in Cycle 1	Teachers09
SRC	School profile created in Cycle 3	Profile15
SRC	School profile created in Cycle 2	Profile12
SRC	School profile created in Cycle 1	Profile09
SRC	School name used when publishing School Profiles	SchoolProfileName
SRCAG	Australian Government school name	AGSchoolName
SRCAG	Australian Government campus name	AGCampusName
SRCAG	Special school indicator	SpecialSchoolInd
SRCAG	Distance Education indicator	DistEdInd

2.5.4. Frame maintenance and finalisation

It was anticipated that initial 'awareness raising' communications about the 2018 data collection in November 2017 and February 2018, as well as the *School Leader Pack* mailing in April 2018 would help 'clean up' the frame and establish school scope status before the commencement of data collection in May 2018.

There were several rounds of frame maintenance and content modification, prior to loading the school frame file into the data collection system. These included:

- a round of school frame review by STCs and appending of email address information to support the awareness building activities in November 2017 and February 2018 (refer to Section 2.8.1)
- updates related to return to sender mail, bounced emails, or closed / merged schools as a result of awareness building activities in November 2017 and February 2018
- again, as a product of the November 2017 awareness building activities, the addition of fields in the school frame to denote whether a *School Profile / School Summary* was produced for Cycle 3, as well as the identification of 'small schools' and 'special schools' so that communications could be tailored accordingly.

Prior to uploading the frame to the data collection system, STCs were tasked with reviewing the school frame and appending 'STC variables' that included defining any school regions / clusters to be used in progress monitoring, flagging any 'new schools', flagging schools not in scope and identifying schools that have already refused to participate (and providing a reason), providing details of any centralised Financial Managers as well as identifying whether participation and / or communication for multi-campus schools should go through head campus. Whilst the preference was that these fields were populated in advance of loading the school frame into the data collection system, these fields remained editable throughout the data collection system so STCs could update them as relevant information became available.

The 'final' version of the school frame was used to generate the mailing list for School Leader Pack distribution in mid-March 2018 and was uploaded into the data collection system prior to the commencement of the school activation phase. If there was any doubt about a school's scope status, the agreed approach was to include the school in the School Leader Pack mailing, in preference to undertaking ad hoc School Leader Pack mailings closer to or during the collection.

Once the final school frame was loaded into the system there were minimal issues, however, the process was not as smooth as anticipated and delays in resolving queries with jurisdictions resulted in the need to send *School Leader Packs* out in several batches.

The school frame loaded into the data collection system to support School Leader Pack mailing and the school activation phase comprised 8,065 schools, of which 141 had been identified as 'out of scope' through the school frame preparation process.

With child pre-population considered to be complete for the Government and Catholic sectors nationally, it was possible to reconcile pre-population information with school scope status information. In early May 2018, information was circulated to STCs which identified 172 schools on the frame with no children in pre-population, which could be flagged as 'out of scope'. It also identified 10 schools flagged as 'out of scope', which had children in pre-population, and could be re-classified as 'in scope'.

The final 'raw' school frame at the end of data collection comprised 8,070 schools, of which 293 were flagged as 'out of scope'. Over the course of the collection, five schools were added to the frame (33

in Cycle 3 and 246 in Cycle 2), and an incremental 152 schools were identified as out of scope (333 in Cycle 3 and 375 in Cycle 2).

Refer to Appendix 2.5.4 for the final school frame specification.

2.6 Pre-population

This section describes the process of pre-populating specific instrument questions with demographic information held within jurisdictional information systems. Refer to Section 3.9 for an evaluation of the pre-population process.

2.6.1. Pre-population background

Pre-population information helps to reduce instrument completion time, enhance data quality (particularly in relation to date of birth / residential address information) and reduce post collection data cleaning / processing time.

In Cycle 3, there was a 100 per cent pre-population rate for the Government and Catholic sectors, and a 16 per cent pre-population rate for the independent sector.

A focus for Cycle 4 was to achieve greater levels of pre-populated information than in previous cycles to further reduce teacher burden and increase quality of data. There was also a focus on facilitating pre-population for the independent sector, particularly where centralised pre-population is not possible, as well as enhancing the 'bulk upload' feature in the data collection system to include variables beyond child name and date of birth, such as child residential address.

2.6.2. Pre-population items

Feedback was sought on the capacity of jurisdictions to provide proposed new information (e.g. gender of parent / carer), prior to finalising the pre-population specification. The pre-population specification targeted jurisdiction-level data managers, mostly in the Government and Catholic sectors, undertaking *centralised* pre-population.

Table 2.6.2 on the next page lists the 34 items identified for pre-population in the Cycle 4In requesting data from the jurisdictions, 10 items identifying the child and the school he or she attended were considered the minimum core requirement for pre-population.

Gender of first / second parent or carer items were added for inclusion as analysis variables in the complete microdata file, as they are not asked as part of the Instrument and maternal educational attainment is considered to be an important predictor of children's developmental outcomes.

Preschool or Kindergarten program prior to school was first added in Cycle 3 as non-parental care experienced by children in the year before starting school can have a significant impact on the child's development and Teachers' knowledge about the nature and duration of formal and non-formal child care in the year before entering school can be somewhat limited.

New South Wales was the only jurisdiction able to pre-populate further information relating to Preschool or Kindergarten programs, including the *dose*, *setting* and *postcode* of this care, due to having this information available on enrolment forms.

Table 2.6.2 Pre-population items for the 2018 AEDC

Priority	Item no.	Item	New for Cycle 4
Core	1	Child identifier	
	2	Child first name	
	3	Child last name	
	4	Australian Government school identifier	
	5	Australian Government campus identifier	
	6	Jurisdictional campus identifier	
	7	School name	
	8	School address suburb or town	
	9	School address state	
	10	Child date of birth	
Address	11	Child Address First Line	
	12	Child Address Second Line	
	13	Suburb or town of residence	
	14	State of residence	
	15	Postcode of residence	
	16	Aboriginal community number (Northern Territory only)	
Other	17	Child Indigenous status	
	18	Child gender	
	19	Child speaks LOTE at home	
	20	Child country of birth	
	21	Class identifier	
	22	Child repeating year	
	23	Child middle name	
	24	School level completed by first parent or carer	
	25	Post-school qualification of first parent or carer	
	26	School level completed by second parent or carer	
	27	Post-school qualification of second parent or carer	
	28	Year of arrival in Australia	
Supplementary analysis variables	29	Gender of first parent or carer	yes
	30	Gender of second parent or carer	yes
	31	Preschool or Kindergarten program prior to school	
	32	Preschool or Kindergarten Dose (New South Wales only)	yes
	33	Preschool or Kindergarten Setting (New South Wales only)	yes
	34	Postcode of Preschool or Kindergarten (New South Wales only)	yes

2.6.3. Communications about options for pre-population

To assist STCs engage jurisdictional stakeholders on issues relating to pre-population, important summary information was provided in November 2017. There were two versions of the pre-population summary document. One was intended for jurisdictional data managers in the Government and Catholic sectors, focusing on centralised pre-population. The second was intended for individual

schools or groups of schools in the independent sector, focusing on options for centralised or local pre-population.

The documentation was updated in March 2018, when the pre-population features of the data collection system had been finalised. Refer to Appendix 2.6.3 for the final version of the pre-population summary document.

The final options for Cycle 4 pre-population included:

- centralised pre-population information in accordance with the full pre-population specification (refer to Section 2.6.4) – that targeted jurisdictional-level data managers mostly in the Government and Catholic sectors. It was also used by a number of individual schools in the independent sector (refer to Section 3.9 for details)
- local pre-population of child name, date of birth and child address information at the individual school level, using the 'bulk upload' feature within the data collection system
- local pre-population of the master list of children for class list creation by the AEDC Coordinator at individual schools, by manual entry of child name and date of birth information.

2.6.4. Pre-population specification

The pre-population specification for centralised pre-population was based on that used for previous cycles and updated to reflect the proposed new pre-population items for Cycle 4.

There was consultation with jurisdictions around the availability of the proposed new items for Cycle 4 in their information systems, with reference to data collected on standard school enrolment forms.

The first draft of the pre-population specification was released together with a pre-population summary document, and was finalised in consultation with department and jurisdictional stakeholders.

Jurisdictions were then asked to confirm whether or not they intended to pre-populate for Cycle 4 and to provide a list of the contact persons who were to provide the information for each sector within each jurisdiction.

This facilitated open communications between jurisdictional data managers and the SRC team through the pre-population information preparation and delivery period in March and April 2018.

The pre-population specification and internal pre-population file processing procedures were tested in December 2017 using an extract of data for 4,824 children in the Tasmanian Government sector and 15,757 children in the Victorian Government sector.

Refer to Appendix 2.6.4 for a copy of the final pre-population specification.

2.6.5. Privacy issues

A key learning from previous cycles was for jurisdictions to commence the process of addressing privacy issues relating to the release of pre-population information in a timely fashion. The project schedule sought to ensure that relevant agreements, whether with the department or with the SRC directly, were in place by December 2017, well in advance of the commencement of data collection.

Separate privacy agreements were entered into with two jurisdictions (Australian Capital Territory and Western Australia), entailing amendments to the standard pre-population and instrument completion workflow to accommodate jurisdictional requirements. This was the same two jurisdictions that required separate privacy agreements in Cycle 3.

2.6.6. Pre-population information provision

Pre-population information was provided for 293,336 children out of an estimated child population of 320,081, giving an overall pre-population rate of 91.6 per cent.

As can be seen at Table 2.6.6 on the next page, there was a 100 per cent pre-population rate for the Government and Catholic sectors, and a 21.3 per cent pre-population rate for the independent sector (up from 16 per cent in Cycle 3).

A total of 96 files were received for centralised pre-population. Files for the Catholic sector were received at the diocese level for some jurisdictions, and at the whole of jurisdiction level for others. A total of 67 files from independent sector schools were received for processing.

A total of 38 files (40 per cent) were received after the 6 April 2018 deadline for file submission, with the last pre-population file received on 17 April 2018, for a 1 May 2018 start of data collection.

Refer to Section 3.9 for more details of pre-population information provision, including an analysis of the quality of pre-population information.

2.6.7. Estimating the child population

Given that pre-population information for the Government and Catholic sectors was considered complete, it was used as the estimate of the child population and the denominator for the child participation rate calculation (refer to Section 3.2).

Table 2.6.6 Pre-population rate by jurisdiction and sector

Jurisdiction	School sector			
	Government	Catholic	Independent	Total
Pre-populated				
New South Wales	73,025	18,206	0	91,231
Victoria	57,018	16,108	1,772	74,898
Queensland	47,597	11,112	0	58,709
Western Australia	25,953	5,111	3,563	34,627
South Australia	14,359	3,398	576	18,333
Tasmania	4,703	1,001	514	6,218
Australian Capital Territory	4,161	1,143	580	5,884
Northern Territory	2,845	341	250	3,436
Total pre-populated	**229,661**	**56,420**	**7,255**	**293,336**
Estimated child population				
New South Wales	73,025	18,206	10,200	101,431
Victoria	57,018	16,108	7,700	80,826
Queensland	47,597	11,112	7,550	66,259
Western Australia	25,953	5,111	3,750	34,814
South Australia	14,359	3,398	3,216	20,973
Tasmania	4,703	1,001	514	6,218
Australian Capital Territory	4,161	1,143	650	5,954
Northern Territory	2,845	341	420	3,606
Total estimated child population	**229,661**	**56,420**	**34,000**	**320,081**
Pre-population rate %				
New South Wales	100.0	100.0	0.0	89.9
Victoria	100.0	100.0	23.0	92.7
Queensland	100.0	100.0	0.0	88.6
Western Australia	100.0	100.0	95.0	99.5
South Australia	100.0	100.0	17.9	87.4
Tasmania	100.0	100.0	100.0	100.0
Australian Capital Territory	100.0	100.0	89.2	98.8
Northern Territory	100.0	100.0	59.5	95.3
Pre-population rate	**100.0**	**100.0**	**21.3**	**91.6**

STCs provided an estimate of the child population for the independent sector as this information became available, typically after the processing of February 2018 school census information. Where this information was not available at the start of data collection, an estimate was derived using the independent sector child population from a previous year and applying an appropriate population growth factor.

Some jurisdictions were able to provide updated child population information for the Government and Catholic sectors at the start of data collection, resulting in a small discrepancy between the number of children per the pre-population information, and the estimated child population.

2.7 Post-population

This section describes the process of post-populating specific instrument questions with information held within jurisdictional information systems. Refer to Section 3.10 for an evaluation of the post-population process.

The post-population of child attendance-related items from the Instrument was introduced for the first time in Cycle 4, for those jurisdictions / sectors which held this information in their administrative systems.

2.7.1. Post-population items

The items for post-population in Cycle 4 are shown at Table 2.7.1.

Table 2.7.1 Post-population items for the 2018 AEDC

Items for post-population
Attendance variables
Total number of days absent
Number of days absent (Family / cultural obligations)
Number of days absent (Illness / injury)
Number of days absent (Other explained reasons e.g. climatic conditions, financial)
Number of days absent (Un-explained reasons)

2.7.2. Communications about post-population

Given that reporting on attendance data is not compulsory for children in their first year of full time school, the feasbility of populating child attendance data was investigated by the SRC in March 2018. The consultation process involved a round of telephone discussions with each jurisdiction on their ability to provide child attendance data from centralised administrative systems by mid October 2018.

Jurisdictions / sectors which had indicated they could provide child attendance data were then asked in April 2018 to confirm their commitment to provide this data after being sent a copy of the data specification.

2.7.3. Child attendance-related specification

The post-population specification for attendance data was developed following consultations with jurisdictions around the availability of the proposed new items for Cycle 4 in their information systems.

The first draft of the specification was sense tested by the Tasmanian and Queensland data managers in early April 2018 and was finalised and circulated later that month to those jurisdictions which had expressed ability to post-populate attendance data.

Jurisdictions were then asked in late April 2018 to confirm their commitment to provide this data in the format and to the timings outlined in the specification.

The specification provided two options for data provision, as it was understood that there were differences in the format in which attendance data was held by jurisdictions. Essentially, the options included:

- following the ACARA *National Standards for Student Attendance Data Reporting*, whereby the actual days in attendance and number of possible school days are appended in the post

population file and then the SRC derives the number of days absent for each student by calculating the difference between actual day and possible days. Days absent by reasons for absence is also provided by the jurisdiction, following the absence codes described by the National Standards. The SRC would then map these absences against the relevant codes in the Instrument

- if the ACARA *National Standards for Attendance Data* are not followed by the jurisdiction / sector for recording attendance data for students in their first year of full time school, then the data could be sent to the SRC as per the format collected in the Instrument, or in the format the jurisdiction / sector could best provide.

Refer to Appendix 2.7.3 for a copy of the child attendance-related specification.

2.7.4. Post-population information provision

Those sectors / jurisdictions which agreed to provide attendance data in the format outlined in the specification then had the relevant questions suppressed in the data collection system.

In mid-September 2018, jurisdictional data managers / STCs were sent an Excel file containing child identifying information for all children who participated in the 2018 AEDC in their sector / jurisdiction and asked to append the relevant attendance data as per the options outlined in the specification and returned to the SRC by mid October 2018.

Table 2.7.4 shows the jurisdictions / sectors which provided commitment to post-populate attendance data according to the specification. All jurisdictions / sectors which provided this commitment were able to provide this data from their administrative systems, except for a number of dioceses in the New South Wales Catholic sector.

Table 2.7.4 Post-population of attendance data by jurisdiction and sector

Jurisdiction	School sector		
	Government	Catholic	Independent
Post-populated attendance data			
New South Wales	no	yes	no
Victoria	yes	no	no
Queensland	yes	no	no
Western Australia	yes	no	no
South Australia	no	no	no
Tasmania	yes	no	no
Australian Capital Territory	yes	no	no
Northern Territory	no	no	no

Refer to Section 3.10 for more details of post-population information provision, including an analysis of the quality of post-population information.

2.8 Communications and supporting materials

This section outlines communication initiatives intended to raise awareness of Cycle 4 data collection, and the online and paper copy resources that were available to support schools, principals and teachers for the Cycle 4 data collection.

2.8.1. Building awareness of the AEDC

There were two main national initiatives to build awareness of the upcoming Cycle 4 data collection and compliment local activities undertaken by STCs:

- In November 2017, a bulk email was distributed to all schools on the initial school frame. This email included general information about the AEDC, a link to download a 'key dates' calendar, privacy information and contact details for the STC and the AEDC helpdesk. The email was tailored based on whether the school had previously received a School Profile; these schools were encouraged to contact their STC or the AEDC Helpdesk to obtain a copy of their past report.
- In February 2018, a second bulk email was distributed to all schools on the school frame at that time which had an email address and were thought to be in scope. This email reiterated key dates for participating in the AEDC data collection, advised of the imminent arrival of the School Leader and Teacher Packs (in March 2018), encouraged participation, and provided links to further information on the AEDC website.

These approach emails were primarily intended to build awareness of the AEDC but also served as confirmation that email communications from the aedc.gov.au domain had been whitelisted. There was some minor tailoring of both the November 2017 and February 2018 communications content by jurisdiction. Refer to Appendix 2.8.1.1 and 2.8.1.2 for copies of these communications content.

In addition to these emails, 'small schools' and 'special schools' which were on the 2018 school frame were sent a 'thank you letter' as part of the February communications. The letter conveyed the importance of participating in the AEDC and that their results will contribute to the community data even though small / special schools were unlikely to receive their school level data due to minimum reporting requirements. Refer to Appendix 2.8.1.3 and 2.8.1.4 for copies of these letters.

2.8.2. Overview of changes in supporting materials for Cycle 4

There was a series of updates made to the content and presentation format of supporting materials as well as the distribution process for Cycle 4, however, overall the process and the materials themselves were largely in line with Cycle 3.

In Cycle 4, jurisdictions had the option of the School Leader and Teacher Training packs being sent separately or at the same time and all, but one jurisdiction opted for the packs to be sent together. The standard workflow involved the distribution of both the School Leader Pack and the estimated quantity of Teachers Packs in mid-March in line with the data collection system being open for school activation. Each of the states and territories were able to provide additional jurisdictional or sector specific materials in their School Leader and Teacher Packs.

In Cycle 3 the *Principal welcome letter* and the '*Key steps to participating in the AEDC'* document were printed on a single double-sided page. In response to feedback from schools, these documents were separated for Cycle 4 and, to reduce reliance on the helpdesk, the school activation code was included on both the *Principal welcome letter* and the *Key steps* document.

A 'key dates calendar' was introduced for schools in Cycle 4, which was developed by the SRC in consultation with the STCs. STCs had the ability to tailor the presentation and content for their jurisdiction. The key dates calendar was also included in the mail packs, as well as in the awareness building emails to help schools plan for the data collection.

As part of the Aboriginal and Torres Strait Islander Cultural Consultant engagement, strategy all resources relating to the use of an Aboriginal and Torres Strait Islander Cultural Consultant were

updated. In addition, a new fact sheet specifically for Aboriginal and Torres Strait Islander Cultural Consultants was developed for Cycle 4.

As part of the MCDS pilot project, schools that had been randomly assigned to condition 2 or condition 3 were sent the relevant one-page fact sheet advising them that they had been randomly selected for the study and providing them with information about the project, the benefits of participating and impacts for their school.

Section 3.8 provides a review of these supporting materials in more detail.

2.8.3. School Leader Pack

School Leader Pack contents were tailored by jurisdiction, and comprised the following core materials:

- a personalised covering letter addressed to the principal (the '*Welcome letter*'), including the school activation code
- a jurisdiction specific A3 AEDC 'key dates' calendar
- a summary of the key steps for participation in the AEDC
- six fact sheets linking back to the key steps for participation, including
    - *About the AEDC*
    - *Preparing for the AEDC*
    - *School activation*
    - *Setting up your teachers*
    - *About the AEDC for Aboriginal and Torres Strait Islander children*
    - *Teacher relief reimbursement*
- a sample of the English language version of the '*Parent Information Letter'*, for distribution to parents of in scope children in advance of data collection, as part of the informed implied consent process
- a *parent / carer opt out pro-forma*, for recording of opt outs in response to the *Parent Information Letter*.

The School Leader Pack contents were provided in an AEDC branded presentation folder, with the Principal welcome letter and the 'key dates' calendar attached.

Refer to Appendix 2.8.3.1 for a copy of School Leader Pack materials and Appendix 2.8.3.2 for details of School Leader Pack mailing dates.

School Leader Pack materials were also downloadable in PDF format from the AEDC website. The *About the AEDC* fact sheet and the *Parent Information Letter* were available on the public facing section of the AEDC website, with other materials available electronically to logged in account holders. Logged in account holders could also access the translated version of the *Parent Information Letter*, which was available for download in ten community languages.

2.8.4. Teacher Pack

Teacher Pack contents were also tailored by jurisdiction, and comprised the following core materials:

- a covering letter addressed to the AEDC Coordinator

- an appropriate number of sets of teacher training materials (based on the number of participating teachers in Cycle 3), where each set comprised:
    - a '*Teacher Welcome Letter'*, with key steps for participation in the AEDC
    - an '*About the AEDC*' fact sheet
    - a '*Preparing for the AEDC*' fact sheet
    - a '*Teacher registration*' fact sheet
    - a '*Class list creation*' fact sheet
    - a '*Completing the AEDC for Aboriginal and Torres Strait Islander Children'* fact sheet
    - an '*Information for Aboriginal and Torres Strait Islander Cultural Consultants'* fact sheet
    - a copy of the '*Guide to completing the Australian version of the Early Development Instrument',* which provided question by question instructions and guidance for instrument completion.

The contents of each set of Teacher training materials was provided in an AEDC branded presentation folder.

The Teacher Pack contents were collated into an AEDC branded 'tough bag' or outer envelope, depending on the number of sets of Teacher training materials and whether or not they were being sent with the School Leader Pack.

As part of the Aboriginal and Torres Strait Islander Cultural Consultant engagement strategy, the '*Information for Aboriginal and Torres Strait Islander Cultural Consultants'* fact sheet was developed and included in the Teacher Pack.

Teacher training materials were available for download in PDF format for logged in account holders. Refer to Appendix 2.8.4 for a copy of Teacher Pack materials (excluding the *Guide to Completing the Instrument).*

2.8.5. Communications kit

The parent and school communications kits were first introduced in Cycle 3 and updated in Cycle 4 in line with changes to other supporting materials. These kits are intended to assist schools with the promotion and implementation of the AEDC with tailored messaging for both parents and internal staff.

The school communications kit comprised:

- a '*questions and answers*' document
- a '*principal talking points*' document
- an '*all staff email*' pro-forma
- a Teacher poster.

The parent communications kit comprised:

- a pro-forma school newsletter article about AEDC participation
- social media content
- a parent poster.

The communications kit materials were available to logged in account holders and were promoted in the School Leader Pack materials.

Refer to Section 3.8 for information about the use of communications kits materials.

2.8.6. Training and online help resources

Teacher training resources were integrated into the teacher registration workflow, as Teachers completed the registration process and included:

- an '*Introduction to the AEDC*' video
- a '*Moderation information*' video, covering issues for a Teacher to consider when completing the Instrument
- a '*practice questions*' exercise, showcasing the application of the guidance provided in the '*Guide to Completing the Instrument*' to a number of scenarios. Teachers could not commence instrument completion until the practice questions had been completed.
- an '*Aboriginal and Torres Strait Islander Cultural Consultants'* video.

Transcriptions of all video content was available online.

Online contextual help videos, relating to key aspects of the workflow, such as school activation, registering teachers, how to bulk import child name, date of birth and child residential address information, managing class lists, submitting teacher relief reimbursement invoices, and school finalisation, were available from the help centre for logged in account holders on the secure data collection system.

2.9 AEDC Helpdesk

This section provides an overview of procedures, resources and activities relating to the AEDC Helpdesk ('the helpdesk'). Issues arising from calls to the helpdesk and helpdesk performance against key performance indicators are evaluated in Section 3.11.

2.9.1. Helpdesk overview

The AEDC data collection was supported by a helpdesk, staffed by highly trained operators and supported by a dedicated coordinator. The helpdesk was operational from the engagement building activities in February 2018 (refer to Section 2.8.1) and remained open until the end of the invoice submission period in October 2018. The helpdesk was re-opened at peak times to ensure queries were resolved quickly, this included the release of School Profiles in November 2018 and the national launch of results in March 2019.

Contact with the helpdesk was initiated via calls to a dedicated inbound 1800 number and / or emails to the helpdesk email address. Helpdesk operators were able to access an interface linked to the data collection system.

The key aims of the helpdesk were to:

- act as a single point of contact to assist with administrative and technical queries from data collection system users throughout the data collection and invoice submission periods
- action referrals from STCs regarding individual queries and the provision of support to users
- address general queries from parents regarding the AEDC
- process return to sender *School Leader Packs* and manage re-send requests.

It was acknowledged that the helpdesk would play a pivotal role in the successful delivery of the Cycle 4 data collection.

2.9.2. Helpdesk planning

The expectation for Cycle 4 was that the overall level of traffic to the helpdesk would be roughly in line with Cycle 3 or slightly less, when 27,897 transactions were recorded. The distribution of traffic across the different outcome types was expected to vary given the substantial workflow changes around school finalisation and invoicing.

The changes in workflow for Cycle 4 were not expected to significantly impact traffic to the helpdesk early in the activation or data collection period. As traffic to the helpdesk during this time was expected to be similar to Cycle 3, helpdesk reports from 2015 were used to estimate the number of helpdesk operators required to meet requirements. As in Cycle 3, a very modest level of helpdesk activity was expected in response to the awareness building activities in November 2017 and February 2018, with activity building through the school activation phase in March and April 2018, peaking for the data collection phase from May to July 2018, and falling away during the teacher relief reimbursement invoice submission phase.

It was estimated that up to ten helpdesk operators would be required to cover the anticipated volume of helpdesk traffic during the peak period.

2.9.3. Helpdesk operator training

Leading up to the Cycle 4 collection, the 2015 helpdesk operator manual was reviewed and updated to reflect the data collection system enhancements undertaken for the 2018 collection. The manual was intended to be a 'living' document which would be developed and maintained over the period that the helpdesk was operational. The manual provided greeting instructions, detailed responses to Frequently Asked Questions (FAQs), jurisdiction-specific questions and answers, specific instructions by caller type (e.g. parent, school, STC) and details of agreed Key Performance Indicators (KPIs).

Helpdesk operator briefing and briefing content was staged by phase of the project. The helpdesk supervisor was briefed on issues pertinent to the awareness building activities. The helpdesk supervisor comfortably handled the volume of traffic associated with these activities and was heavily involved in data collection system internal testing during this period.

An additional five helpdesk operators were briefed for the commencement of the school activation phase, with the briefings held on 8 and 15 March 2018.

Cycle 4 followed a similar helpdesk briefing process as Cycle 3. The first component of the briefing included background information regarding the development of the AEDC, an overview of AEDC data collection workflows, and a summary of helpdesk learnings from Cycle 3. This initial briefing was delivered by the Social Research Centre project management team and was intended to give the team a broad understanding of the AEDC.

The second component of the briefing was focused on the practical aspects of the data collection and helpdesk processes. This was led by the helpdesk supervisory team, and included data collection system orientation, supporting materials content, helpdesk tools and procedures, and a review of issue escalation procedures and privacy and confidentiality issues.

To prepare for the opening of the system for instrument completion, an additional six operators were briefed on 20 April 2018. This was timed to ensure helpdesk operators were briefed in readiness for an expected increase in traffic. This brought the size of the helpdesk team up to twelve, including the helpdesk supervisor.

Re-briefings were conducted by the Social Research Centre project management team and the helpdesk supervision team during the data collection period as required. This kept the helpdesk across any new processes and ensured consistent and up to date advice was provided to schools.

The conduct of workflow specific re-briefings throughout the collection meant the helpdesk could focus on system features and processes pertinent to the current stage of the collection. These re-briefings were scheduled prior to system functionality becoming available e.g. running through the class list creation and maintenance workflow in the week preceding this functionality becoming unlocked in the data collection system.

A workshop specific to teacher relief reimbursement invoicing procedures was held in mid-June as more schools moved into the invoicing phase. This briefing covered invoicing FAQs, an overview of invoicing rates and arrangements by jurisdiction (including, for example, special invoicing arrangements for a number of jurisdictions and the application of the 'three hour minimum' rule), as well as the process for exceptional circumstances claims (refer also to Section 2.12.3).

2.9.4. Helpdesk features

The helpdesk interface with the data collection system was enhanced for Cycle 4, based on operator feedback from 2015, with a view to improving the overall efficiency of helpdesk operations. Existing functionality of the helpdesk interface includes:

- the ability to record interactions with various system users including schools, STCs, parents and members of the public
- customisable 'operator reports' which can be used for outcome analysis, resourcing and calculation of calls taken in real time
- detailed information about each school, their participation status in the AEDC and the status of the different system users registered with the school
- capacity to search for and update key information about the school including password recovery
- an 'impersonate' function, allowing helpdesk operators access to the user's screens within the data collection system, to enable practical and immediate assistance with technical and workflow queries
- a shared interface with STC screens, including the capacity to leave 'notes', allowing the helpdesk and STCs to record and share communications pertaining to individual schools as required
- the capacity to add, edit and delete query outcome codes throughout the period of helpdesk operation as necessary, to enhance capacity to report subtle changes in reasons for contacting the helpdesk, recording of *transactions* (number of individual calls or emails) and *outcomes* (where any one transaction could have multiple outcomes or actions arising).

Helpdesk features were enhanced and refined throughout the data collection and invoice submission period in response to user needs. The main refinements made to the helpdesk interface leading up to and during the data collection include:

- modification of the helpdesk interface to allow operators to switch between different system users at a school, meaning they can impersonate a Teacher, then switch to the AEDC Coordinator without having to search for a separate user.
- the activation code was added in brackets to the helpdesk interface 'previous interactions' log – this improved efficiency making it easier for the helpdesk to identify a school they had recently spoken to.

2.9.5. Helpdesk KPIs and resources

The helpdesk KPIs developed in 2015 were retained for Cycle 4. The main quantitative KPI's focused on the provision of timely support to schools contacting the helpdesk. KPIs include:

- the proportion of calls taken in real time (set at 90 per cent)
- the response time for calls routed to the messaging service (all operators currently busy, call received outside hours of operation) or emails received by the helpdesk (returned / actioned within 24 hours).

KPIs related to service, call handling, communications and query turn-around time were reviewed on a regular basis by the Social Research Centre project management team and the helpdesk supervisory team.

A comprehensive suite of email response templates was developed to ensure consistent responses to common queries to the helpdesk. Email response templates were refined and updated in response to emerging issues across the data collection and invoice submission periods.

2.9.6. Helpdesk activity reporting

A helpdesk update was provided as a standing item at the weekly department and SRC teleconference, with issues arising communicated to STC's on an as required basis.

A comprehensive weekly transactions and outcomes report was prepared and circulated to stakeholders throughout the period that the helpdesk was operational. The report provided details of the 28 most common detailed outcomes logged for the week, and for the project to date as well as tracking call / email volumes and the proportion of calls taken in real time across the entire data collection period.

Refer to Section 3.11 for analysis of helpdesk transactions and outcomes over time.

2.9.7. Other helpdesk activities

In addition to providing assistance with technical and administrative queries, the helpdesk sought to:

- collect and record school scope status and participation information, and refer this information to STCs as appropriate, to ensure the school frame remained up to date for headline reporting and STC dashboard reporting purposes
- assist in the capture of information pertaining to 'data edits' (i.e. requests from schools or individual users to manually correct information erroneously entered during school activation, teacher registration, within the Instrument, or at any point during the invoice preparation process)
- manage requests for paper copy instrument completion.

Refer also to Section 2.11.5 for details of helpdesk support for STC non-response follow up activities.

2.10 Data collection and progress monitoring

This section provides an overview of issues arising during the data collection period, and the tools available to project stakeholders for monitoring progress with the collection.

2.10.1. Data collection period overview

Data collection for Cycle 4 was launched on 1 May 2018. The end of the data collection period was set for Friday 3 August 2018, giving schools three full calendar months to complete data collection activities.

The data collection period started one to three weeks into Term 2, with the two-week winter school holiday period (four weeks in the Northern Territory) falling three to five weeks before the end of the data collection period. Little instrument completion activity was anticipated during winter school holiday time.

The enumeration strategy for Cycle 4 in Western Australia and the Northern Territory was to encourage schools to complete data collection by the end of Term 2 (29 June in both jurisdictions). Other jurisdictions planned to utilise the full data collection period. As could be expected, these differences in enumeration strategy led to some variation in the rate of instrument completion by jurisdiction. Refer to Section 3.4 for a discussion of issues associated with the rate of instrument completion.

2.10.2. Headline reporting

The primary national progress monitoring tool was the Headline Report, provided in MS Excel format to the department on a weekly basis throughout the data collection period. The Headline Report sought to provide information at the sector within jurisdiction level to track project status relative to previous cycles, and monitor progress through the workflow.

The Headline Report was based on that used for Cycle 3, with the addition of school participation rates and completed instruments for MCDS condition 2 and condition 3 schools at the sector within jurisdictional level.

The Headline Report also included information pertaining to:

- headline school and child participation rates, at the sector within jurisdiction level
- reconciliation with the school frame (schools on the school frame, out of scope / closed schools, base for school activation rate calculation)
- details of progression through the school activation workflow (schools commenced activation, activated schools, schools with one or more teachers registered, schools with one or more instruments completed)
- details of progression through the instrument completion workflow (child population, children on a class list, and the count of children with a status ‘Non-participating’, ‘Unassigned’, ‘Not started’, ‘In Progress’, ‘Skipped instrument ‘and ‘Instrument completed’)
- details of the school activation and instrument completion rate (cumulative and weekly by sector within jurisdiction, compared with Cycles 1, 2 and 3)
- details of progression through the invoicing workflow (schools with one or more completed instruments, schools with all teachers finalised, finalised schools, Invoice Summary finalised, invoice submission rate)

- intention to use an ATSI CC, based on Teacher registration information
- ATSI CC usage, based on completed instrument information
- reason for child non-participation, based on Teacher or AEDC Coordinator response to class list maintenance
- reason for skipping the Instrument, based on Teacher responses to Instrument question BI12b
- indicative completion period (details of the of the data collection start and finish date by school, as indicated by the AEDC Coordinator at activation), and the school's progress through the workflow (school activated, school activated and teachers created, one or more instruments completed, all teachers finalised, etc.).

The Headline Report could be generated on demand, with data sourced from a 'snapshot' of system status information taken every 24 hours (at midnight). STCs were also able to generate Headline Report inputs specific to their jurisdiction, as required.

Given that Headline Reports were generated directly from raw system data, counts present in the Headline Reports differ slightly from final, clean edited outputs.

2.10.3. STC dashboard

A key data collection system enhancement for Cycle 4 was improved progress monitoring functionality for STCs through the STC dashboard.

Using the dashboard, STCs were able to view headline school and child participation status information for their jurisdiction, and detailed, real time information on school progress through the workflow. Detailed progress status reports could be exported for distribution to jurisdictional stakeholders and / or for the preparation of tailored lists of schools for a range of non-response follow up activities.

The ability to impersonate the different system users by schools was added to the STC dashboard in Cycle 4. The ability to impersonate was available to STCs in 2015, however for Cycle 4 this was integrated into the STC dashboard making this feature more readily accessible.

Some small refinements were made to the STC dashboard during the Cycle 4 data collection. These were made following STC feedback and involved adding school participation information to both the on-screen display, and to the downloadable STC dashboard reports.

As for Cycle 3, the on screen view could be filtered by school sector, region, or group (as defined in the school frame). Detailed information was displayed at the individual school level, such as activation status, the number of teachers registered, instrument completion status, finalisation status, estimated start and finish dates (as indicated by the AEDC Coordinator at activation) and a 'for action' flag. There was better ability to filter and sort schools in Cycle 4 based on this detailed information.

Further information relating to the individual school, such as the AEDC Coordinator contact details and school participation history, was available by 'clicking through' on the school name.

Consistent with Cycle 3, a detailed breakdown of child participation information and STC approval requests (relating to new email address information for principals / AEDC Coordinators) was also available from the STC dashboard.

2.11 Maximising participation

This section of the report describes the various elements of Cycle 4 response maximisation activities. The STCs were responsible for the achievement of the target school participation (95 per cent) and child participation (95 per cent) rates in their jurisdiction. The SRC's role was to provide timely information and robust systems to support response maximisation activities.

2.11.1. System generated alerts

A number of email alerts were generated within the data collection system to advise relevant users of the need to progress to the next stage of the workflow. In addition to the verification emails generated during account creation, data collection system generated email alerts included:

- an AEDC Coordinator generated reminder to unregistered Teachers, to prompt the Teachers to progress registration
- an alert to the AEDC Coordinator to advise that all Teachers had finalised and to prompt teacher relief reimbursement invoice preparation and school finalisation
- an alert to the Financial Manager to submit the invoice, when the AEDC Coordinator had finished preparing the teacher relief reimbursement invoice
- a thank you email sent to the AEDC Coordinator to advise the school's participation in the 2018 AEDC was complete.

Where the school was not ready to progress to the next stage of the workflow, this was apparent to system users on screen through the 'greying out' of relevant tabs or buttons, and workflow specific messaging (e.g. 'the data collection system is not yet open for class list creation').

2.11.2. Email reminders

A series of reminder emails, using status information from the data collection system, was sent at agreed points during the data collection and invoice submission period to prompt user action. Reminders were based on lists of schools meeting agreed criteria at an agreed point in time. Examples of agreed criteria included 'schools not started activation', 'schools started, not completed activation', 'school activated, no teachers registered', 'schools with teachers registered and no instruments completed' and 'schools with teachers finalised and invoice not submitted'. The reminder types sent were specific to the phase of data collection, for example the first set of reminders were only sent to schools which had not activated.

Proposed reminder email content was circulated to STCs for review and feedback, STC's had the option to tailor reminder email timing and content for their jurisdiction or school sectors. In one case, an entire sector within a jurisdiction abstained from any AEDC reminder activity, instead electing to manage reminder activity internally. Reminders were released to a list of schools meeting the agreed criteria, based on STC dashboard report information generated through STC impersonation.

Over the course of the collection there were 14 different email reminder types, and 16 separate rounds of email reminders, with up to five versions of each email to accommodate jurisdictional / sector level tailoring. Some 31,186 email reminders were sent from the commencement of data collection on 1 May 2018, until the last round of email reminders towards the end of the invoice submission period on 31 October 2018.

The vast majority of email reminders were sent to the AEDC Coordinator, with the balance directed to the Financial Manager or ATSI CC (as part of non-response follow up for the *ATSI CC Feedback Form*). No email reminders were sent to Teachers.

Helpdesk resourcing was increased for the day of, and day following, scheduled reminder activity given the additional helpdesk traffic generated by email reminder activity.

Refer to Appendix 2.11.2 for full list of email reminders by date.

2.11.3. Paper copy instrument

Whilst data collection for Cycle 4 was primarily online through the secure data collection system, it was acknowledged that in a small number of cases, for example, where internet access was unavailable or deemed unreliable for a given school, a paper copy of the Instrument would be made available upon request to facilitate instrument completion.

It was agreed that requests for the paper copy Instrument would be processed through the helpdesk, with notification to the relevant STC, as required.

A set of guidelines for paper copy instrument completion and return was developed by the SRC in consultation with the department for Cycle 3. These guidelines were reviewed and updated in Cycle 4, and provided detailed instructions to the helpdesk and schools regarding agreed procedures for the distribution, completion, secure return and processing of paper copy Instruments and associated documentation.

Only one school contacted the helpdesk and requested to use the paper copy Instrument in Cycle 4, This was due to a very poor internet connection. In total, two paper copy instruments were received for Cycle 4.

Refer to Appendix 2.11.3.1 for a copy of the *Paper Copy Instrument Guidelines*, and Appendix 2.11.3.2 for the *Paper Copy Instrument*.

2.11.4. STC response maximisation activity

STCs were responsible for response maximisation activities in their jurisdiction across the entire data collection and invoice submission period. After the start of the collection, STCs encouraged response, predominantly through email-based communications. There was significant telephone follow up of non-responding schools over the second half of the data collection period.

STC targeted non-response follow up activity was informed by the progress information from the STC dashboard (refer to Section 2.10.3). This allowed STCs to see exactly where a school was up to in the process, as well as the data collection dates nominated by the school at activation, so STCs could avoid reminding schools which intended to participate at a later date.

During the course of undertaking non-response follow up activities, STCs were usually able to offer general support and assistance to schools using the ‘impersonate’ functionality that was included for Cycle 4, else schools were referred to the helpdesk.

Maximising the participation of independent sector schools, in particular, was challenging in some jurisdictions.

2.11.5. Helpdesk support

Outbound telephone and email follow up of (non-responding) schools was initiated by the helpdesk on a number of occasions during the Cycle 4 data collection period in support of STCs. Outbound follow up activities undertaken by the helpdesk included:

- follow up of 'return to sender' (RTS) outcomes for the *School Leader Pack* mailing, and follow up of schools which had previously requested the re-mailing of materials, in order to confirm that the materials had been received and that the school was in a position to proceed with data collection
- follow up with schools which were flagged during the email reminder workflow (refer also to section 2.11.2 above), in order to:
    - correct suspected erroneous email address information, where an email address was flagged as 'bounced' following the release of the initial email reminders;
    - confirm the appropriate AEDC contact, where the 'out of office' email message generated as a result of email alert activity suggested that the recipient was unlikely to be available (due to having permanently left the organisation, or due to being on extended leave, etc.).

In Cycle 3, outbound follow up activities associated with invoicing were also undertaken by the helpdesk but this was not necessary in Cycle 4, due to the invoicing process being streamlined and running much more smoothly. In Cycle 4 approximately 20 helpdesk operator hours were spend directly supporting STCs with follow up activities (significantly lower than the 100+ hours spent in Cycle 3).

2.11.6. Extension to data collection period

At 26 July 2018, six business days from the scheduled end of the data collection period, the Headline Report indicated that a further 31,906 instruments needed to be completed to achieve the 95 per cent child participation rate target at the jurisdiction level, and an additional 798 schools needed to participate in the AEDC to achieve the 95 per cent school participation rate target at the jurisdiction level.

Child and school participation targets had already been met in Western Australia, Queensland and the Northern Territory (at the overall jurisdictional level), but there was some concern relating to the child and school participation rates in other jurisdictions, particularly in New South Wales (81.5 and 77.2 per cent) and Victoria (74.7 and 75.5 per cent respectively), the same jurisdictions that struggled to achieve their participation rate targets in Cycle 3.

Refer to Appendix 2.11.6 for a summary of participation rates by jurisdiction as at 26 July. On this basis, the department agreed to extend the data collection period by two weeks from 3 August to 17 August 2018. The extension period was used by STCs to undertake highly targeted non-response follow up activity.

During the two-week extension period, approximately 6,180 incremental instruments were completed, with the child participation rate most improved in the Victorian Government and independent sectors, South Australian Catholic and Tasmanian independent sectors. An additional 203 schools participated during the extension period, with the school participation rate most improved for all sectors in Victoria, the New South Wales Government, South Australian Catholic and Tasmanian independent sectors.

At the end of the two-week extension, New South Wales had achieved their child participation target but were just short of their school participation target (94.1 per cent) whilst Victoria were yet to achieve either (93.0 and 93.2 per cent respectively). An additional week extension was granted by the department for these two jurisdictions, taking their final data collection date to 24 August 2018. Following post-collection adjustments (refer to Section 2.13 for further details), Victoria remained the only jurisdiction to not reach their child or school participation targets (93.8 and 94.5 per cent respectively).

Overall, independent sector school participation remained a challenge in Cycle 4, with a national school participation rate of 80.2 per cent for this sector, slightly lower than in Cycle 3 (81.2 per cent) and significantly lower than the Catholic and Government sector school participation rates of 97.1 per cent and 99.2 per cent respectively.

Refer to Sections 3.1 and 3.2 for details of final school and child participation rates, respectively, and Section 3.4 for a more detailed analysis of the rate of instrument completion.

2.12 Teacher relief reimbursement and related processes

2.12.1. Teacher relief reimbursement overview

Funding for teacher relief was provided to enable Teachers to complete instruments. Teacher relief reimbursement was funded separately to data collection, and was managed by the SRC.

The core funding arrangements were unchanged from Cycle 3 and included:

- one hour for each Teacher to complete training prior to commencing instruments
- twenty minutes per completed instrument, defined as a 'full' instrument or a 'skipped' instrument (refer to Section 2.3.1), where the Teacher had known the child for less than one month, did not feel they could make an accurate assessment of the child, and only completed the 'Background Information' questions
- twenty minutes per instrument completed by an ATSI CC and the Teacher together
- one hour for each ATSI CC to complete training prior to assisting the Teacher(s) with instrument completion.

Hourly rates for Teachers and ATSI CCs were provided by the jurisdictions, following negotiations with the department. A key initiative for Cycle 4 was to have a 'single rate' structure within any one jurisdiction / sector, rather than 'multi-rates' for various teaching bands as in previous cycles.

Refer to Appendix 2.12.1 for full details of the rate structure by jurisdiction and sector.

Consistent with previous cycles, teacher relief reimbursement funding also covered:

- a 'three hour minimum' payment, which applied where the sum of reimbursement for Teacher training and instrument completion was less than the equivalent of three hours of teacher relief. In such circumstances, the data collection system automatically calculated a 'top-up' payment so that the total paid equated to three hours of teacher relief
- payment of 'Exceptional Circumstances' claims, where the school incurred reasonable expenses that could not be claimed within the standard Invoice Summary pro-forma generated by the data collection system (refer to Section 2.12.3 for more details).

In both Cycles 3 and 4, an agreement was negotiated between the department and the Northern Territory, whereby funding for teacher relief was provided directly to the Northern Territory Department of Education for a 'roving' relief team, rather than to individual schools.

In Tasmania (Government schools only) and the Australian Capital Territory (Catholic schools only), teacher relief arrangements and payment for ATSI CCs (both training and instruments completed) were made directly through a centralised sector body rather than the schools themselves.

In order to cover additional teacher time associated with the inclusion of MCDS pilot questions in the instrument for schools participating in the MCDS pilot, teacher relief reimbursement was increased as follows:

- the equivalent of 25 minutes per instrument completed to schools completing all items in the MCDS (condition 2 schools)
- the equivalent of 23 minutes per instrument completed where at least one battery of MCDS questions were answered (condition 3 schools).

2.12.2. Invoice workflow overview

As a result of blockages in the workflow at principal authorisation of the invoice in Cycle 3, the finalisation and teacher relief invoicing workflow was simplified in Cycle 4 by:

- removing the principal approval option entirely
- modifying the workflow so that there were no additional steps following invoice submission.

There was also improved functionality built into the data collection system for Financial Managers responsible for multiple schools.

As per previous cycles, an Invoice Summary could be created by the Financial Manager once the Teacher(s) confirmed that all instruments had been completed at the school.

The data collection system populated the Invoice Summary template with information from the collection for the AEDC Coordinator to review, including:

- the total number of instruments completed
- the total number of Teachers trained, based on the Teacher's completion of the training module, which followed teacher registration for the data collection system
- the total number of instruments completed by an ATSI CC and the Teacher together.

The system could not automatically populate the Invoice Summary with the number of ATSI CCs trained as ATSI CC registration on the system was optional. The Invoice Summary allowed for the number of ATSI CCs trained to be less than or equal to the total number of instruments completed by an ATSI CC and Teacher together, where at least one instrument had been completed by an ATSI CC and Teacher together. Where more than one instrument had been completed by an ATSI CC and Teacher together, the AEDC Coordinator was required to nominate the number of ATSI CCs trained.

If the three-hour minimum payment applied, as described in Section 2.12.1, the system automatically added an appropriate line item to the Invoice Summary.

The data collection system only allowed the Financial Manager to finalise the invoice if the school's Australian Business Number (ABN) and bank account details had been entered.

The Financial Manager and AEDC Coordinator could also print a copy of the finalised invoice in Recipient Created GST Tax Invoice format for the school's records.

Payment was made to the bank account nominated by the Financial Manager within two to six weeks.

Refer to Appendix 2.12.2.1 for an Invoice Summary screen shot, and Appendix 2.12.2.2 for an example printed invoice.

The standard workflow was adapted to accommodate a number of variations:

- New South Wales Government schools all shared a common Financial Manager and centralised bank account details were pre-populated
- the payment of teacher relief into a centralised account, for Tasmanian and Australian Capital Territory Catholic sector schools

- payment for MCDS condition 3 schools, as this required the investigation of instrument data to determine the number of instruments that qualified for the agreed 'higher' rate.

2.12.3. Exceptional circumstances claim process overview

A mechanism for processing reasonable expenses incurred by schools that could not be claimed within the standard Invoice Summary pro-forma was required as part of the invoicing system.

The exceptional circumstances claim procedure for Cycle 4 was essentially unchanged from the previous two cycles, whereby schools were encouraged to discuss the circumstances of their claim with the STC in the first instance, before submitting a claim with supporting material for authorisation by the STC. Approved claims were submitted for payment, separate to the standard teacher relief reimbursement payment, 'outside' the data collection system. Schools were required to submit an invoice for the agreed amount of the claim, and department approval was required for claims of $500 or more.

Most 'exceptional circumstances' claims were likely to relate to situations where teacher relief was booked and was present on site, but for some reason, the classroom teacher could not complete instruments at that time (connectivity problems, data collection system issues, etc.)

Refer to Appendix 2.12.3 for full details of the exceptional circumstances claim workflow.

2.12.4. Treatment of GST

As per Cycle 3 (after June 2015), teacher relief reimbursement payments in Cycle 4 attracted GST for schools in the Catholic and independent sectors but not the Government sector.

Invoice Summary workings displayed both GST exclusive rates and the GST component (where applicable).

2.12.5. Invoice completion monitoring

Invoice submission rates were monitored at a sector within jurisdiction level through the weekly Headline Reporting process (refer to Section 2.10.2), and at an individual school level through the STC dashboard and the 'school status' code (refer to Section 2.10.3).

Whilst the primary invoice completion measure was based on school finalisation (when the payment was sent for processing), progression through the invoice preparation workflow was monitored by tracking:

- the number of schools where Teachers had completed all instruments, but the invoice was awaiting AEDC Coordinator sign off
- the number of schools where the invoice had been prepared by the AEDC Coordinator, but was awaiting submission by the Financial Manager.

The above information was used to prepare a range of targeted email communications, prompting schools to progress through the school finalisation and invoice submission workflow.

Refer to Section 3.12 for an analysis of invoice completion dynamics.

2.12.6. Invoice submission period

Teacher relief reimbursement invoices could be submitted from the start of the data collection period on 1 May 2018, until 31 October 2018, some two calendar months after the end of the extended data collection period.

Considerable effort was invested in prompting schools to complete the invoice within this time frame.

The final batch of Exceptional Circumstances claims was processed on 31 November 2018.

2.12.7. Financial reporting

A financial report was prepared for the department at a number of points in the data collection and invoice submission cycle to monitor invoice and Exceptional Circumstances claims against budget and review spend by items of interest, such as the three hour minimum payment.

The final financial report included a full reconciliation of drawings on the teacher relief reimbursement funds provided by the department and details of all invoices and extras claims paid.

2.13 Data preparation

Data preparation for the 2018 AEDC was based on the following assurances:

- the department would be able to start with the original data file extracted from the online data entry system database, run a set of syntax files and arrive at the same fully formed, historically consistent AEDC data set created by the SRC
- the data would be created in multiple formats as part of a formal replication and validation of the file
- changes to outputs from the previous cycle would be minimised - file layout, variable naming and labelling conventions would be consistent with the unit record files (URFs) disseminated during Cycle 3, unless otherwise agreed
- all of the variables would be fully documented in the data dictionary
- the data will have been examined by the Institute as part of a quality assurance process before sign off by the department.

The following sections summarise the basic steps taken in compiling the data.

2.13.1. Initial data preparation

There were three initial steps in creating a basic ‘raw’ data file:

- the final extract from the online data entry system database was imported into SPSS on 28 August 2018. The total number of instruments was 309,461
- a separate verbatim file was created containing Teachers’ responses to the 10 free-text items interspersed throughout the instrument. The 10 fields were then deleted from the main file
- all variables in the original file were renamed and recoded to match the data file from previous cycles.

2.13.2. Key data cleaning tasks

Relatively little cleaning was required of the data extracted from the online data entry system database. In itself, the primary data provided by Teachers was of a very high quality. The major data cleaning tasks involved five modifications:

- amendments requested by the schools and STCs through the helpdesk

- applying STC post-population checks of date of birth, gender, resolution of duplicate records and invalid addresses
- post-populating data for West Australian cases for agreed items, including children repeating a grade and parental education
- adding post-population attendance data where this was provided from administrative records
- removing data from variables that should be skipped if a Teacher revised their response to an earlier question. For example, if a Teacher completed part of an instrument for a child and then returned to the question on whether they felt they could adequately assess a child and amended their answer to 'No', all data in the assessment variables for that child were cleared out.

All documented requests to modify the data were consolidated into a single routine.

Child ages were exported for review if the child age was under 4 or over age 7 (or under 5 if the child was repeating the grade) (334 cases), while gender was checked where the recorded gender was different from the pre-populated gender (517 cases). STCs were provided with details for these children and asked to confirm or modify the information according to that held in their local systems.

There were 1,142 children in the original data extract who shared the same *first name, last name* and *date of birth* or *first name, last name* and *school*. Most of these children had changed schools during the course of the collection and were assessed independently by teachers in different schools. Retaining the records of ten children with very common names (e.g. William Smith) as unique, and selecting one student of each duplicate grouping to retain, a list of these children was sent to the relevant STCs with guidelines to assist them in determining which record was to be retained and reported in the 2018 AEDC and which was to be flagged and excluded. The agreed de-duplication rules were as follows:

- where there is one valid and one skipped or invalid instrument, retain the valid instrument; and
- where both instruments are either valid, invalid or have been skipped, retain the instrument completed first - the earlier instrument would have been completed by the Teacher who had known the child the longest.

After incorporating advice from the STCs, 508 records were excluded as duplicate. Exclusion of the 'duplicate' records avoided possible distortions in the data. It was also particularly important for linkage projects in which duplicate records will create concerns and would have to be excluded anyway. The net effect of excluding the 508 duplicates was to reduce the number of children that participated in the 2018 AEDC from 309,461 to 308,953. The 508 duplicates were not discarded but retained in pairs in a separate sub-file for further analysis.

2.13.3. Key data transformation tasks

Given the volume of data transformation-related material, full details are not provided in this report. More information on transformations can be found in the *AEDC Data Dictionary*.

In summary, the key data transformations were as follows:

- multiple response items were converted to individual variables (such as Aboriginal and Torres Strait Islander Cultural Consultant types);

- data transformations for output variables derived from more than one input variable (e.g. ‘Tmsch’, derived from whether the child has been in the class for more than one month at the time of assessment and whether the Teacher felt they could adequately assess the child);
- transformations for derived demographic items such as ‘AgeGroup3to7’ and ‘PlaceOfBirth’;
- domain score variables, cut-offs and other derived items such as DV1 and DV2 were calculated using syntax adapted from the Canadian EDI;
- the Multiple Strength Indicator was calculated using syntax provided by the Institute.

2.13.4. Geocoding

Excluding West-Australian records which were post-populated with address and geocode information, 43,550 records required geocoding due to having either no pre-populated child residential address data or pre-populated child residential address details that were corrected in the instrument.

Of these:

- 32,013 records did not have child residential address information pre-populated
- 11,537 records corrected either invalid or incorrect child residential address information from pre-population.

Of these, 41,130 or 94.4 per cent were automatically geocoded to a satisfactory level, with another 1,538 cases manually updated. The remaining 882 cases were sent to STCs to see if better address information was available in administrative records, with 359 returned with addresses that were able to be geocoded. The remainder were streamed into a manual geocoding workflow, taking the best geocoding available (e.g. property, street or suburb centroid, or failing that, school address).

Overall the geocoding process was satisfactory, and the geocoding for pre-populated records as part of the pre-population data generation process greatly reducing the time required and impact of geocoding on post-data collection data preparation period.

2.13.5. Final steps

The 2018 data was combined with the data from earlier cycles for processing of childcare data and deriving geographic variables from the geocodes. For the childcare data this was because of the revision of the childcare variables presented in the data file to match the current questionnaire items. More information on this process can be found in the AEDC Data Dictionary.

Most of the geographic variables in the AEDC data files are based on the ABS Australian Statistical Geographical Standard (ASGS), including community and local community information. This standard is revised at each census, so revisions to the geographic variables in the data were necessary for all cycles.

The final stage of the data processing was to merge in the data from these processes.

2.14 External checking

2.14.1. Sense checking tables

A suite of six sense checking tables created from the preliminary data were distributed to the department and the STCs on 3 October 2018. These tables contained a detailed breakdown of scores on each domain by key demographic variables and several relevant items from the instrument.

The tables summarised the proportion of children that were developmentally vulnerable on the five AEDC domains. The sixth table displayed the number of children that were vulnerable on one or more, or two or more of these domains. Each table shared a common set of variables:

- seven demographic fields (age, sex, Aboriginal and Torres Strait Islander status, location, country of birth, language diversity and school type)
- five variables provided a broad 'validity' check in items expected to be associated with domain scores to a greater or lesser degree. The items concerned the child's adaptation to school, parents' engagement with school, if reading was encouraged at home, if the child needed further assessment and whether or not the Teacher had participated in the AEDC for the first time
- sub-domain details were also shown for each domain. The sub-domains provided some sense of which components had the greatest impact on domain scores, but provide important information in their own right.

Jurisdictions were asked to comment on the overall consistency of the data and on any areas of concern to their jurisdictions. No inconsistencies were reported. The main purpose served by the sense checking tables was to provide the jurisdictions with selected initial views of the data, and a preview of the results for Cycle 4.

2.14.2. Telethon Kids Institute quality assurance check

As noted in Section 2.1.3, an additional quality assurance check was introduced in Cycle 4 that involved providing the final data file to researchers at the Institute so that a detailed check of all data processing could be undertaken. This process resulted in the identification of a small number of minor issues that were able to be resolved before the release of data to a wider audience.

2.15 Final data outputs

Preliminary data was sent to the department in SPSS, SAS and pivot table format on 20 February 2019. Finalised data incorporating all changes to the dataset was provided to the department and the STCs on 28 March 2019.

2.15.1. Data deliverables

There were several data deliverables for Cycle 4, covering the department, STCs and other stakeholders, including.

- the preliminary file to the department in February 2018
- a final complete dataset delivered to the department in March 2019
- a suite of pivot tables and core datasets delivered to the STCs, with data obfuscated to allow only detailed demographic and geographical breakdowns for Government schools within their jurisdiction, delivered in February 2019
- a Power BI dashboard and PBIX datafile, produced for the first time in Cycle 4 as an alternative to pivot tables for STC usage
- a suite of pivot tables delivered to the non-government school sectors in each state, with data obfuscated to allow only detailed demographic and geographical breakdowns for schools within their own sector and jurisdiction, delivered in March 2019 to coincide with the launch of the 2018 AEDC results

- a complete national dataset for various national stakeholders, delivered in March 2019 to coincide with the launch of the 2018 AEDC results
- a master linkage key, delivered to relevant linkage authorities.
- inputs for the Data Explorer product on the AEDC website, including public tables (LGA, SA2, SA3 level) and community time series tables.

All data deliverables were sent to the various stakeholders using the SRC secure file exchange.

These data deliverables were generally consistent with previous cycles, with the key exceptions being:

- Power BI. This was a new deliverable for Cycle 4 and was developed as an alternative to pivot tables for STCs to quickly and visually explore their AEDC data using a standardised presentation that aligns to other AEDC reporting formats. Several rounds of consultation and feedback were undertaken with STCs to develop the base product
- Pivot tables, which continued to be produced for table creation and analysis, but in Cycle 4 were produced using Power Pivot (an Excel add-in) to handle the large volume of AEDC data that exists from four data collection cycles
- New community time series tables, which were added to the products downloadable at the community level from the Data Explorer on the AEDC website. The community time series tables were developed to ensure access to all four cycles of data, as the interactive tables, maps and charts on the Data Explorer only show the last three cycles.

2.16 Reports and dissemination

2.16.1. Reporting products overview

The SRC has produced online and printed reports on the AEDC results since Cycle 3. For Cycle 4, the reporting products included:

- School Profiles – these provided an overview of the AEDC results for participating schools. School Profiles were first disseminated to school principals in late November 2018, then updated with an 'addendum' (containing a comparison of the school results with the jurisdiction and national results) in March 2019, following launch of the national 2018 AEDC results
- Community Profiles – these include AEDC results at the Community and Local Community level and are available for download on the AEDC website
- the National Report, available on the AEDC website
- Multiple Strengths Indicator – available for download from the AEDC website at the Community level.

All data produced for these reports in Cycle 4 was subjected to the quality assurance process undertaken by TKI.

2.16.2. Changes to reporting products for Cycle 4

The National Committee reviewed AEDC reporting for Cycle 4 in March 2018 and a reporting workshop was held in June 2018 where a number of important decisions were made regarding reporting for Cycle 4 that included:

- both online and printable

- products important to retain. In terms of printable material specifically, there was general agreement that the National Report, Community Profiles, and School Profiles should all be available in printable format as they assist in community engagement
- numbers and proportions in data tables should be provided where practical from a presentation perspective in online and printed reports
- the use of three data points for tables in all reports and all (four) data points for figures in the reports where appropriate (the inclusion of more than three collections does not meet the Guiding Principles – specifically readability)
- full time series data need only be available in downloadable Excel files online
- presentation of data within and between the AEDC reports must use consistent tabular and graphical formats
- School Profiles / School Summaries would be combined to make a comprehensive School report
- the MSI should be retained as a stand-alone product.

Templates for 2018 School and Community Profiles were significantly reworked by the SRC in consultation with the National Committee and the department. The School Profile and Addendum templates were signed off in mid-November 2018 and the Community Profile template was signed off early February 2019.

All reports were disseminated in the Cycle 4 using the same process as Cycle 3, with the exception of School Profiles, which were emailed directly to principals in Cycle 4 via a secure link using SRC's secure file exchange. This avoided the need for an activation code to access the School Profile, which in Cycle 3 led to some confusion and may have impacted School Profile download rates.

Jurisdictions also had the option to upload the School Profiles for their jurisdiction to their secure, central educational portal, with the option to send their own notification emails to principals, or for SRC to send the notification email.

In preparation for School Profile dissemination, STCs were asked to ensure that principal email addresses were up-to-date by providing SRC with an updated school frame extract or by updating principal contact details in an export from the data collection system. To ensure the School Profile reached the intended recipient i.e. the principal, the School Profile was not sent to a generic school email address.

STCs had the ability to tailor the email content to suit their needs by marking up changes to a standard email template.

Where School Profiles were uploaded to central educational platforms, SRC provided STCs with their suite of reports via secure file exchange and this was then handled within the various sectors.

All other reports were uploaded to the AEDC website, in both pdf and accessible Word versions.

3. Analysis and review

3.1 School participation

3.1.1. School participation overview

The school participation rate for the purpose of this report is defined as schools that completed one or more instruments (fully completed or 'skipped') as a proportion of in scope schools, that is, schools with at least one child in their first year of full time school.

STCs determined the scope status of schools, either in advance of loading the school frame into the data collection system, or following reconciliation of pre-population information and school frame information, or during the collection, as a result of non-response follow up activity.

Table 3.1.1 shows the school participation rate by cycle, jurisdiction and sector. The Cycle 4 figures presented in this table differ slightly from those in the Headline Report (which does not include any post-collection adjustments) and also the National Report (which is based on child level data in the unit record file that records the school where the instrument was completed and does not include adjustments made post-collection for multi-campus schools or any schools that may have participated in the collection and either had all children opted out or removed as part of post-collection cleaning).

Analysis of MCDS school participation is not included in this report as it has been reported separately by the Telethon Kids Institute.

For school frame management purposes during the collection, where the collection was being conducted through the main campus of a multi-campus school, the main campus was flagged as 'participating', and the balance of campuses flagged at 'out of scope'. The scope status of each campus was updated post collection to reflect school participation at the individual campus level.

Table 3.1.1 shows that the national school participation rate for Cycle 4 was 96.7 per cent which is unchanged from Cycle 3, and 1.1 percentage points higher than in Cycle 2 (95.6 per cent).

The school participation rate increased by 0.1 and 0.3 percentage points in the Government and independent sectors respectively and fell by 0.2 percentage points in the Catholic sector.

The target school participation rate (95.0 per cent) was achieved in all three school sectors in Western Australia, Tasmania and the Australian Capital Territory. In other jurisdictions, the achievement of the school participation rate target was challenging for schools in the independent sector. This was the case also in Cycle 3 for these jurisdictions, except for the Northern Territory which achieved a higher independent sector participation rate in Cycle 3 than 4 (although the difference is only one school).

Other shifts in school participation rates from Cycle 3 to Cycle 4 were relatively minor at the jurisdiction / sector level. The largest increases in the school participation rate from Cycle 3 to Cycle 4, expressed in terms of percentage point change, were in the South Australian independent (4.0) and Catholic (2.1) sectors, followed by the Victorian Government sector (1.8) and New South Wales independent (1.4) sector. The largest decreases were the Northern Territory independent sector (-13.3, representing two schools), the Queensland independent sector (-1.7), the New South Wales Government sector (-1.4) and the Victorian Catholic sector (-1.3).

Victoria (up 0.8 percentage points to 94.5) and South Australia (up 0.8 percentage points to 97.9) recorded the largest percentage point improvement in the school participation rate in Cycle 4, relative to Cycle 3.

Table 3.1.1 School participation rate by cycle, jurisdiction and sector

Sector within jurisdiction	Cycle 4 school frame	Cycle 4 in scope	Cycle 4 partici-pated	School participation rate %			
				Cycle 4	*Cycle 3*	*Cycle 2*	*Cycle 1*
National	8,066	7,796	7,537	**96.7**	*96.7*	*95.6*	*95.6*
Government	5,613	5,430	5,395	**99.4**	*99.3*	*97.9*	*98.2*
Catholic	1,383	1,363	1,325	**97.2**	*97.4*	*96.2*	*96.0*
Independent	1,070	1,003	817	**81.5**	*81.2*	*81.5*	*79.3*
New South Wales	2,528	2,458	2,341	**95.2**	*96.1*	*95.6*	*95.5*
Government	1,728	1,686	1,656	**98.2**	*99.6*	*98.1*	*98.7*
Catholic	452	449	449	**100.0**	*100.0*	*98.9*	*98.9*
Independent	348	323	236	**73.1**	*71.7*	*78.0*	*73.2*
Victoria	1,942	1,884	1,781	**94.5**	*93.7*	*91.6*	*91.7*
Government	1,311	1,266	1,261	**99.6**	*97.8*	*94.9*	*95.7*
Catholic	408	403	368	**91.3**	*92.6*	*89.6*	*90.3*
Independent	223	215	152	**70.7**	*71.1*	*74.9*	*69.1*
Queensland	1,476	1,442	1,418	**98.3**	*98.7*	*96.8*	*97.9*
Government	1,070	1,038	1,038	**100.0**	*100.0*	*99.3*	*100.0*
Catholic	220	220	220	**100.0**	*100.0*	*99.5*	*100.0*
Independent	186	184	160	**87.0**	*88.7*	*76.5*	*80.4*
Western Australia	948	921	921	**100.0**	*99.8*	*99.2*	*99.0*
Government	673	660	660	**100.0**	*99.7*	*99.5*	*99.5*
Catholic	139	134	134	**100.0**	*100.0*	*100.0*	*100.0*
Independent	136	127	127	**100.0**	*100.0*	*96.7*	*95.2*
South Australia	642	619	606	**97.9**	*97.1*	*97.3*	*94.5*
Government	452	437	437	**100.0**	*100.0*	*99.6*	*97.0*
Catholic	90	89	86	**96.6**	*94.5*	*97.6*	*88.4*
Independent	100	93	83	**89.2**	*85.2*	*84.9*	*87.1*
Tasmania	222	213	213	**100.0**	*100.0*	*99.1*	*99.6*
Government	154	153	153	**100.0**	*100.0*	*98.7*	*99.4*
Catholic	31	31	31	**100.0**	*100.0*	*100.0*	*100.0*
Independent	37	29	29	**100.0**	*100.0*	*100.0*	*100.0*
Australian Capital Territory	143	106	106	**100.0**	*100.0*	*99.0*	*100.0*
Government	89	65	65	**100.0**	*100.0*	*100.0*	*100.0*
Catholic	30	24	24	**100.0**	*100.0*	*95.8*	*100.0*
Independent	24	17	17	**100.0**	*100.0*	*100.0*	*100.0*
Northern Territory	165	153	151	**98.7**	*99.4*	*99.3*	*100.0*
Government	136	125	125	**100.0**	*99.2*	*99.2*	*100.0*
Catholic	13	13	13	**100.0**	*100.0*	*100.0*	*100.0*
Independent	16	15	13	**86.7**	*100.0*	*100.0*	*100.0*

3.1.2. Non-responding schools

Reference to Table 3.1.1 shows that there were 259 schools identified as 'in scope' which did not participate in Cycle 4. Of these, 117 were in New South Wales, 103 were in Victoria, and 186 were in the independent sector. These findings are reasonably consistent with Cycle 3.

School size information, expressed in terms of the number of children, is available for 195 of these schools, either from pre-population or from completed school activation information (where the school did not progress beyond school activation). Of the 64 schools with no school size information, all are in the independent sector.

Amongst the 195 non-responding schools with school size information, schools with 60 or less children are over-represented, and schools with more than 60 children are under-represented.

Whilst the overall proportion of the responding in scope schools with 60 or less children is approximately three quarters (75.9 per cent), they comprise 87.2 per cent the non-responding schools.

The inverse applies for schools with 60 or more children, which comprise 12.8 per cent of the non-responding schools with school size information, and 24.1 per cent of in scope schools.

This may reflect the focus of STCs non-participation follow up efforts, which was mainly directed at larger schools (so as to achieve greater child participation).

This level of non-response among small schools is consistent with Cycle 3, despite a separate communication strategy developed in Cycle 4 to target small schools (a separate invitation letter was sent to schools with less than 6 children as part of awareness-building activities). This suggests there is continued need to support small school participation in the future and efforts beyond a separate invitation letter may be warranted.

Just less than one in five (18.5 per cent) independent sector schools were in scope but did not participate in Cycle 4. A reason for non-participation was incorporated in the data collection system for STC completion for the first time in Cycle 4. Independent sector schools' reasons for non-participation are shown in Table 3.1.2, compared to other sectors. Whilst there was no reason provided for around 70 per cent of non-participating independent schools (61.8 per cent of all schools), there was a slightly higher proportion which 'did not see the value in AEDC / not interested' (five per cent independent sector compared with three per cent other sectors). However, other sectors had a higher percentage of 'Principal refusal' (one per cent independent sector compared with five per cent other sectors).

As this information provides valuable insight into reasons for non-participation and possible strategies to address this in the future, STCs are strongly encouraged to complete this information for all non-participating schools in future cycles where possible.

Table 3.1.2 Reasons for non-participation in Cycle 4, independent sector vs other sectors

Reason for non-participation	Government and Catholic sector		Independent sector		Total schools	
	n	%	n	%	n	%
Ran out of time	20	27.0	10	5.2	30	**11.2**
Time pressures at school	7	9.0	11	5.7	18	**6.7**
Broader school factors, e.g. new principal, competing reviews	7	9.0	11	5.7	18	**6.7**
Technical issues (e.g. difficulties with log in, too technically difficult)	1	1.0	2	1.0	3	**1.1**
The Principal refused	4	5.0	2	1.0	6	**2.2**
Do not see value / not interested	2	3.0	10	5.2	12	**4.5**
Not compulsory	1	1.0	1	0.5	2	**0.7**
No reason given	30	40.0	135	70.3	165	**61.8**
Other	3	4.0	10	5.2	13	**4.9**
Total	75	100.0	192	100.0	267	**100.0**

Note: This table includes reasons for non-participation as at October 2018, prior to post-collection data cleaning.

3.1.3. Changes in participation status across cycles

Table 3.1.3.1 examines changes in school participation status from Cycle 3 to Cycle 4, based on schools identified as 'in scope' for Cycle 4, and excluding new schools for Cycle 4. As can be seen, the vast majority of schools (7,155) participated in both Cycles 4 and 3.

Table 3.1.3.1 Changes in school participation status from Cycle 3 to Cycle 4

Sector	Participated Cycle 4	Participated Cycle 3	
		Yes	No
National	Yes	7,155	**296**
	No	134	115
Government	Yes	5,204	**141**
	No	33	2
Catholic	Yes	1,279	**35**
	No	26	12
Independent	Yes	672	**120**
	No	75	101

Table 3.1.3.2 shows participation by number of cycles based on schools which participated in Cycle 4 (and excluding new schools for Cycle 4). This shows that nearly nine out of ten Government and Catholic schools (90.6 per cent respectively) participated in all four cycles of the AEDC. For independent sector schools, this figure is around two thirds (65.4 per cent). This could be interpreted as a sign of stability in the school frame, and ongoing commitment to participation in the AEDC, particularly from schools in the Government and Catholic sectors.

A total of 115 schools did not participate in either Cycles 3 or 4, mostly independent sector schools (2 from the Government sector, 12 from the Catholic sector and 101 from the independent sector). In the absence of mandatory school participation, it is not clear how such schools might be best engaged in the AEDC. Tailored communications, or other 'special treatment' for such schools may be worthy of consideration for the next cycle.

Table 3.1.3.2 Participation by number of cycles, by sector

	Participation Status - Number of cycles							
	1 cycle only		Any 2 cycles		Any 3 cycles		All 4 cycles	
Sector	n	%	n	%	n	%	n	%
National	106	1.4	277	3.7	502	6.7	6,549	87.9
Government	33	0.6	164	3.1	298	5.6	4,841	90.6
Catholic	14	1.1	38	2.9	69	5.3	1,190	90.6
Independent	59	7.4	56	7.1	50	6.3	518	65.4

There were 296 schools which participated in Cycle 4, but not in Cycle 3, mostly comprising schools in the Government (141) and independent (120) sectors. There were 106 schools which participated in the AEDC for the first time in Cycle 4 (and who were not 'new' schools), including 59 independent sector schools and 33 Government schools. Whilst a small proportion of these schools may have been out of scope in previous cycles, and became in scope for Cycle 4, these 'gains' in school participation can be considered positive.

Of some concern, however, may be the 134 schools which participated in Cycle 3, but not in Cycle 4. These mostly comprised schools in the independent (75) sector. As mentioned in Section 3.1.2, reason for non-participation was included in the data collection system for STC completion for the first time in Cycle 4 however there was a very high proportion of missing data. Of the reasons that were captured, the most common related to time pressures, broader school factors (such as a change in principal) and failing to see the benefit of participation.

Consideration could also be given to introducing a formal non-participation follow up survey to better understand reasons for non-participation to assist with the development of strategies to maintain or incrementally improve overall school participation.

3.1.4. 'Early' and 'late' responding schools

Analysis was undertaken to identify whether schools responding late differ from schools responding early, with a view to informing communication and non-response follow up strategies for future cycles. The analysis uses '*last instrument completion date'* and '*size of school'*, based on number of children.

Table 3.1.4.1 shows that the proportion completing instruments by 1 July was fairly even across the school size categories (57.1, 58.0, and 57.7 per cent for schools with 20 or less, 21 to 60 and more than 60 children respectively). However, smaller schools were more likely to complete instruments early compared to larger schools (18.7, 14.9 and 12.7 per cent for schools with 20 or less, 21 to 60 and more than 60 children respectively). On the other hand, larger schools were more likely to complete instruments mid to late into the collection.

The proportion of schools in Cycle 4 completing very late in the data collection period (23 July to 3 August) was also fairly even across the school size categories (26.1, 26.7, and 25.7 per cent for schools with 20 or less, 21 to 60 and more than 60 children respectively), whereas smaller schools were nearly twice as likely to complete instruments during the extension period compared to larger schools (7.2 per cent compared to 3.8 per cent).

Whether this is attributable to STC non-response follow up priorities, larger schools planning for the collection earlier or perhaps not taking up extension opportunities due to insufficient time, or some other factor is unclear.

The overall proportion of schools completing very late or during the extension period (after 23 July in Cycle 4 or equivalent date for other cycles) has continued to increase from 27.3 in Cycle 2 to 30.3 in

Cycle 3 and 31.5 in Cycle 4. This may be an indication of communications not cutting through and / or an increasingly challenging environment to induce schools to participate. It may also reflect schools taking advantage of the full data collection period or waiting to complete the last instrument(s) until the classroom Teacher had time to get to know the child(ren).

Table 3.1.4.1 Completion date by size of school

Last instrument completion date	Size of school (number of children)			
	<=20	21-60	>60	Total
Number of schools				
Early (before 27 May)	495	449	235	1,179
Mid (28 May to 1 Jul)	1,024	1,302	832	3,158
Late (2 Jul to 22 Jul)	251	322	234	807
Very late (23 Jul to 3 Aug)	693	803	473	1,969
Extension (4 Aug or after)	190	135	70	395
Total	**2,653**	**3,011**	**1,844**	**7,508**
Percentage				
Early (before 27 May)	18.7	14.9	12.7	15.7
Mid (28 May to 1 Jul)	38.6	43.2	45.1	42.1
Late (2 Jul to 22 Jul)	9.5	10.7	12.7	10.7
Very late (23 Jul to 3 Aug)	26.1	26.7	25.7	26.2
Extension (4 Aug or after)	7.2	4.5	3.8	5.3
Total	**100.0**	**100.0**	**100.0**	**100.0**
Completed early / mid				
Cycle 4	57.1	58.0	57.7	57.6
Cycle 3	*56.5*	*59.4*	*57.8*	*58.0*
Cycle 2	*54.2*	*59.5*	*64.0*	*58.7*
Completed very late / extension				
Cycle 4	33.3	31.2	29.4	31.5
Cycle 3	*32.1*	*28.8*	*30.5*	*30.3*
Cycle 2	*29.6*	*27.2*	*23.9*	*27.3*

Note: Individual campuses of multi-campus schools where the AEDC was administered centrally through head campus are reported under the head campus in this table.

AEDC Coordinators were asked to nominate when their school plans to complete instruments as part of the activation sequence. Nationally, nearly three quarters of participating schools (73.1 per cent) completed instruments on or before their planned completion date. There was little variation by jurisdiction, ranging from 67.7 per cent in South Australia to 78.1 per cent in the Northern Territory. independent sector schools were more likely to complete when they said they would (75.9 per cent) than Government (73.2 per cent) and Catholic (71.2 per cent) sector schools. There was a negative correlation between size of school and instrument completion on or before planned completion dates, with smaller schools more likely to achieve this (74.8 per cent) than larger schools (71.3 per cent).

A higher proportion of schools completed instruments prior to 1 July than planned (57.8 per cent vs 55.3 per cent) and this was true for all school sizes. This suggests that schools may be providing conservative estimates for data collection to allow for potential delays, or perhaps that they found the set-up process quicker than envisaged. Just over one third of schools (34.2 per cent) nominated a

date after 23 July (i.e. very late in the collection period), but it is not clear if this was the preferred date, the result of activating the school late into collection or other factors.

As noted in Section 2.11.6, a total of 203 additional schools participated during the extension to the data collection period. Table 3.1.4.2 shows that a *School Profile* could be produced for an incremental 184 schools as a result of the extension to the data collection period, including 101 schools in the Victorian Government sector and 36 schools in the New South Wales Government sector.

Table 3.1.4.2 Effect of extending the Cycle 4 completion date on the number of *School Profiles* published

Sector within jurisdiction	School Profiles as at August 3	School Profiles as at 24 August	Change	
			(number)	(percentage)
National	6,176	6,360	184	3.0
Government	4,233	4,371	138	3.3
Catholic	1,232	1,254	22	1.8
Independent	711	735	24	3.4
New South Wales	1,931	1,974	43	2.2
Government	1,316	1,352	36	2.7
Catholic	417	420	3	0.7
Independent	198	202	4	2.0
Victoria	1,393	1,526	133	9.5
Government	935	1,036	101	10.8
Catholic	334	349	15	4.5
Independent	124	141	17	13.7
Queensland	1,151	1,153	2	0.2
Government	795	796	1	0.1
Catholic	212	212	0	0.0
Independent	144	145	1	0.7
Western Australia	777	777	0	0.0
Government	540	540	0	0.0
Catholic	124	124	0	0.0
Independent	113	113	0	0.0
South Australia	523	527	4	0.8
Government	363	363	0	0.0
Catholic	80	84	4	5.0
Independent	80	80	0	0.0
Tasmania	189	191	2	1.1
Government	136	136	0	0.0
Catholic	29	29	0	0.0
Independent	24	26	2	8.3
Australian Capital Territory	105	105	0	0.0
Government	64	64	0	0.0
Catholic	24	24	0	0.0
Independent	17	17	0	0.0
Northern Territory	107	107	0	0.0
Government	84	84	0	0.0
Catholic	12	12	0	0.0
Independent	11	11	0	0.0

3.1.5. New schools

As part of school frame preparation for Cycle 4, a total of 108 'new' schools were identified and added to the frame, including 32 in Victoria, 26 in Western Australia, 23 in Queensland and 20 in New South Wales. Just over one third (36.1 per cent, 39 schools) were in the independent sector.

Of these, nearly 9 in 10 (88.9 per cent, or 96 schools) were identified as 'in scope' for Cycle 4, including 29 in Victoria, 22 in Western Australia, 20 in Queensland and 18 in New South Wales and 35 in the independent sector.

A total of 86 new schools participated in Cycle 4, an overall new school participation rate of 89.6 per cent which is very similar to Cycle 3 (89.4 per cent). As this is lower than the overall school participation rate, consideration should be given to a new school 'onboarding' strategy.

All of the new in scope schools participated in Western Australia (22) and Tasmania (1). There was also a 100 per cent new school participation rate in the Government (50) and Catholic (11) sectors. Queensland achieved a 95 per cent participation rate of new schools (19) whilst Victoria (24), New South Wales (15) and South Australia (5) all achieved around 83 per cent participation. The independent sector achieved a new school participation rate of 71.4 per cent (25 schools participated).

3.1.6. Special schools

Consistent with previous cycles, the Cycle 4 school frame included a 'special school' flag, with 181 special schools flagged as such by STCs and confirmed using department lists. This flag is reserved for 'dedicated' special schools that cater 100 per cent to special needs children.

As part of February 2018 awareness-building activities, all potentially in scope special schools on the school frame were sent a 'welcome letter' that conveyed the significance of their participation in the AEDC (see Appendix 2.8.1.4 for a copy). Whilst their participation in the AEDC was encouraged, special schools choosing not to participate in the AEDC were excluded from the school participation rate denominator for that jurisdiction. However, special schools which did participate in the AEDC counted towards the jurisdiction's participation rate.

Of the 181 special schools on the school frame in Cycle 4, the majority of these were in Victoria (72), Western Australia (45), Queensland (40) and New South Wales (18). This is higher than the number on the school frame in Cycle 3 (149) where the majority (79) were in Victoria. This is likely due to the targeted engagement strategy in Cycle 4 as well as communicating to STCs that their school participation rates would not be negatively affected by special school non-participation.

A total of 141 special schools participated in Cycle 4, which is significantly more than the 86 schools that participated in Cycle 3. However, due to differences in the way the scope status was used for special schools in Cycle 4 (i.e. if they chose not to participate then they were recorded as 'out of scope' so as to not contribute to school participation rate calculations), it is not possible to calculate a special school participation rate for Cycle 4 that is comparable to Cycle 3 (90.5 per cent).

3.1.7. Multi campus schools

In Cycle 4, individual campuses of a multi campus school were only flagged on the school frame where the AEDC communications (*School Leader* and *Teacher Packs*) were to be sent to the head campus and / or AEDC participation was to be administered centrally through the head campus.

There were 20 individual campuses that were in scope and flagged on the school frame to have their communication materials sent to their head campus, covering 14 unique multi-campus schools. This included 10 multi-campus schools in Queensland and 4 in New South Wales.

The data collection was administered through the head campus for a total of 18 campuses on the school frame in Cycle 4. This included 9 campuses in Queensland, 5 in New South Wales and 4 in the Australian Capital Territory. This was more common in the independent (10) and Catholic (7) sectors than the Government sector (1).

Where instruments were completed for children at these schools, they were reported in the School Profile for the head campus, unless otherwise requested.

3.1.8. Implications for future collections

Whilst the overall school participation rates for Cycle 4 were maintained, it is clear that there continue to be challenges maintaining engagement amongst independent sector schools, particularly in New South Wales and Victoria.

It will be important for Cycle 5 to develop strategies to engage with the independent sector more broadly. Consideration could also be given to tailor communications for schools which have a changing participation status from one cycle to the next for a reason other than a change in scope status. The capture of reason for opt out is important to inform future engagement strategies, and STCs should be encouraged to complete this information for all non-participating schools. In addition, consideration could also be given to introducing a formal follow up survey of non-participating schools.

The school frame variables for multi-campus schools could be extended for next cycle for STCs to flag whether multi-campus schools should each receive a School Profile (i.e. report at the individual campus level) or rolled up to the school level.

3.2 Child participation

3.2.1. Child participation overview

The child participation rate for the purpose of this report is defined as completed instruments (fully completed or 'skipped') as a proportion of the estimated child population in the first year of school.

For the Government and Catholic sectors, the estimated child population was based on counts of children from pre-population, given that pre-population information was based on the February 2018 school census and was considered to be complete.

For the independent sector, the estimated child population was provided by the jurisdictions during the data collection period. This number continues to be difficult to source for a number of jurisdictions.

Despite numerous enquiries by the SRC, jurisdictions were not in a position to provide updated child population estimates closer to the start of the data collection period, with the exception of the Tasmanian Government sector which provided an updated child population figure in June 2018. For all remaining jurisdictions / sectors, the figures submitted in February 2018 remained the final estimated child populations.

Table 3.2.1 shows that the national child participation rate for Cycle 4 was 96.4 per cent, only slightly lower than the previous two cycles (96.5 per cent). It should be noted that:

- participation rates are based on the state or territory in which the school was located rather than the child's residential address
- in some instances, participation rates exceeded 100 per cent due to migration between jurisdictions or sectors which occurred between February, when the School Census was undertaken, and early August when data collection closed

- the number of participating children in Cycle 4 differs slightly from the number of participating children in the Headline Report, due to the removal of 528 duplicate children.

Whilst the national child participation rate remained fairly steady, the child participation rate increased by 1.5 percentage points in the independent sector and fell by 0.6 and 0.3 percentage points in the Catholic and Government sectors respectively. This represents a downward trend since Cycle 2 for the Government sector.

Table 3.2.1 Child participation by sector within jurisdiction, all cycles

Sector within jurisdiction	Cycle 4 population	Cycle 4 participated	Child participation rate %			
			Cycle 4	*Cycle 3*	*Cycle 2*	*Cycle 1*
National	320,581	308,953	96.4	*96.5*	*96.5*	*97.5*
Government	229,659	225,895	98.4	*98.7*	*99.0*	
Catholic	56,420	54,662	96.9	*97.5*	*97.0*	
Independent	34,502	28,396	82.3	*80.8*	*79.6*	
New South Wales	101,792	97,741	96.0	*96.8*	*97.3*	*98.1*
Government	73,030	71,112	97.4	*98.7*	*99.2*	
Catholic	18,206	18,604	102.2	*100.5*	*102.6*	
Independent	10,556	8,025	76.0	*76.7*	*75.6*	
Victoria	81,415	76,356	93.8	*94.3*	*92.9*	*91.9*
Government	57,018	55,991	98.2	*98.5*	*97.5*	
Catholic	16,108	14,311	88.8	*91.9*	*87.8*	
Independent	8,289	6,054	73.0	*70.2*	*72.5*	
Queensland	65,999	64,721	98.1	*97.1*	*97.6*	*99.1*
Government	47,597	47,314	99.4	*98.6*	*100.2*	
Catholic	11,112	11,011	99.1	*98.9*	*99.3*	
Independent	7,290	6,396	87.7	*84.8*	*78.8*	
Western Australia	34,627	34,368	99.3	*98.7*	*99*	*97.5*
Government	25,953	25,787	99.4	*99.0*	*99.2*	
Catholic	5,111	5,054	98.9	*98.5*	*98.8*	
Independent	3,563	3,527	99.0	*97.6*	*98.1*	
South Australia	20,945	20,305	96.9	*96.4*	*96.9*	*113.2*
Government	14,359	14,235	99.1	*99.1*	*99.8*	
Catholic	3,398	3,236	95.2	*100.2*	*99.9*	
Independent	3,188	2,834	88.9	*80.8*	*82.0*	
Tasmania	6,211	6,151	99.0	*99.0*	*98.4*	*98.2*
Government	4,696	4,624	98.5	*98.6*	*97.9*	
Catholic	1,001	1,013	101.2	*100.1*	*98.4*	
Independent	514	514	100.0	*100.6*	*103.1*	
Australian Capital Territory	5,986	5,876	98.2	*99.3*	*99.9*	*100.9*
Government	4,161	4,061	97.6	*99.4*	*99.9*	
Catholic	1,143	1,138	99.6	*99.0*	*99.6*	
Independent	682	677	99.3	*99.2*	*100.7*	
Northern Territory	3,606	3,435	95.3	*97.7*	*95.9*	*96.3*
Government	2,845	2,771	97.4	*97.6*	*98.9*	
Catholic	341	295	86.5	*100.3*	*95.5*	
Independent	420	369	87.9	*95.5*	*76.4*	

Victoria remains the only jurisdiction unable to reach the target child participation rate (95.0 per cent), driven by challenging Catholic and independent sectors.

The target child participation rate was achieved in all three school sectors in Western Australia, Tasmania and the Australian Capital Territory. In the remaining jurisdictions, the achievement of the child participation rate target was challenging for schools in the independent sector.

The largest increases in the child participation rate from Cycle 3 to Cycle 4, expressed in terms of percentage point change, were in the independent sector for South Australia (8.1), Queensland (2.9), and Victorian (2.8). The largest decreases were in the Catholic (-13.8) and independent sectors (-7.6) in the Northern Territory, the South Australian Catholic sector (-5.0) and the Victorian Catholic sector (-3.1).

Queensland (up 1.0 percentage points to 98.1), Western Australia (up 0.6 percentage points to 99.3) and South Australia (up 0.5 percentage points to 96.9) all recorded a minor improvement in the child participation rate in Cycle 4, relative to Cycle 3. All other jurisdictions recorded lower child participation rates, the most notable in the Northern Territory (down 2.4 percentage points to 95.3).

Analysis of child participation by MCDS category is not included in this report as it has been reported separately by the Telethon Kids Institute.

3.2.2. Profile of non-participating children

In an attempt to profile non-participating children, the demographic characteristics of children in pre-population who participated in Cycle 4 were compared with the characteristics of children in pre-population who did not participate in Cycle 4.

Whilst this is not considered the optimal view of non-participating children, since there was minimal pre-population information for children at independent sector schools, it does provide some indication of the profile of children who are presumed to be in scope, and for whom no instrument was completed.

As can be seen at Table 3.2.2, and consistent with analysis in previous cycles, groups over-represented amongst non-participants include:

- ATSI children (10.9 per cent of non-participants, compared with 6.3 per cent of participants)
- children with a language background other than English (30.3 per cent of non-participants, compared with 26.1 per cent of participants)
- children born overseas (12.6 per cent of non-participants, compared with 8.0 per cent of participants)
- children whose first parent did not complete Year 12 (27.8 per cent of non-participants, compared with 23.2 per cent of participants)
- children born in 2008 (2.7 per cent of non-participants, compared with 1.2 per cent of participants).

The over-representation of these groups amongst non-participants may be related to a number of factors, possibly including intermittent attendance / transient children, supporting information not necessarily being available in the first language of the parent / carer and lack of clarity relating to child scope status (e.g. for children repeating a year).

Table 3.2.2 Characteristics of non-participating children with participating children (pre-population data)

	Children in pre-population		Percentage distribution	
	Participants	Non-participants	Participants	Non-participants
ATSI				
ATSI	17,461	1,321	6.3	**10.9**
Non-ATSI	259,607	10,761	93.7	89.1
Total	277,068	12,082	100.0	100.0
Gender				
Female	144,775	6,467	51.5	52.7
Male	136,232	5,812	48.5	47.3
Total	281,007	12,279	100.0	100.0
LBOTE				
English only	196,939	8,244	73.9	69.7
Other languages	69,476	3,589	26.1	**30.3**
Total	266,415	11,833	100.0	100.0
Country of birth				
Australia	255,068	10,630	92.0	87.4
Overseas	22,083	1,528	8.0	**12.6**
Total	277,151	12,158	100.0	100.0
School level completed by first parent				
Year 12 or equivalent	174,107	7,241	65.9	63.5
Year 11 or equivalent	19,472	899	7.4	**7.9**
Year 10 or equivalent	30,071	1,554	11.4	**13.6**
Year 9 or equivalent	11,701	723	4.4	**6.3**
Unknown	28,958	992	11.0	8.7
Total	264,309	11,409	100.0	100.0
Year of birth				
2008	3,343	335	1.2	**2.7**
2009	190,847	8,358	67.9	68.1
2010	86,759	3558	30.9	29.0
Total	**281,056**	**12,280**	**100.0**	**100.0**

3.2.3. Reasons for non-participation

A reason for non-participation was provided by Teachers for 8,777 children, some 2,272 more children than in Cycle 3. The increase in the number of non-participating children in Cycle 4 is thought to be due mainly to improved adherence to the intended procedure by Teachers and AEDC Coordinators. Cycle 4 (and Cycle 3) communications stressed the need to 'account for' each child in the master list of children, either by the AEDC Coordinator assigning a non-participation outcome (a new feature for Cycle 3), or by the Teacher adding the child to their class list and assigning a non-participation outcome.

As can be seen at Table 3.2.3, around two thirds (65.3 per cent) of the reasons for non-participation related in some way to the sample frame and this was consistent with Cycle 3 (67.5 per cent). Some reasons for non-participation reflect expected variations between the time that pre-population

information was captured, and the time of the collection ('moved school', moved overseas', 'taken out of school', 'home schooled').

Other reasons for non-participation suggest a potential issue with the accuracy of the frame ('child not known', 'Out of scope child'). Reasons for classifying the child as out of scope, based on the free text field completed by the Teacher or AEDC Coordinator, included 'child repeating year, so not in first year of full time school', 'special needs child / intellectual disability', 'distance education child' and 'child kept in pre-school / kindergarten' (i.e. the child is in the year before the first year of full time school).

Table 3.2.3 Reasons for non-participation

Reason for non-participation	Cycle 4 number	Cycle 4 percentage distribution	Cycle 3 number	Cycle 3 percentage distribution
Moved school	4,370	49.8	*3,412*	*52.5*
Out of scope child	356	4.1	*323*	*5.0*
Moved overseas	405	4.6	*284*	*4.4*
Child not known	91	1.0	*44*	*0.7*
Taken out of school	432	4.9	*287*	*4.4*
Home schooled	80	0.9	*44*	*0.7*
Subtotal 'frame'-related issues	*5,734*	*65.3*	*4,394*	*67.5*
Duplicate entry	256	2.9	*256*	*3.9*
Subtotal Class List creation issues	*256*	*2.9*	*256*	*3.9*
Written opt out	1,681	19.2	*1,037*	*15.9*
Verbal opt out	550	6.3	*326*	*5.0*
Consent form not returned	141	1.6	*89*	*1.4*
Subtotal consent related	2,372	*27.0*	*1,452*	*22.3*
Child absence	115	1.3	*110*	*1.7*
Child recently started at school	71	0.8	*46*	*0.7*
Subtotal procedural issues	*186*	*2.1*	*156*	*2.4*
Dual placement	147	1.7	*82*	*1.3*
Other reason	82	0.9	*165*	*2.5*
Total	**8,777**	**100.0**	***6,505***	***100.0***

Where 'duplicate entry' is a reason for non-participation, this is understood to be a class list creation issue, rather than a sample frame issue, where Teachers created class list entries without realising those children were already present in the master list of children.

Consent-related issues comprised 27.0 per cent of reasons for non-participation, compared with 22.3 per cent in Cycle 3. The proportion of written opt outs in Cycle 4 was slightly higher than Cycle 3 (19.2 per cent compared with 15.9 per cent), however, whether this is attributable to the improved application of Implied Informed Consent procedures at schools, or more disciplined recording of reasons for non-participation (as described at the start of this section) is unclear. There is also evidence of a 'consent form not being returned' (114 cases in Cycle 4) which indicates that schools are creating their own consent forms for the census, rather than following the 'Implied Informed Consent' procedure.

As in Cycle 3, there is a small proportion of reasons for non-participation (2.1 per cent) which suggests a misunderstanding of the intended workflow. For example, where the Teacher has known the child for less than one month and does not feel that he or she can accurately complete an instrument for that

child, the prescribed procedure is to complete demographic information for the child and 'skip' the instrument, rather than record the child as non-participating.

There was some variation in reason for non-participation by sector, with more than twice the incidence of written and verbal opt outs in the independent sector, relative to the Government and Catholic sectors. The ratio of non-participants to participants was highest in the Northern Territory and the Australian Capital Territory. Refer to Appendix 3.2.3 for details of reason for non-participation by jurisdiction and sector.

3.2.4. Sundry information about child participation

A total of 253 children were opted out after instrument completion. Data for these children was not included in the files for processing and was never exported from the data collection system.

The final Headline Report indicated that 284 instruments were in progress at the end of the Cycle 4 data collection period. It is not clear whether Teachers simply ran out of time, realised they were completing an instrument for a duplicate / dual placement child and chose not to continue, or whether there were difficulties sourcing information for a child for a specific question.

It is also unclear what proportion of the children who were recorded as non-participants and 'moved school' from Table 3.2.3 actually participated at another school. The de-duplication rules outlined in Section 2.12.2 only deal with de-duplication across 'completed' /'skipped' and valid / invalid instruments. It is noted that functionality to track children who moved schools was part of the original system specification for Cycle 1, but was dropped for Cycle 2, and has not been re-visited during the system specification process for either Cycle 3 or 4. However, we have made an attempt to 'track' children who were recorded as 'moved school' in Cycle 4 to determine if they were captured in the AEDC at another school by applying the same de-duplication process used when dealing with instrument duplicates (i.e. matching on child's name and date of birth). Of the 4,280 child records that were included in this analysis, more than half (57.6 per cent), 2,465 were present in class lists at another school, 1,900 in the same state (44.4 per cent) and 566 at a school in a different state (13.2 per cent).

3.2.5. Implications for future collections

As noted in the Cycle 3 Technical Report, child participation is closely linked with school participation, and initiatives to enhance the school participation rate, particularly in the independent sector, are likely to have a positive flow on effect on child participation.

It will be important to develop strategies to improve the representation of ATSI and LBOTE children in the achieved sample, as these groups continue to be under-represented in the AEDC. It will also be important to maintain the capacity to profile non-participating children from pre-population information, to enhance understanding of the profile of non-participating children, and how this may impact on results.

Reasons for child non-participation suggest there is possible confusion around some aspects of scope status (child repeating year, special needs child), and workflow (child not known well enough). This might be addressed through improved guidance to Teachers, both in supporting materials and within the data collection system.

As part of the system specification for Cycle 5, consideration could be given to exploring the merits of tracking or better accounting for children who move school, and potentially reduce the incidence of duplication of instrument completion.

With a strong focus on child participation rates, it may be appropriate to review the approach to finalising the child population (which is used as the denominator for child participation rate calculation) where pre-population information is found to be incomplete or erroneous (e.g. pre-population includes children clearly not in the first year of full time school).

3.3 ATSI child instrument completion and use of ATSI CCs

As part of a specific Aboriginal and Torres Strait Islander Cultural Consultant engagement strategy in Cycle 4, all Aboriginal and Torres Strait Islander Cultural Consultant (ATSI CC) engagement materials were reviewed and updated for 2018.

Consistent with previous cycles, the *School Leader* and *Teacher Packs* encouraged schools with access to an ATSI CC to make arrangements for the ATSI CC to be available for consultation during the preparation and completion of the instrument for ATSI children.

In Cycle 4, there was increased promotion of the value in using ATSI CCs, particularly in completing instruments 'together' with the Teacher. The workflow in the data collection system for ATSI CCs was amended in Cycle 4, so ATSI CCs were invited to register (optional) on the data collection system and were then taken through a similar registration and training workflow as Teachers. The activation sequence collected information about the school's access to an ATSI CC for the first time in Cycle 4, in an attempt to better understand where an ATSI CC may be present but not available, or the school chooses not to use them for the AEDC.

A number of measures of interest related to the use of ATSI CCs were monitored as part of the Headline Reporting process described at Section 2.10.2 and include:

1. The overall proportion of ATSI child instruments completed by an ATSI Teacher or by a non-ATSI Teacher with the involvement of an ATSI CC at some level, that is, the proportion of ATSI child instruments completed with input from a person of ATSI background.
2. The proportion of ATSI child instruments completed by a non-ATSI Teacher with input of an ATSI CC in some capacity, that is, the net usage of ATSI CCs amongst the 'primary target group' (non-ATSI teachers) for ATSI CC usage.
3. The proportion of ATSI child instruments completed by an ATSI Teacher, or by a non-ATSI Teacher and an ATSI CC together.
4. The proportion of ATSI child instruments completed by a non-ATSI Teacher and an ATSI CC together. Instruments completed by the non-ATSI Teacher and ATSI CC together is considered to represent the 'optimal' use of ATSI CCs, and was the condition which triggered a reimbursement payment for the ATSI CC's involvement (refer also to Section 2.12.1).

Whilst the school's access to an ATSI CC was a new measure for Cycle 4 (captured in the data collection system as part of school activation), it was not included in Headline Reporting or other progress reporting in Cycle 4 but has been included in post-collection analysis.

3.3.1. ATSI CC availability

As mentioned, availability of an ATSI CC at the school was captured as part of the school activation process for the first time in Cycle 4. AEDC Coordinators who indicated they had one or more ATSI children in the first year of full time school were then asked if their school has access to an ATSI CC.

Of the 4,276 schools which had one or more ATSI children in the first year of full time school, just over half (57.1 per cent) said they had access to an ATSI CC.

Access to an ATSI CC varied significantly by jurisdiction and sector. At the jurisdiction level, access was highest in the Northern Territory (78.8 per cent) and South Australia (65.4 per cent) and lowest in Tasmania (45.9 per cent) and the Australian Capital Territory (46.2 per cent). By sector, access was highest in Catholic sector schools (73.3 per cent), followed by Government sector schools (56.1 per cent) and significantly lower in independent sector schools (31.4 per cent).

Refer to Appendix 3.3.1 for further details of ATSI CC availability by jurisdiction and sector.

3.3.2. ATSI CC usage intention

Intention to use an ATSI CC was captured as part of the teacher registration questions and monitored through the Headline Reporting process.

Of the 17,885 Teachers completing Teacher registration (Q3 - *Are any of those children (in your class) of Aboriginal or Torres Strait Islander decent*?), around two in five (40.6 per cent, 7,253) indicated that they had at least one child of ATSI background in their class. Of these, 336 Teachers were of ATSI background, leaving a total of 6,917 Teachers of a non-ATSI background with at least one ATSI child in their class. This was considered the primary target group for ATSI CC usage.

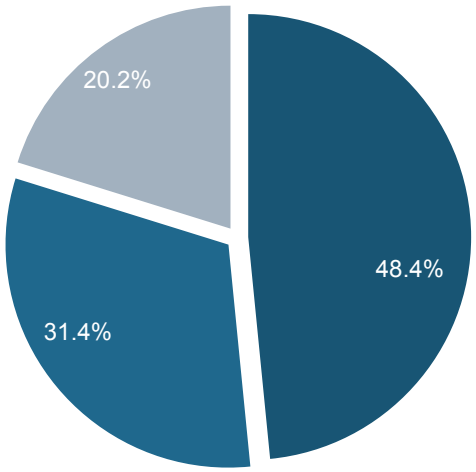
Close to one third (31.5 per cent) of this primary target group for ATSI CC usage declared an intention to use an ATSI CC (24.2 per cent in Cycle 3 and 29.7 per cent in Cycle 2). A further 19.1 per cent were unsure if they would have access to an ATSI CC.

Due to the new line of questioning regarding the availability of an ATSI CC at the school as part of activation in Cycle 4, these Teacher responses can be filtered to those schools which said they had access to an ATSI CC. As shown in Figure 3.3.2, when re-based, the proportion of the primary target group for ATSI CC usage who intended to use an ATSI CC increased to 48.4 per cent, with a further 20.2 per cent unsure if they would use an ATSI CC. This indicates that 31.4 per cent of the primary target group for ATSI CC usage do not intend to use an ATSI CC when there is an ATSI CC available at their school.

Intention to use an ATSI CC, filtered by schools which have access to an ATSI CC, varied significantly by jurisdiction and sector, ranging from 69.8 per cent in the Northern Territory to 22.1 per cent in Victoria, and 0 per cent in jurisdiction / sector cells with a very small number of Teachers with at least one child of ATSI background in their class (e.g. independent sector in Victoria, South Australia and the Australian Capital Territory).

Refer to Appendix 3.3.2 for further details of intention to use ATSI CCs by jurisdiction and sector.

Figure 3.3.2 Teacher intention to use an ATSI CC among schools with access to an ATSI CC



- Teacher of a non-ATSI background, with at least one ATSI child in class, has access to ATSI CC, intends to use ATSI CC
- Teacher of a non-ATSI background, with at least one ATSI child in class, has access to ATSI CC, does not intend to use ATSI CC
- Teacher of a non-ATSI background, with at least one ATSI child in class, has access to ATSI CC, does not know if will use ATSI CC

Base: 2,007 Teachers of a non-ATSI background with at least one ATSI child in class AND school has access to an ATSI CC

Unfortunately, reasons for not using an ATSI CC were not captured in Cycle 4 so it is unclear as to Teachers' reasons for not intending to use one under these circumstances. However, one reason may be that the Teacher was unaware that the school had access to an ATSI CC, despite the Teacher being encouraged to consult with the AEDC Coordinator regarding ATSI CC access as part of census preparation. Alternatively, it is possible that despite the school having access to an ATSI CC, the ATSI CC was unavailable at the time of instrument completion, or it may be due to no perceived need to use an ATSI CC, or other reasons. It is important that reasons for not using an ATSI CC are captured in Cycle 5 as part of the teacher registration questions and consideration should be given to pre-coding the response options plus including a specified 'other' reason.

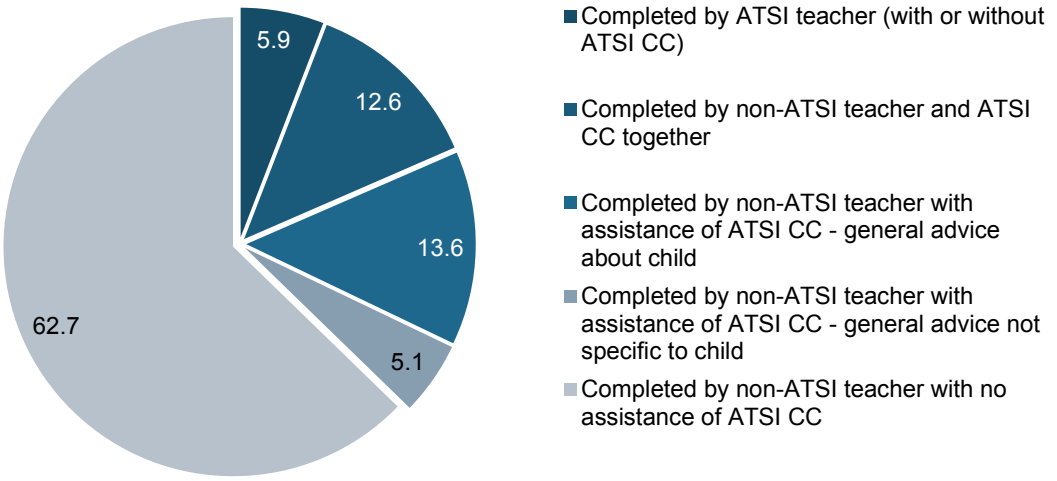
3.3.3. ATSI child instrument completion

Figure 3.3.3 breaks down ATSI child instrument completion at the national level. Of the 19,074 instruments completed for ATSI children in Cycle 4, 37.3 per cent were completed with input from a person of ATSI background (slightly higher than 35.9 per cent in Cycle 3). This is made up of 5.9 per cent completed by an ATSI Teacher (with or without input from an ATSI CC), 12.6 per cent completed by a non-ATSI Teacher and an ATSI CC together, 13.6 per cent completed by a non-ATSI Teacher with the ATSI CC giving general advice about the individual child, and 5.1 per cent with the ATSI CC giving general advice about completing the instrument for ATSI children, but not specific to an individual child.

The proportion completed by a non-ATSI Teacher and an ATSI CC together decreased (12.6 per cent), relative to Cycle 3 (14.7 per cent) and Cycle 2 (14.2 per cent).

When re-based to ATSI children attending schools with access to an ATSI CC, the proportion of ATSI child instruments completed for ATSI children with input from a person of ATSI background increased to 50.4 per cent.

Figure 3.3.3 ATSI child instrument completion



Base: 19,074 instruments completed with ATSI children

Of the 17,957 ATSI child Instruments completed by non-ATSI Teachers, 33.5 per cent were completed with input of an ATSI CC in some capacity (reasonably consistent with Cycle 3, 32.4 per cent, and Cycle 2, 34.8 per cent) and 13.4 per cent were completed by a non-ATSI Teacher and an ATSI CC together (down from 15.5 per cent in Cycle 3 and 15.3 per cent in Cycle 2).

When re-based to ATSI children attending schools with access to an ATSI CC, the proportion of ATSI child instruments completed by a non-ATSI Teacher, with any kind of input from an ATSI CC increased to 46.9 per cent, and the proportion of ATSI child instruments completed by a non-ATSI Teacher and ATSI CC together increased to 18.9 per cent.

These results suggest there is still some way to go to convince schools with access to an ATSI CC, to use the ATSI CC to support AEDC administration.

As with previous cycles, the level of ATSI CC use amongst ATSI Teachers was higher than amongst non-ATSI Teachers. Of the 1,117 ATSI child instruments completed by ATSI Teachers, 46.6 per cent were completed with input of an ATSI CC in some capacity, and 16.9 per cent were completed by the ATSI Teacher and an ATSI CC together. This may be related to factors such as greater access to ATSI CCs amongst this group, and possibly a heightened appreciation of cultural issues.

When filtered by schools with access to an ATSI CC, the overall proportion of ATSI child instruments completed by an ATSI teacher or by a non-ATSI Teacher with the assistance of an ATSI CC was highest in the Northern Territory (67.7 per cent) and lowest in Victoria (26.6 per cent) and the Australian Capital Territory (29.0 per cent).

Net usage of ATSI CCs amongst the primary target group for ATSI CC usage was also highest in the Northern Territory (64.4 per cent) and lowest in Victoria (24.3 per cent), the Australian Capital Territory (27.9 per cent) and Tasmania (31.0 per cent).

The proportion of ATSI child instruments completed by a non-ATSI Teacher and an ATSI CC together was highest in Western Australia (28.9 per cent) and South Australia (23.6 per cent) and lowest in the Australian Capital Territory (2.9 per cent) and Victoria (6.8 per cent).

Refer to Appendix 3.3.3 for further details of usage of ATSI CCs by jurisdiction and sector.

Table 3.3.4 Instrument responses by use of ATSI CC

Culturally sensitive items on instrument	ATSI CC	No ATSI CC
Base	*6,527*	*12,547*
ATSI status	100.0	100.0
Special needs status	5.7	6.8
ESL (English as a second language)	31.2	9.7
Aboriginal English (very good / good)	24.9	7.4
Aboriginal English (don't know)	39.8	75.3
Kriol / Creole (very good / good)	12.7	2.9
Kriol / Creole (don't know)	68.9	87.5
Traditional ATSI language (very good / good)	49.5	36.6
Traditional ATSI language (don't know)	14.2	36.6
Other Aboriginal and Torres Strait Islander language (very good / good)	3.8	0.7
Other Aboriginal and Torres Strait Islander language (don't know)	77.9	90.1
Can adequately communicate in this language - Yes	79.8	59.8
Can adequately communicate in this language - Don't know	11.6	32.0
More than 5 days absent since the start of the year	67.9	60.6
Days absent for family / cultural obligations – includes ceremonies, funerals	31.4	27.6
Dressed inappropriately - yes	10.2	9.4
Hungry - Yes	15.5	11.1
Washroom - Yes	96.1	96.2
Proficient in English - very good / good	51.9	59.1
Communicates needs - very good / good	54.5	59.4

Understands simple commands or statements	49.6	56.3
Articulates clearly - very good / good	45.4	51.3
Handles a book	97.1	98.2
Sounds to letters - Yes	67.5	74.6
Awareness of rhyming words	55.7	62.7
Recognises shapes - Yes	82.0	87.3
Respect for adult - often or very true	71.6	72.9
Curious - often or very true	59.7	65.0
Knowledge about world - often or very true	51.8	58.8
Stop quarrel - often or very true	20.1	26.4
Vulnerable on one or more domains	45.5	39.1
Vulnerable on two or more domains	29.4	24.0
On track on five domains	31.1	37.2

3.3.4. Sundry ATSI CC analysis

The absolute number of instruments completed for ATSI children increased from 15,490 in Cycle 2 to 17,350 in Cycle 3 to 19,074 in Cycle 4.

Similarly, the absolute number of instruments completed by a non-ATSI Teacher with the assistance of an ATSI CC in any capacity increased from 4,992 in Cycle 2 to 5,327 in Cycle 3 to 6,007 in Cycle 4.

Intention to use an ATSI CC was a reasonable indicator of actual ATSI CC usage. Of Teachers from schools with access to an ATSI CC at activation, who declared an intention to use an ATSI CC at Teacher registration and completed at least one instrument, nearly three quarters (71.4 per cent) actually used an ATSI CC in some capacity, based on instrument data. Of Teachers from schools with access to an ATSI CC at activation who did not know whether they would use an ATSI CC at teacher registration, approximately one in six (16.8 per cent) actually used an ATSI CC. A small proportion (5.9 per cent) of teachers from schools with access to an ATSI CC, who indicated that they did not intend to use an ATSI CC at teacher registration ended up using an ATSI CC. This would appear to suggest that teachers may not always have access to reliable information about an ATSI CC's availability at the time of teacher registration, and that detailed resource planning in advance of registration may not always be feasible.

Based on information from the 7,538 participating schools which submitted an invoice, 755 individual ATSI CCs were trained for Cycle 4. This is likely to be an overstatement of the actual number of individual ATSI CCs used, given the weak logic associated with the validation of the number of ATSI CCs trained on the Invoice Summary (refer to Section 2.12.8).

ATSI CCs had the option to register on the data collection system for the first time in Cycle 4. A total of 503 ATSI CCs commenced the registration process (i.e. set up their account details) and 379 completed registration. Of the 503 ATSI CCs who commenced registration, 201 (40.0 per cent) completed training. Around one in fifty (2.2 per cent) ATSI CCs worked across multiple schools.

The ATSI CC position title was collected at preliminary question 3 of the instrument, where the Teacher could choose multiple position titles, as required. The most frequently occurring position titles for ATSI CCs were Aboriginal Education Officer (23.8 per cent), Other Indigenous staff member (19.1 per cent), Aboriginal and Islander Education Officer (16.6 per cent) and Aboriginal Teacher's Aide (13.9 per cent).

The position titles where the ATSI CC was most likely to complete the instrument together with the Teacher, rather than provide general advice, were Other Indigenous staff member (20.5 per cent),

Aboriginal and Islander Education Officer (20.1 per cent), Aboriginal Education Officer (19.0 per cent) and Aboriginal Teachers Aide (15.8 per cent).

The reasonably high level of 'Other Indigenous Staff member' selected at this question may imply that the list of pre-coded position titles provided at question 3 of the instrument is limited or out of date, or possibly that the ATSI CC is a teacher at the school, which is not included in the pre-coded options.

AEDC Coordinators were asked in their feedback survey to indicate which part (or parts) of the instrument input from an ATSI CC was most valuable and the majority (74.5 per cent) said 'Background Information'.

3.3.5. Implications for future collections

The inclusion of the questioning regarding the availability of an ATSI CC at the school as part of activation in Cycle 4 has allowed a deeper analysis of ATSI availability, intention to use and usage. This measure should be included in Headline and other progress reporting in Cycle 5, so reported usage rates of ATSI CC can be filtered by those schools with access to an ATSI CC. Access to and usage of an ATSI CC in Cycle 4 should also be flagged in the Cycle 5 school frame. The availability of an ATSI CC could also be integrated into the Instrument to improve ATSI CC usage. A system generated prompt to the teacher could be triggered upon commencement of an Instrument for an ATSI child where their school has access to an ATSI CC. This prompt would advise they have access to an ATSI CC and to get in contact with their AEDC Coordinator to arrange the assistance.

This analysis reveals that there is still some way to go to convince schools with access to an ATSI CC, to use the ATSI CC to support AEDC administration. It is important that reasons for not using an ATSI CC are captured in future cycles. Whilst this may be a funding issue, a 'perceived value' issue, or a practical issue (related to the coordination of Teacher and ATSI CC time), it would appear schools with access to an ATSI CC which choose not to use the ATSI CC present the best opportunity to improve the rate of ATSI CC utilisation for the AEDC in the future.

There was at best a 'modest' uplift in ATSI usage in Cycle 4 in response to the updated engagement materials around the use of ATSI CCs and the introduction of the registration process for ATSI CCs. There was strong evidence of ATSI CCs commencing the registration process but not finishing it, anecdotal evidence from the AEDC helpdesk suggests that in some cases the ATSI CC was invited to register without the AEDC or their role in it being explained to them making them less likely to progress through the registration process. This, in combination with their registration being voluntary likely contributed to the drop off in registration. Further refinement of the ATSI CC registration process workflow and communications for Cycle 5 to make it easier to complete is warranted.

The Cycle 4 Instrument review should include a review of ATSI CC position titles to ensure those provided at question 3 are the most up-to-date.

3.4 Instrument rate of completion

The rate of instrument completion was monitored closely throughout the data collection period to assess progress towards the target child participation rate and inform follow up activities.

Figure 3.4.1 compares the number of instruments completed nationally by week of the data collection period for Cycles 1, 2, 3 and 4. It uses the raw, unedited number of completed instruments, as reported from the data collection system as part of the Headline Reporting process (refer to Section 2.9.2), and shows a Cycle 4 target set at 95 per cent of the estimated child population.

As can be seen, all cycles follow a similar broad pattern, with a steady rate of instrument completion through the first third of the data collection period, increase in the number of instruments completed

per week in the two weeks preceding the school holiday period, minimal activity through the school holiday period, and a second peak in the number of instruments completed per week between the end of the school holiday period and the end of the data collection period.

For Cycle 4, after a modest number of completed instruments in the first full week of data collection (13,983, approximately 10,000 less than in Cycle 3), some 23,000 instruments per week were completed through weeks three to seven. Beyond that point, the number of instruments completed per week was more variable, following the pattern described in the preceding paragraph.

Just under one fifth (19.6 per cent) of instruments were completed in weeks 13 and 14, the last two weeks of the original data collection period.

The highest number of instruments completed was in week nine (41,581), the last week of Term 2 for four jurisdictions.

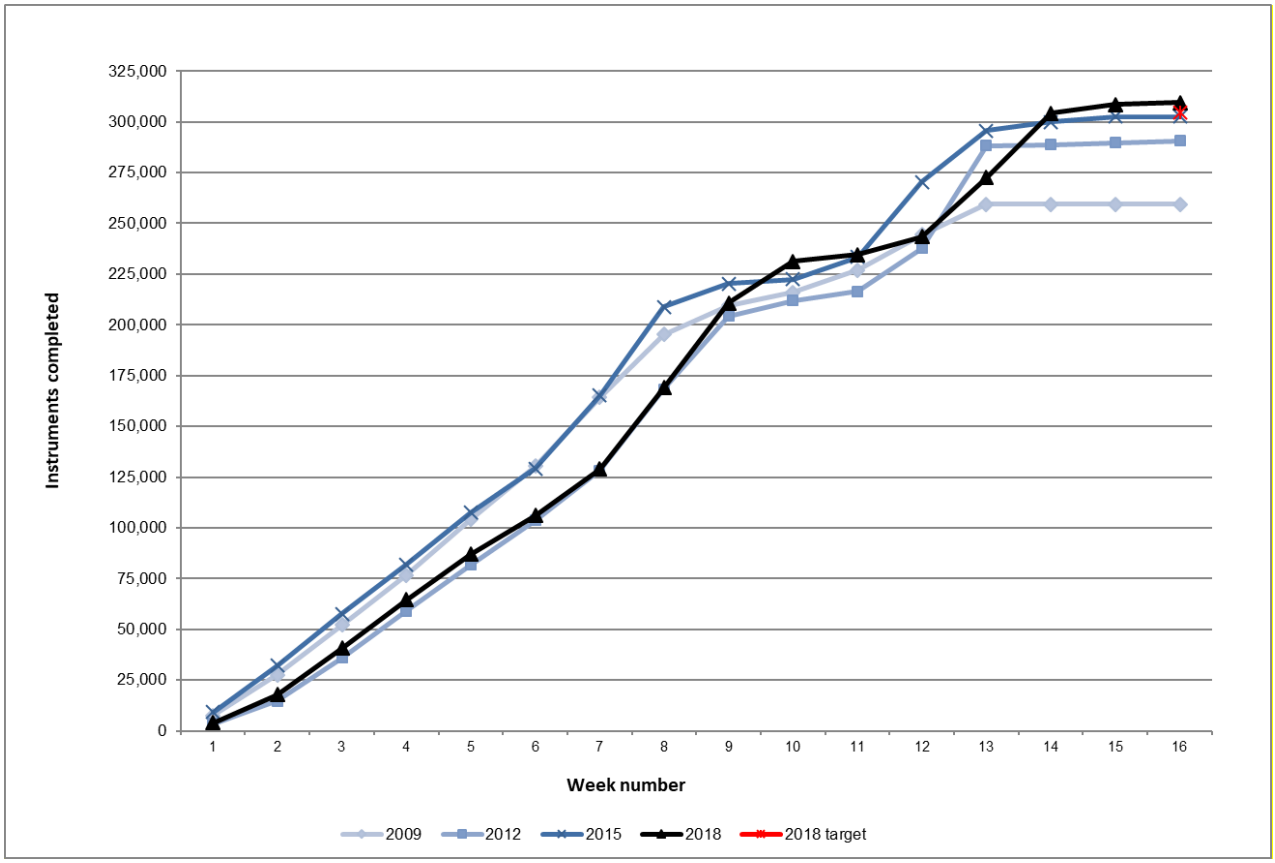
Refer to Appendix 3.4 for full details of cumulative and weekly instrument rate of completion by jurisdiction.

Factors that may have influenced the rate of instrument completion for Cycle 4 include:

- a short first week, with only three working days in the progress reporting period in Cycle 4
- the first week of data collection falling in the first week of Term 2 for five jurisdictions
- competing activities, such as NAPLAN (week 3 - 15 to 17 May in 2018)
- use of end of Term 2 as a ‘natural’ target date for completion of data collection activities in Western Australia and the Northern Territory.

It is unclear why the first full week of data collection in Cycle 4 was ‘slow’, and may reflect that schools have other priorities at this time, and that with the three month data collection period, schools do not generally feel compelled to prioritise AEDC data collection during the early weeks of the data collection period.

Figure 3.4.1 National rate of instrument completion, Cycles 1, 2, 3 and 4



The data collection period has been extended by up to three weeks beyond the original end of data collection date for each of the last three cycles (refer to Section 2.11.6 for more details).

The extension to the data collection period impacts the capacity to reduce the turnaround time from the end of data collection to the distribution of School Profiles. If it is deemed important to seek to be in a position to distribute School Profiles earlier for future cycles, then it will be important to consider strategies to avoid the need for an extension to the data collection period.

This would involve:

- a strong start to the data collection period, supported by a focus on communications activities to ensure schools are aware of, and ready for, the collection
- the timely commencement of intensive telephone follow up activities by STCs
- the use of the end of Term 2 as the target date for instrument completion
- the use of the time between the start of Term 3 and the end of the data collection period to resolve outstanding issues.

It will also be important to consider how to best support the 'large' jurisdictions, in particular, to complete the collection without the need for an extension, given the size of the intensive follow up task in these jurisdictions. The large jurisdictions have generally been the main beneficiaries of the extension to the data collection period.

3.5 Instrument performance

3.5.1. Analysis of item non-response

Table 3.5.1 presents a brief analysis of item non-response, which seeks to provide an initial overview of instrument items with a high rate of 'don't know' responses.

The pre-population items that were first introduced in Cycle 3, year of arrival in Australia (for children born overseas), highest level of primary / secondary school, and highest level of post school qualification completed by the child's parent / carer, continued to have reasonably high proportions of 'missing' responses, although improvement on Cycle 3 was noted for all items except year of arrival in Australia, which is encouraging.

Teachers were encouraged to use the 'not known' option if the item was not pre-populated, rather than attempt to source this information from parents / carers.

Non-licenced items which require the Teacher to know about the child's experiences outside of school had consistently high 'don't know' rates, including the 'special skills' items, 'home environment / problems at home', 'child is regularly read to at home', and 'language and religion class' attendance. There has been little change in these responses from Cycle 3.

Very high use of the 'don't know' option was observed for language other than English proficiency-related items, and questions relating to the time before entering school, such as 'playgroup attendance'.

The 96 licenced items used to calculate AEDC domain scores generally reflect aspects of the child's development that can be readily observed by Teachers in the classroom. Accordingly, the incidence of the use of the 'don't know' option was very low for these items, with the exception of 'stops quarrel' (5.6 per cent) and 'helps sick' (3.0 per cent), where the Teacher may not have had the opportunity to observe the behaviour.

In response to Teachers limited knowledge of the nature and duration of child care and early childhood education experiences of children in the year before entering school that was observed in Cycles 1 and 2, an attempt was made in Cycle 3 to re-structure questions around pre-school / kindergarten attendance. In Cycle 4 a decision was made to revise the presentation of the pre-school / kindergarten attendance data so that it reflects the data collected by the revised questions and not edited to align with legacy data formats.

Based on instrument responses, 92.0 per cent of Teachers were able to provide information on whether or not the child attended preschool / kindergarten in the year before school, and 94.8 per cent were able provide details of the preschool / kindergarten setting. As in previous cycles, Teachers' knowledge of other forms of non-parental care in the year before school (not shown in Table 3.5.1) was limited. For this reason, a decision was made including National Committee prior to 2018 reporting to report types of non-parental early childhood education and / or care in the 2018 Community Profile reports based on 'valid responses' that excluded 'don't know' and were footnoted accordingly.

A full analysis of item non-response and associated issues will be included in the *Cycle 4 Instrument Review*.

Analysis of MCDS instrument items is not included in this report as it has been reported separately by the Telethon Kids Institute.

Table 3.5.1 Percentage of missing and 'Don't know' responses to selected AEDC items in Cycle 4 and Cycle 3

Variable	Description	Base Cycle 4	Percentage missing Cycle 4	*Percentage missing Cycle 3*
Pre-population items introduced in Cycle 3				
Parent1School	Highest year of school completed by parent1	307,472	7.4	*9.8*
Parent1PostSchool	Highest level of post school qualification completed by parent1	305,822	9.4	*13.3*
Parent2School	Highest year of school completed by parent2	300,427	13.4	*16.6*
Parent2PostSchool	Highest level of post school qualification completed by parent2	299,096	15.9	*20.1*
YearArrival	Year of arrival in Australia	23,721	25.5	*23.9*
Selected existing items - non licensed				
CanCom	Can adequately communicate in this language	74,315	41.6	*39.5*
B1a	Proficient in Aboriginal English	18,782	63.1	*59.4*
B1b	Proficient in Kriol / Creole	18,782	82.6	*79.4*
B1c	Proficient in Traditional ATSI language	1,110	21.8	*26.3*
B1d	Proficient in other language	18,782	87.0	*84.7*
B36	Special visual arts	307,946	3.5	*3.3*
B37	Special music	307,946	5.5	*5.6*
B38	Special athletics / dance	307,946	4.9	*4.8*
B39	Special problem-solving	307,946	3.1	*3.0*
B40	Special other	307,946	5.7	*5.9*
D8	Home environment / problems at home	307,946	4.1	*3.3*
E1	Attended an early intervention program	307,946	16.4	*11.2*
E4	Attended playgroup before entering school	307,946	63.2	*61.9*
LangClass	Attended other language or religion classes	308,953	27.5	*21.9*
E7	Child is regularly read to at home	307,946	3.0	*2.6*
Selected existing items - licensed				
C28	Stop quarrel	307,946	5.6	*4.7*
C33	Helps sick	307,946	3.0	*2.9*
Selected childcare / early education items				
E2y	Attended preschool / kindergarten in year before full time school	307,946	8.0	*9.4*
E2ay	Hours per week attended preschool / kindergarten	261,855	17.5	*20.5*
E2by	Preschool / kindergarten setting	261,855	5.2	*5.1*

3.5.2. Invalid instruments and special needs children

Table 3.5.2 shows that of the 308,953 instruments completed in Cycle 4, approximately one in 20 (4.9 per cent) were flagged as invalid. This is a consistent level of invalid instruments with Cycle 3 (5.0 per cent) and slightly lower than previous cycles (5.6 per cent in Cycle 2 and 5.4 per cent in Cycle 1).

Table 3.5.2 Invalid instruments by jurisdiction

Jurisdiction	Children	Invalid instru-ments	Invalid instru-ments (as per cent children)	Special needs children	Special needs children (as per cent children)	Balance invalid instru-ments	Balance invalid instruments as % invalid instruments
New South Wales	97,731	4,474	4.6	4,225	4.3	249	5.6
Victoria	76,356	4,369	5.7	4,162	5.5	207	4.7
Queensland	64,721	2,871	4.4	2,681	4.1	190	6.6
Western Australia	34,368	1,479	4.3	1,287	3.7	192	13.0
South Australia	20,305	1,128	5.6	1,034	5.1	94	8.3
Tasmania	6,151	306	5.0	285	4.6	21	6.9
Australian Capital Territory	5,886	252	4.3	238	4.0	14	5.6
Northern Territory	3,435	254	7.4	147	4.3	107	42.1
Total Cycle 4	**308,953**	**15,133**	**4.9**	**14,059**	**4.6**	**1,074**	**7.1**
Total Cycle 3	*302,003*	*15,183*	*5.0*	*14,065*	*4.7*	*1,118*	*7.4*
Total Cycle 2	*289,973*	*16,332*	*5.6*	*14,173*	*4.9*	*2,159*	*13.2*
Total Cycle 1	*261,147*	*14,030*	*5.4*	*11,484*	*4.4*	*2,546*	*18.1*

Instruments were flagged as invalid because domain scores are not calculated for children with special needs (14,059 cases in Cycle 4), if a child has attended less than one month of school and their Teacher has not had sufficient time to accurately evaluate them (941 cases), those for whom Teachers had not answered approximately 25 per cent of the questions in a given domain (131) cases and three year olds (2 cases). Table 3.5.2 shows that most of the invalid instruments (92.9 per cent) were associated with special needs children.

The absolute number of invalid instruments not associated with special needs children decreased from 2,159 in Cycle 2 to 1,118 in Cycle 3 and further decreased slightly to 1,074 in Cycle 4. This suggests a continual downward trend in the overall use of the 'don't know' option by Teachers.

The proportion of invalid instruments in Cycle 4 not associated with special needs children was highest in the Northern Territory (42.1 per cent), Western Australia (13.0 per cent) and South Australia (8.3 per cent).

3.5.3. Evidence of 'difficult' or 'time consuming' questions

The average time spent per page, together with the number of items per page, was used to provide some insights into which specific areas of the instrument appear to 'slow Teachers down' or otherwise present some kind of difficulty.

Table 3.5.3 shows the average completion time per page in seconds for the standard instrument (excluding the MCDS items). As can be seen, the page with the longest average completion time was page 11 (with the most items) and the page with the highest average seconds per item was page four (with items related to language(s) spoken).

There was a marked changed in Cycle 4 for the average seconds spent on page six, where several jurisdictions / sectors post-populated information relating to days absent in Cycle 4. This would suggest that it is worth pursuing post population of the days absent item in future cycles.

The trend was otherwise towards marginally more seconds spent per page, despite no significant change in content, resulting in the average estimated minutes taken per completed instrument increasing from 14.7 minutes in Cycle 3 to 16.1 minutes in Cycle 4. This is still well inside the 20 minutes per completed instrument that is the basis for the teacher relief reimbursement calculation.

Table 3.5.3 Average time spent per page

				Estimated seconds per page		Seconds per item
Page	Title	Items	Key content	Cycle 4	*Cycle 3*	Cycle 4
1	Preliminary questions	4	ATSI status, ATSI CC assistance	40	*28*	10.0
2	Background information 1	9	Date of birth, child repeating year, dual placement, parent qualifications	56	*49*	6.2
3	Background information 2	7	Residential address, special needs	46	*38*	6.6
4	Background information 3	5	ESL, other languages spoken	50	*39*	10.0
5	Background information 4	6	Country of birth, year of arrival, length of time known child	40	*28*	6.7
6	Section A - Physical Wellbeing 1	11	Days absent, readiness for school	61	*83*	5.5
7	Section A - Physical Wellbeing 2	9	Physical health and wellbeing domain items	53	*46*	5.9
8	Section B – Language and Cognitive Skills (school based) 1	11	Communications skills / general knowledge items	54	*45*	4.9
9	Section B – Language and Cognitive Skills (school based) 2	15	Language and cognitive skills items	70	*68*	4.7
10	Section B – Language and Cognitive Skills (school based) 3	18	Language and cognitive skills items, special skills	79	*70*	4.4
11	Section C – Social and Emotional Development 1	20	Social competence items	86	*84*	4.3
12	Section C – Social and Emotional Development 2	14	Social competence / emotional maturity items	78	*73*	5.6
13	Section C – Social and Emotional Development 3	18	Emotional maturity items	77	*70*	4.3
14	Section D – Emerging needs	12	Conditions / impairments, enduring problems	62	*57*	5.2
15	Section E – Comments 1	13	Early intervention programs, non-parental care	72	*71*	5.5
16	Section E – Comments 2	5	Attended other classes, additional comments	41	*33*	8.2
	Total (minutes)			16.1	*14.7*	

On average, Teachers spent one quarter (24.0 per cent) of the time completing background information, just under three-fifths (57.8 per cent) completing core licenced items (Section A to C) and just under one fifth (18.1 per cent) of the time completing additional items (Sections D and E).

3.6 Instrument completion dynamics

3.6.1. Distribution of completed instruments by teachers

Instruments were completed by 17,508 Teachers in Cycle 4. Table 3.6.1 shows that on average, instruments were completed by two teachers in each participating school. On average, each Teacher completed 18 instruments. Teachers in Queensland (19) and Western Australia (19) completed more instruments on average than those in the Northern Territory (13) and South Australia (15). These patterns have remained very similar to previous cycles.

Table 3.6.1 Teacher participation by jurisdiction

Jurisdiction	Teachers	Teachers per school	Instruments per Teacher	ATSI Teachers
New South Wales	5,610	2.4	17.4	200
Victoria	4,373	2.5	17.5	27
Queensland	3,395	2.4	19.1	99
Western Australia	1,860	2.0	18.5	30
South Australia	1,327	2.2	15.3	23
Tasmania	367	1.7	16.8	14
Australian Capital Territory	320	3.0	18.4	4
Northern Territory	256	1.7	13.4	19
Total Cycle 4	**17,508**	**2.3**	**17.6**	**416**
Total Cycle 3	*16,967*	*2.3*	*17.8*	*317*
Total Cycle 2	*16,425*	*2.2*	*17.7*	*716*
Total Cycle 1	*15,522*	*2.1*	*16.8*	*441*

There was a marked decrease in the number of ATSI Teachers between Cycle 2 (716) and Cycle 3 (317) that increased again slightly in Cycle 4 (416).

If a single Teacher completed instruments for all children that lived in a particular Local Community, AEDC results were not published for that area in the Community Profile. At least two teachers must contribute to the scores for the Local Community. This stipulation excluded 183 Local Communities from the Community Profiles that were published with Cycle 4 data.

3.6.2. Skipped instruments

Part of the definition of a valid instrument is the requirement that the Teacher had known the child for at least one month before completing the instrument, or had had ample opportunity to observe the child's development.

In Cycle 4, there were 1,862 cases (0.6 per cent of total participating children) where the Teacher had known the child for less than one month (1,844 cases in Cycle 3). In just under half of these cases (45.9 per cent), the Teacher felt that they knew the child well enough to complete the full instrument.

For the remaining 1,007 children (1,017 in Cycle 3), Teachers provided basic demographic information, and skipped the instrument items. Children with a skipped instrument are not included in domain score calculations.

The overall skipped instrument rate for Cycle 4 (0.33 per cent of total participating children), was consistent with Cycle 3 (0.34 per cent). There was some variation in skipped instrument rate by jurisdiction, with the highest skipped instrument rate in the Northern Territory (2.6 per cent), which was also the case in Cycle 3 (4.0 per cent). This is understood to be related to factors such as a higher level of transience amongst ATSI children. Refer to Appendix 3.6.2 for full details of skipped instrument rates by jurisdiction and sector.

The 1,017 skipped instruments were distributed across 668 schools, with only one school with 20 or more skipped instruments. On this basis, there is no evidence to suggest that skipping instruments was in any way used by Teachers as a method of 'avoiding' full instrument completion.

Table 3.6.2 summarises reasons given by Teachers for skipping instruments, based on skipped instruments as reported in the Headline Report, before the removal of duplicate children. As can be seen, the most common reason was that the child was a 'new student' in the class (69.0 per cent), which was consistent with Cycle 3 (65.1 per cent).

A large proportion of the reasons for skipping the instrument that were captured as free text related to 'unexplained reasons' for the child's absence from school (89 cases), the child leaving the school / moving to another school (34), or the child being absent due to an overseas trip or holiday (29). Again, these results are consistent with Cycle 3.

Table 3.6.2 Summary of reasons for skipping instruments

Reason for skipping instrument*	Number	Percentage distribution
Skipped instruments	1,183	
New student	816	69.0
Absent through illness / injury	60	5.1
Family / cultural obligations	77	6.5
Other explained reasons	43	3.6
Unexplained reasons	89	7.5
Child left school / moved elsewhere	34	2.9
Child overseas / on holiday / travelling	29	2.5
Other reasons	100	8.5
New teacher of class	46	3.9
Total reasons given	**1,294**	

** Over-adds as 'Reason for skipping instrument' is a multiple response question*

There continues to be some overlap between reasons for skipping the instrument and reasons for non-participation (refer also Section 3.2.3), including themes such as 'moved school' and 'moved overseas'. This suggests that more guidance on these issues would be desirable for Teachers in the supporting materials and this should be applied for Cycle 5. For the purpose of teacher relief reimbursement, a skipped instrument is considered a 'completed instrument', and is funded, however no teacher relief reimbursement is associated with assigning a non-participation code to a child.

3.6.3. Reliability of AEDC Coordinator's data collection date estimates

As part of the school activation process, AEDC Coordinators provided the indicative start and finish date of instrument completion at their school. The intention was for STCs to use this information to inform participation maximisation and 'troubleshooting' activity, and to use this information as a filter for alert and reminder activity.

Review of estimated start and finish date, and actual start and finish date, for participating schools reveals that:

- a small proportion of schools (2.8 per cent) simply used the start and finish date for the collection as a whole for their estimated start and finish date
- approaching three quarters (72.1 per cent) of schools completed data collection on or before the estimated date provided at school activation
- approximately one quarter (23.4 per cent) of schools planned to finish on the last day of the collection
- almost one in seven schools (15.0 per cent) completed data collection in the last week of the original data collection period (30 July to 3 August)
- approximately three in five (56.9 per cent) schools planned to complete 'within a two to three week period' as per the guidance in the *School Leader Pack*
- approximately one eighth (12.8 per cent) of schools completed two or more weeks later than the finish date estimated at school activation
- more than one third (35.6 per cent) of schools completed seven or more days earlier than the finish date estimated at school activation
- a majority of schools (82.3 per cent) actually completed 'within a two to three week period' as per the guidance in the *School Leader Pack*
- the median period of the actual completion period was 4 days, with nearly one in three (29.0 per cent) completing within one day.

This would appear to suggest that the start and finish date estimates provided by AEDC Coordinators at school activation can reasonably be relied upon as a trigger for non-participation follow up activity.

3.6.4. Instrument completion by time of day / day of week

The majority of instruments (83.4 per cent) were completed at times that approximated to a standard school day (9.00 am to 4.00 pm, Monday to Friday), with a further 6.5 per cent completed between 8.00 and 9.00 am, or 4.00 to 6.00 pm).

Some 10.1 per cent of instruments were completed outside standard work hours (before 8.00 am or after 6.00 pm), including 4.7 per cent of instruments completed over the weekend. Compared to Cycle 3, this represents slightly fewer instruments being completed outside standard work hours (10.9 per cent before 8.00 am or after 6.00 pm and 5.3 per cent over the weekend).

The number of instruments completed per day tended to peak through the middle of the week (Tuesday to Thursday), with fewer instruments completed on Mondays and Fridays.

This has important implications for hours of operation for the helpdesk, and is also an indication that not all schools choose to bring in teacher relief / take the class room teacher out of class to complete instruments. Refer to Appendix 3.6.4 for details of instrument completion dynamics by jurisdiction.

3.7 System features and workflow review

This section reviews selected aspects of the data collection system features and workflow, with a view to informing incremental improvements for future collections.

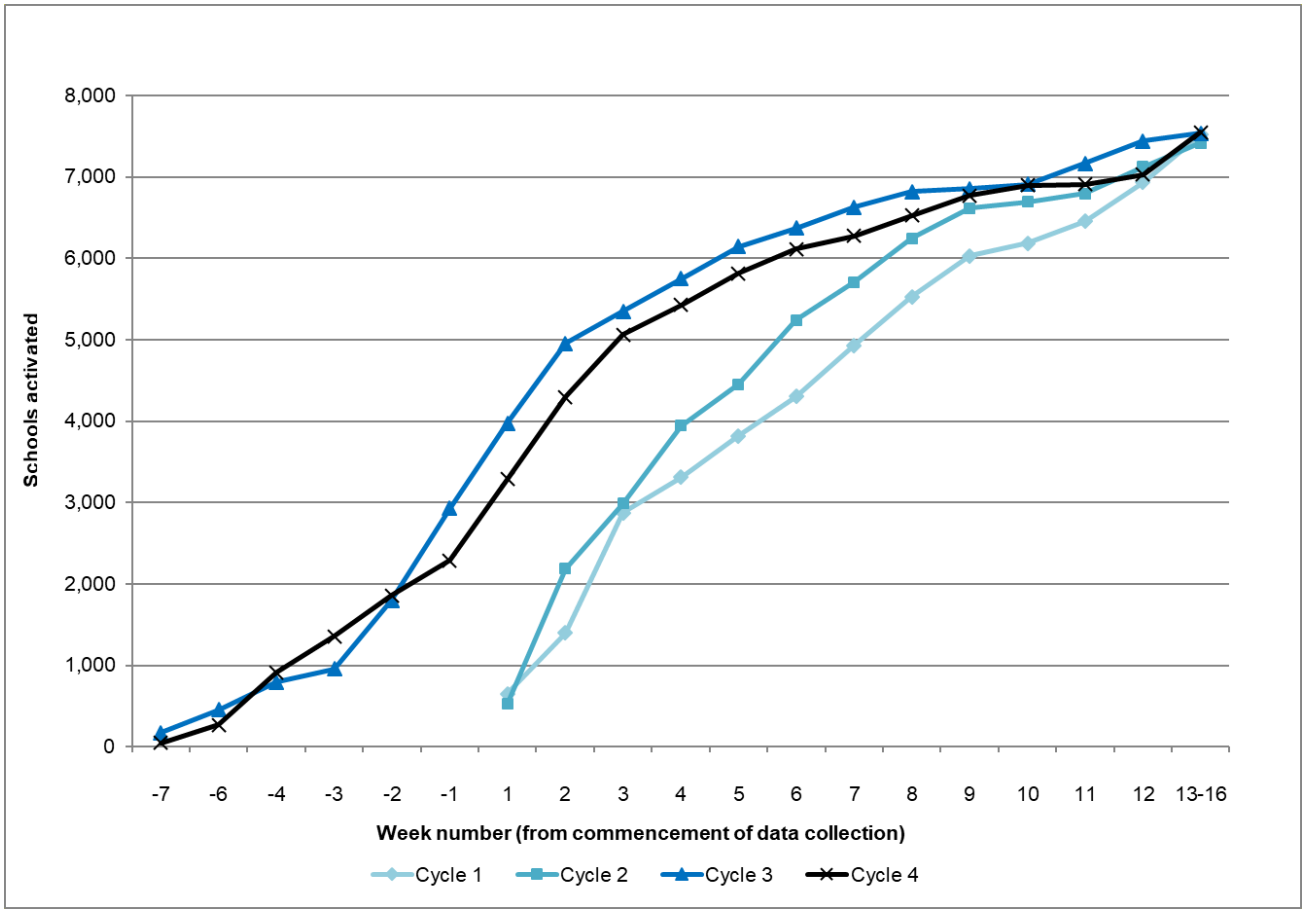
3.7.1. School activation review

Figure 3.7.1 shows the rate of school activation for Cycles 1, 2, 3 and 4, where for Cycles 3 and 4, the data collection system was open for school activation from the time that the *School Leader Packs* were distributed, some seven weeks before the start of data collection.

As can be seen, the rate of school activation for Cycle 4 was steady from the opening of the data collection system for activation until the commencement of the data collection period (weeks -7 to -1), despite the Easter holiday period falling in the two to three weeks before the commencement of the data collection period in most jurisdictions. It is noted, however, that over 600 fewer schools had activated by the time the data collection system opened in Cycle 4, relative to Cycle 3. The 'gap' between Cycles 3 and 4 in terms of the number of schools activated did not start to narrow until week 3, and over 500 schools activated in weeks 13 to 16 of Cycle 4, significantly more than in Cycle 3 (95).

The initial rate of school activation could conceivably be considered consistent with of the *School Leader Pack* messaging, which prioritised 'preparation for the AEDC' (identifying an AEDC Coordinator, identifying the preferred time for instrument completion, organising teacher relief, etc.) over 'school activation'.

Figure 3.7.1 National rate of school activation, Cycles 1, 2, 3, and 4



As for Cycle 3, the opening of the data collection system for school activation from the time that the *School Leader Packs* were distributed gave Cycle 4 a 'head start' in terms of the number of schools activated, relative to both Cycles 1 and 2. The momentum from this head start was maintained until the school holiday period at around week 9.

Given the effort invested in getting the final ten per cent of schools to activate late in the data collection period, and the relatively low proportion of schools which had activated by the time data collection commenced, consideration could be given to:

- working towards an 'activation deadline', aligned with an appropriate milestone in the data collection cycle, for example, by the end of Term 2, or within an agreed number of weeks of the commencement of data collection, or possibly even by the commencement of data collection
- simplifying the activation process and refining the project communications to prompt schools to activate upon receipt of the *School Leader Pack* (with 'activate' as the first activity, rather than 'plan')
- else some other agreed strategy to prompt early activation.

In Cycle 4, the Catholic sector in New South Wales sought to maximise school activation before the commencement of data collection, with almost nine in ten schools completing activation by this time. The benefits of such an approach in terms of early engagement with schools, 'spreading' the intensive follow up load, 'peace of mind' that the AEDC is on schools' radar, and providing plenty of opportunity to maximise overall school participation, are worthy of careful consideration when developing timelines, communications strategies and workflows for Cycle 5.

Refer to Appendix 3.7.1 for full details of cumulative and weekly Cycle 4 school activation rate by jurisdiction.

3.7.2. Role analysis

Analysis of school activation information at Table 3.7.2 suggests that at a national level, the AEDC Coordinator played at least one other role in the data collection system in over half (52.1 per cent) of activated schools. The incidence of the AEDC Coordinator playing at least one other role in the data collection system was highest in the New South Wales Government Sector (69.1 per cent) and in the Northern Territory (66.2 per cent).

The most common combination of roles nationally was for the AEDC Coordinator to also play the role of Teacher (33.6 per cent). The incidence of the AEDC Coordinator also playing the role of Teacher was highest in the New South Wales Government Sector (55.8 per cent).

Just over one quarter (27.1 per cent) of AEDC Coordinators nationally also played the role of Financial Manager, with the highest incidence of this combination of roles in the Northern Territory (40.8 per cent) and the Tasmanian independent sector (44.8 per cent).

The AEDC Coordinator played all three roles (AEDC Coordinator, Financial Manager, Teacher) in the data collection system at approximately one in twelve (8.6 per cent) schools, with the highest incidence of the AEDC Coordinator playing all three roles in the Northern Territory (20.4 per cent) and New South Wales Government sector (15.8 per cent).

Unsurprisingly, the smaller the school (using number of Teachers as a de facto for school size), the more likely it was that the AEDC Coordinator would take on multiple roles.

This may have implications for the support required for such schools as well as the approach to response maximisation activities.

Table 3.7.2 AEDC Coordinator role review

Role	Number	Percentage distribution
Total AEDC Coordinators	7,654	100.0
One role in the data collection system		
AEDC Coordinator only	3,670	47.9
Two roles in the data collection system		
Also a Teacher only	1,918	25.1
Also the Financial Manager only	1,409	18.4
Total two roles in system (AEDC Coordinator plus one other)	*3,327*	*43.5*
Three roles in the data collection system		
Also the Financial Manager and Teacher	657	8.6
Total also a Teacher	2,575	33.6
Total also the Financial Manager	2,066	27.0

Note: 'Total AEDC Coordinators' includes 117 AEDC Coordinators from schools not classified as participating

Data collection system metadata suggests that a new AEDC Coordinator was assigned at some point between school activation and invoice submission at 449 schools (5.9 per cent), including 62 schools (13.4 per cent) in the New South Wales Catholic sector, where effort was invested in maximising activation prior to the commencement of data collection. It is not clear whether the assigning of a new AEDC Coordinator relates to 'natural attrition', the passage of time between activation and data collection, or some issue with the supporting materials (e.g. lack of clarity on the demands of the AEDC Coordinator role).

Further to the comments at Section 2.12.2, system metadata suggests that the use of a common Financial Manager is not unusual, with one in thirteen schools (7.6 per cent) appearing to share a Financial Manager with another school. It will be important to continue to evolve the school frame specification and system features to service Financial Managers responsible for multiple schools.

Based on teacher registration information, almost two thirds (62.3 per cent) of Teachers completing instruments had no previous experience with the AEDC. This is broadly consistent with Cycles 2 and 3, and reiterates the importance of maintaining strong Teacher training resources.

3.7.3. Bulk upload of child name, date of birth and address information

As noted at Section 2.6.3, 'bulk upload' functionality was developed to facilitate pre-population of child information in the master list of children at the individual school level. This functionality was intended for use by individual schools in the independent sector which were not pre-populating centrally. In Cycle 3, fields available for bulk upload included the child's name and date of birth and in Cycle 4 this was extended to include the child's residential address.

There were 823 schools not covered by centralised pre-population in Cycle 4 (including 756 independent schools). The data collection system recorded a total of 413 uses of the 'bulk upload' feature. There were 553 views of the 'how to bulk import children' online tutorial and 99 queries to the helpdesk regarding this feature.

The number of uses of this feature may include some schools uploading child information multiple times (e.g. class by class), and some schools which uploaded information but did not end up participating in the collection.

The total number of uses of this feature is relatively high and suggests that schools, generally, were readily able to use the bulk upload feature.

Despite a decrease in the use of the bulk upload feature compared to Cycle 3 (which was expected due to higher participation in centralised pre-population), it triggered more queries to the helpdesk (99 vs 35 in Cycle 3) due to inclusion of the address field and the very specific format in which this data was required to be uploaded.

The extent to which bulk upload items could be further expanded warrants investigation as part of the system specification for Cycle 5. Items such as gender would need to be presented for upload in a 'coded' format (e.g. 1 = Male) which may not be ideal. Information regarding the required formats (including address information and accepted file types) should also be reviewed for Cycle 5.

3.7.4. Deny / approve functionality

As noted in Section 2.2.6, STC deny / approve functionality first developed for Cycle 3 in an attempt to address possible blockages in the school activation workflow, and to provide a level of scrutiny of the AEDC Coordinator account creation process, was also utilised for Cycle 4.

As part of this functionality, AEDC Coordinator account creation requests that were not answered by the principal within 72 hours, as well as instances where the domain of the AEDC Coordinator email address did not match that of the school or principal, were sent to the STC for review.

There was a total of 452 STC approval requests, of which 440 were approved and 12 were denied. Whilst no reason for denial was recorded, it is assumed that most denials relate to the AEDC Coordinator attempting to use a private email address. The 'official' school email address was preferred, as it was considered to offer a greater degree of security.

The deny / approve functionality has come to play an important role in smoothing the activation workflow and an equivalent feature would ideally be retained for future cycles.

3.8 Supporting materials review

Supporting materials were available for viewing or download from the data collection system for logged in account holders.

3.8.1. School Leader and Teacher Pack materials

School Leader and *Teacher Pack* resources were reviewed and updated in preparation for Cycle 4 data collection. The resources included were similar to Cycle 3 however there were a number of refinements, these included:

- separation of the *Principal welcome letter* and the *Key steps for participation* in the School Leader Pack
- additional content for the *About the AEDC for Aboriginal and Torres Strait Islander children*
- a new jurisdiction specific AEDC calendar which was included in the *School Leader / Teacher Packs* as well as the awareness building communications.

Table 3.8.1 shows the total number of downloads of the *School Leader* and *Teacher Packs* as well as the *Parent Information Letter* during the Cycle 4 data collection period.

Previously, all items from the *School Leader* and *Teacher Packs* have been available to download individually. In Cycle 4, electronic versions of the *School Leader* and *Teacher Packs* were available for download for Teachers, AEDC Coordinators and Financial Managers who had registered on the

secure data collection system. Whilst this reduced capacity for reporting of the downloading of separate materials, it made accessing the required resources simpler for schools.

The *School Leader Pack* was available for download from the beginning of the school activation phase and was downloaded a total of 7,448 times, equating to 98.8 per cent of participating schools downloading a *School Leader Pack*. Due to differences in the way the packs could be downloaded in Cycle 4 it is not possible to make a direct comparison to Cycle 3 downloads. Whilst this does seem to be a high proportion of downloads it may be caused by users other than AEDC Coordinators (e.g. Teachers) downloading the packs, repeat downloads and principals not passing on hard copy packs to the nominated AEDC Coordinators. Some investigation into this with STCs and schools may be warranted prior to the next cycle.

The *Teacher Pack* was available for download by registered Teachers on the data collection system and was downloaded a total of 6,734 times during the data collection period. This equates to 38.5 per cent of participating Teachers downloading a digital version of the *Teacher Pack*.

The number of downloads of the *Parent Information Letter* (8,368), was greater than the number of participating schools. This suggests a high level of compliance with the requirement to distribute the letter in advance of data collection.

Table 3.8.1 School Leader and Teacher Pack downloads

Resource type	Number of downloads	As percentage participating schools
School Leader pack	7,448	98.8
Teacher Pack	6734	89.3
Parent information Letter (English)	8368	111.0
Parent information Letter (Translated)	112	1.5
Parent Communications Kit	1751	23.2
School Communications Kit	800	10.6

As part of the *AEDC Coordinator Feedback Form* (refer to Section 3.13.2), AEDC Coordinators were asked to rate the timing of the provision of the *School Leader Pack*, and the level of information included in the *School Leader Pack*. A significant majority (91.3 per cent) of AEDC Coordinators rated the timing of the provision of the *School Leader Pack* as 'about right', with the balance split fairly evenly between 'too early' and 'too late'.

Similarly, a significant majority found the level of information in the *School Leader Pack* 'about right'. The topics rating highest on having 'not enough' information were 'teacher relief reimbursement' (11.4 per cent), 'how to activate your school' (3.2 per cent) and 'how to set up your teachers' (2.9 per cent). The topic rating highest on 'too much' information was 'general background information about the AEDC (2.8 per cent).

At registration, Teachers were asked whether they had read the materials included in the *Teacher Pack* as part of preparation for the AEDC. Reported readership of the teacher training materials was largely consistent with that from Cycle 3. Almost all Teachers reported reading the *Guide to Completing the Australian version of the Early Development Instrument* (99.2 per cent), *About the AEDC* fact sheet (98.2 per cent), *Preparing for the AEDC* fact sheet (98.8 per cent) and the *Teacher registration* fact sheet (97.3 per cent). As could be expected, given that not all Teachers had Indigenous children in their class, readership of the *About the AEDC for Indigenous children* fact sheet was slightly lower (88.2 per cent).

Teachers were also asked about their use of teacher training resources in the *Teacher Feedback Form*. Interestingly, the readership of training materials based on *Teacher Feedback Form* data differs substantially from Teacher registration data. Based on the *Teacher Feedback Form*, the *Guide to completing the Australian version of the Early Development Instrument* had a reported readership of 82.5 per cent (a 16.7 percentage point disparity) and *About the AEDC* fact sheet was reported at 87.5 per cent (a 10.7 percentage point disparity).

3.8.2. Communication kit usage

As noted in Section 2.8.5, the communications kits for schools and parents were retained for Cycle 4.

As with the *School Leader Pack* and *Teacher Pack* resources, in Cycle 4 the communications kits were available for download as 'whole kits' only, not as individual resources.

Table 3.8.1 shows the number of downloads of the communications kits during the Cycle 4 collection. As a proportion of all schools over one in five (23.2 per cent) downloaded the *Parent Communications Kit* and just over one in ten (10.6 per cent) downloaded the *School Communications Kit*.

As part of the *AEDC Coordinator Feedback Form* (refer to Section 3.13.2), AEDC Coordinators were asked to provide information on which communications kit resources they used. The resources most commonly used were the *school newsletter article* (66.6 per cent of responding AEDC Coordinators), the *Questions and answers* document (60.0 per cent), the *Principal talking points* document (32.8 per cent) and the *Parent poster* (29.4 per cent). As in Cycle 3, out of all the *Communications Kit* items, social media posts (8.5 per cent) were used least by responding AEDC Coordinators.

3.8.3. Online tutorial usage

A suite of online tutorials demonstrating various aspects of data collection system functionality were prepared and available for viewing from the *help centre* and on the relevant screens during the activation and registration workflows.

The online tutorials featured a worked example of the selected workflows, with a simple voiceover explaining the data collection system features and how to navigate the screens. As in Cycle 3, the online tutorials cover eight key workflows from activating to school finalisation.

Usage of online tutorials could be considered one possible indicator of those areas of the workflow that were less intuitive, or of greater perceived complexity from a system user perspective. Usage information was available at the 'number of plays' level, as presented in Table 3.8.3 below, rather than the number of unique individuals viewing the video (i.e. some users may have viewed a video more than once).

As can be seen at Table 3.8.3, there were 5,653 plays of the online tutorials, an increase from the 4,881 plays in Cycle 3. The increase in the number of video plays can be attributed almost entirely to the *Help registering teachers and ATSI CC* which was the most viewed and accounted for 22.5 per cent of all tutorial views compared to 4.3 per cent in Cycle 3. This is most likely due to Aboriginal and Torres Strait Islander Cultural Consultants being added as a distinct role in the data collection system.

Other popular tutorials include *How to add children and manage class lists* was at 21.8 per cent of all plays (down from 28.2 per cent in Cycle 3), *Submitting invoices for nominated Financial Managers* at 15.4 per cent (down from 18.5 per cent) and *Finalising schools and submitting invoices* at 14.8 per cent (up from 12.7 per cent).

Table 3.8.3 Online tutorial views

Online tutorial theme	Views	Percentage distribution
Help activating	312	5.5
Help registering teachers and ATSI CC	1,270	22.5
How to manage teachers and ATSI CC	343	6.1
How to change your school settings	233	4.1
How to add children and manage class lists	1,233	21.8
How to bulk import child records	553	9.8
Submitting invoices for nominated Financial Managers	871	15.4
Finalising schools and submitting invoices	838	14.8
Total views	5,653	100.0

The help activating tutorial accounted for 5.5 per cent of all tutorial plays, this was a 5.8 per cent decrease from Cycle 3. This is likely evidence that the additional instructions included in the school activation workflow are having their intended effect.

For the next data collection, it will be important to review detailed helpdesk outcomes (refer to Section 3.11) to identify any processes or topics that may also warrant coverage by an online tutorial. The online tutorials themselves, and how to access them, could also be included in the field testing process.

3.9 Pre-population

3.9.1. Overview of pre-population provision

This section looks briefly at the rate of provision of pre-population information by pre-population item, with a view to better understanding which pre-population items could not be provided by jurisdictions, and to provide context for instrument completion time with and without pre-population information.

Table 3.9.1 shows the percentage of pre-population records with selected pre-population items present, expressed as a per cent of records in pre-population, by jurisdiction and sector. Child gender (not shown here) was present for all pre-population records (100 per cent) and the provision of address information is discussed in the next section.

In Cycle 3, the overall pattern with the rate of provision of pre-population information was that they were generally well populated for children in Government sectors schools (90 per cent plus in most jurisdictions), but less so for Catholic and independent sectors. However, in Cycle 4, there has been a marked improvement in the Catholic sector provision of pre-population information on all measures reported in Table 3.9.1, to levels comparable with the Government sector for most jurisdictions.

Table 3.9.1 Percentage of pre-population records with selected pre-population items present, by sector within jurisdiction

Sector within jurisdiction	Records in pre-population	ATSI	LOTE	Country of birth	Year of arrival	Class ID	Repeat	Parent1 school	Parent1 post school	Gender Parent1	Gender Parent2	Pre-school
National	**293,336**	**98.6**	**94.9**	**98.6**	**4.3**	**96.1**	**66.4**	**94.0**	**91.1**	**59.3**	**54.0**	**24.7**
Government	229,661	99.1	93.9	99.2	5.2	95.6	65.6	95.4	92.2	63.7	57.1	27.2
Catholic	56,420	97.7	99.6	97.2	1.1	99.5	66.6	90.2	88.6	45.9	45.4	14.5
Independent	7,255	89.9	88.3	90.3	1.0	86.9	87.9	79.2	78.5	24.2	24.1	23.8
New South Wales	91,231	98.6	99.6	98.1	6.8	88.8	87.7	95.0	93.7	93.6	84.2	70.7
Government	73,025	99.2	99.5	99.7	7.9	86.0	100.0	98.9	97.7	99.5	88.2	80.0
Catholic	18,206	96.1	99.8	91.7	2.2	100.0	38.5	79.5	77.9	69.9	68.2	33.2
Independent	0	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Victoria	74,898	99.0	99.2	99.2	0.0	99.3	23.6	98.3	97.5	1.4	1.4	1.3
Government	57,018	99.8	100.0	100.0	0.0	100.0	0.0	99.6	98.7	0.0	0.0	0.0
Catholic	16,108	99.5	100.0	100.0	0.0	100.0	100.0	98.0	97.6	0.0	0.0	0.0
Independent	1772	66.6	65.5	66.5	2.1	69.5	87.8	60.2	59.0	60.0	59.9	54.2
Queensland	58,709	99.6	97.5	98.0	5.3	100.0	96.0	93.4	86.6	97.6	90.6	0.7
Government	47,597	99.7	97.2	97.6	6.2	100.0	100.0	93.6	85.8	100.0	91.4	0.0
Catholic	11,112	99.6	98.9	99.8	1.4	100.0	78.7	92.7	89.9	87.5	87.6	3.8
Independent	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Western Australia	34,627	99.0	98.9	99.1	5.3	99.4	100.0	86.5	83.1	0.0	0.0	0.0
Government	25,953	98.9	98.9	98.8	7.1	100.0	100.0	84.5	80.2	0.0	0.0	0.0
Catholic	5,111	99.9	99.7	100.0	0.0	98.4	100.0	95.6	94.4	0.0	0.0	0.0
Independent	3,563	98.7	97.6	99.7	0.0	96.2	100.0	88.1	87.8	0.0	0.0	0.0
South Australia	18,333	95.8	33.1	99.6	5.4	99.6	4.4	92.8	87.5	99.7	91.2	2.8
Government	14,359	97.5	15.9	100.0	6.4	100.0	0.0	93.5	87.5	100.0	89.1	0.0
Catholic	3,398	88.5	99.0	99.0	1.0	98.1	7.6	93.2	90.4	99.0	98.8	5.4
Independent	576	95.8	74.3	94.8	5.2	100.0	93.8	70.3	68.9	96.7	96.4	56.8

Table 3.9.1 *continued* **Percentage of pre-population records with selected pre-population items present, by sector within jurisdiction**

Sector within jurisdiction	Records in pre-population	ATSI	LOTE	Country of birth	Year of arrival	Class ID	Repeat	Parent1 school	Parent1 post school	Gender Parent1	Gender Parent2	Pre-school
Tasmania	6,218	93.8	100.0	100.0	0.1	97.5	0.0	81.2	76.6	75.6	65.1	85.5
Government	4,703	92.3	100.0	100.0	0.1	100.0	0.0	78.5	73.6	100.0	86.1	87.6
Catholic	1,001	97.8	100.0	100.0	0.0	87.0	0.0	89.6	85.2	0.0	0.0	89.1
Independent	514	99.2	100.0	100.0	0.0	94.9	0.4	89.5	87.0	0.0	0.0	60.1
Australian Capital Territory	5,884	93.8	100.0	100.0	6.8	96.1	80.6	91.8	90.6	70.3	68.5	11.2
Government	4,161	94.2	100.0	100.0	8.4	100.0	100.0	92.7	91.9	99.5	96.8	0.0
Catholic	1,143	94.9	100.0	100.0	4.5	100.0	0.0	96.9	94.0	0.0	0.0	57.7
Independent	580	88.4	99.8	100.0	0.0	60.3	100.0	75.2	74.8	0.0	0.0	0.0
Northern Territory	3,436	99.2	99.8	96.2	0.1	99.5	13.9	92.4	88.5	89.3	74.0	3.7
Government	2,845	99.3	99.8	98.1	0.0	100.0	0.0	93.4	88.9	100.0	81.6	0.0
Catholic	341	98.2	100.0	100.0	0.0	100.0	100.0	80.6	79.5	26.4	26.4	0.0
Independent	250	99.6	100.0	70.0	1.6	93.2	54.0	96.8	96.4	53.2	52.4	41.0

As presented in Table 3.9.1, there continues to be variability in the pre-population information provision rate for the child repeating the year indicator (*Repeat*), and overall a lower rate of pre-population provision for this item in Cycle 4 compared to Cycle 3 due to the Victorian Government sector and Tasmania not pre-populating this in Cycle 4. It is not known if this is due to a change in information reported in their respective administrative systems or a result of the pre-population process itself.

The class identifier (*ClassID)*, which could potentially be used as part of the class list creation workflow, had a low rate of pre-population information provision in the Western Australian Government sector in Cycle 3 but was able to be 100 per cent pre-populated in Cycle 4, however, the rate of provision of information for this variable declined in Cycle 4 for the Victorian and Australian Capital Territory's independent sectors to 69.5 per cent and 60.3 per cent respectively (from 100 per cent in Cycle 3).

The language other than English (*LOTE*) item continues to have a low rate in the South Australian Government sector.

The new pre-population items for Cycle 4, gender of first parent / carer and gender of second parent / carer had non-response in excess of forty per cent, with Western Australia not populating these items at all. It is relevant to note that these items are not presented to Teachers for completion but included for analysis purposes only.

Provision of information pertaining to non-parental care in the year before school (*NonParentalCare*) varied significantly by jurisdiction / sector, with high rates (>50 per cent) of provision in the New South Wales Government and Catholic sectors, the independent sector in Victoria, South Australia and the Northern Territory, all sectors in Tasmania and the Catholic sector in the Australian Capital Territory.

Year of arrival had very low levels of information provision, reaching 5.2 per cent nationally in Government schools but around 1.0 per cent in the Catholic and independent sectors.

A total of 54 Cycle 4 pre-population records were excluded due to dual enrolments, slightly more than in Cycle 3 (41) and far fewer than in Cycle 2 (996).

As noted in Section 2.6.6, a total of 38 out of 96 pre-population files (40 per cent) were received from jurisdictions after the deadline for file submission, including 26 per cent of files that included issues too significant to be fixed locally and thus were returned to the relevant jurisdictional data managers. Most of the issues typically related to data provision formats or missing data. There was sufficient time in the schedule to resolve these issues prior to finalising pre-population information for uploading into the data collection system.

Future cycles should ensure pre-population specifications are finalised early, are as simple to follow as possible and both STCs and data managers are well aware of timings and options for all sectors.

3.9.2. Quality of address information

Table 3.9.2 shows the proportion of child residential address information provided in pre-population and collected online during data collection that could be geocoded automatically, without computerised or manual editing. Western Australia has been excluded from this analysis as they provided their own geocoding and used the school coordinates where child address information was missing / incomplete.

As can be seen, the quality of pre-population child residential address information was high overall, with 95.1 per cent of pre-population records being automatically geocoded, but significantly lower for the Northern Territory (68.8 per cent).

Due to time constraints in the processing of pre-population data, there was no opportunity to resolve addresses which could not be automatically geocoded before the start of data collection. Address information for these records was excluded from the pre-population upload and collected online during data collection, along with address information for children who were not included in pre-population.

The proportion of addresses collected online during data collection that could be geocoded automatically was very high (98.0 per cent).

The high proportion of child residential addresses that can be geocoded automatically opens up the possibility of assigning each record to an *apriori* AEDC Community, for the monitoring of the number of instruments completed by AEDC Community during the collection, if necessary. The potential benefit of being able to report progress in this way, along with the workflow and desired reporting functionality, could be explored in more detail as part of system specification for the next collection.

Table 3.9.2 Quality of address information on pre-population file

	Number of addresses	Number of addresses geocoded automatically	Percentage of addresses automatically geocoded
Pre-population			
National	**256,291**	**243,801**	**95.1**
New South Wales	91,321	87,495	95.8
Victoria	73,208	70,353	96.1
Queensland	58,659	55,356	94.4
Western Australia	n/a	n/a	n/a
South Australia	17,725	16,712	94.3
Tasmania	6,208	5,981	96.3
Australian Capital Territory	5,716	5,527	96.7
Northern Territory	3,454	2,377	68.8
Collected online during data collection			
National	**43,197**	**42,329**	**98.0**
New South Wales	14,453	14,195	98.2
Victoria	10,769	10,514	97.6
Queensland	11,807	11,612	98.3
Western Australia	n/a	n/a	n/a
South Australia	4,462	4,328	97.0
Tasmania	456	454	99.6
Australian Capital Territory	494	494	100.0
Northern Territory	756	732	96.8

**Excludes Western Australia*

3.9.3. Analysis of the incidence of correction of pre-population information

Teachers were asked to amend pre-population data if it was incorrect, and backfill it if it was missing.

The first column in Table 3.9.3 summarises the number of corrections that were made to data that were not missing in the pre-populated instruments. As shown, Teachers were most likely to correct pre-population information relating to language spoken at home (*Language*), the highest post school qualification of the first / second parent / carer (*Parent1PostSchool, Parent2PostSchool*) and the highest level of schooling completed by the first and second parent / carer (*Parent1School, Parent2School*).

Language required more correction in Cycle 4 than Cycle 3, whereas there was an improvement in Cycle 4 for the need to correct *Country* (not shown in Table 3.9.3).

The second column in Table 3.9.3 summarises the number of records for which Teachers provided data that were missing in the pre-populated instruments.

The highest level of missing data was in the same items that were most likely to be corrected (*Language, Parent1PostSchool, Parent2PostSchool, Parent1School, Parent2School),* as well as child address items *Suburb*, *State and Postcode*, with some 236,000 responses across these items provided by Teachers during data collection.

Teachers recorded country of birth for over 14,000 children and the ATSI background for almost 4,000, the latter being a marked improvement on Cycle 3 when nearly 15,000 children had this item missing from pre-population.

Gender also showed a significant improvement in Cycle 4, from nearly 3,500 missing records in Cycle 3 to under 50.

Teacher feedback from Cycle 3 was that significant time could be spent by Teachers sourcing information relating to *Parent1* and *Parent2*, as well as information pertaining to non-parental care in the year before school, which was not considered to represent the best use of Teachers' time. Therefore, in Cycle 4, the rule was introduced in communication materials 'if not pre-populated, to record as 'not known'.

Table 3.9.3 Incidence of correction of selected pre-population items

	Modification status			
Pre-population items	**Corrected**	**Was missing**	**Unchanged**	**Total**
Instruments				
Gender	465	49	280,542	281,056
SuburbTown	715	16,435	232,901	250,051
State	26	16,538	233,590	250,154
Postcode	1,184	16,443	263,327	280,954
ATSIType	787	3,773	276,281	280,841
Language	20,235	48,150	212,671	281,056
Country	1,693	14,168	264,980	280,841
Parent1School	3,372	34,151	227,880	265,403
Parent1PostSchool	7,585	34,056	216,587	258,228
Parent2School	3,395	35,704	203,301	242,400
Parent2PostSchool	7,205	35,285	192,068	234,558
Percentage distribution				
Gender	0.2	0.0	99.8	100.0
SuburbTown	0.3	6.6	93.1	100.0
State	0.0	6.6	93.4	100.0
Postcode	0.4	5.9	93.7	100.0
ATSIType	0.3	1.3	98.4	100.0
Language	7.2	17.1	75.7	100.0
Country	0.6	5.0	94.4	100.0
Parent1School	1.3	12.9	85.9	100.0
Parent1PostSchool	2.9	13.2	83.9	100.0

Parent2School	1.4	14.7	83.9	100.0
Parent2PostSchool	3.1	15.0	81.9	100.0

3.9.4. Instrument completion time with and without pre-population

Table 3.9.4 compares completion times for instruments that were pre-populated with those that were not, by jurisdiction. The times are the product of summing the seconds spent on each of the 16 pages of the instrument, based on information directly from the data collection system. For 'without pre-population', there is no provision for time spent sourcing information when not actively completing an instrument on the data collection system.

Given the pattern of pre-population by sector, 'with pre-population' can generally be considered to relate to the Government and Catholic sectors, and 'without pre-population' can be said to relate to the independent sector. Nationally, on average, instruments were completed one minute and 19 seconds faster if pre-population information was provided, with some variation by jurisdiction.

Table 3.9.4 Instrument completion time by jurisdiction with and without pre-population

Jurisdiction	Total	With pre-population	Without pre-population	Variation
National	**16:08**	**16:00**	**17:19**	**1:19**
New South Wales	15:50	15:44	16:50	1:06
Victoria	15:30	15:18	17:35	2:17
Queensland	16:52	16:48	17:34	0:46
Western Australia	16:48	16:42	18:50	2:08
South Australia	15:58	15:51	16:46	0:55
Tasmania	15:56	15:53	19:39	3:46
Australian Capital Territory	15:07	15:05	15:47	0:42
Northern Territory	21:05	20:42	25:26	4:40

3.10 Post-population

3.10.1. Overview of post-population provision

As described in Section 2.7, post-population of child attendance-related items from the instrument was introduced for the first time in Cycle 4, for those jurisdictions / sectors which held this information in their administrative systems.

Post-population of demographic variables for participating children in Western Australia has been analysed in Table 3.9.1, alongside other jurisdictions which provide this information as part of pre-population.

As a result, this section focuses solely on analysis of the quality of post-population of child attendance-related items for Cycle 4.

3.10.2. Analysis of the quality of post-population information

Table 3.10.2 shows the percentage of records that were missing child attendance items by jurisdiction and sector, for those jurisdictions / sectors that attempted to post-populate this information and those which did not attempt to post-populate (i.e. continued to collect child attendance data as part of instrument completion). Those jurisdictions / sectors which committed to providing this information via post-population are flagged in the table and included the Government sector schools in Victoria, Queensland, Western Australia, Tasmania and the Australian Capital Territory and Catholic sector schools in New South Wales.

As shown, 'number of days' absent was very well populated, with very little missing data and this was true for those jurisdictions / sectors which post-populated this, as well as those which captured it as part of instrument completion. There was some missing data for New South Wales Catholic schools (4.4 per cent) and Tasmanian Government schools (0.2 per cent) which provided this information via post-population.

Table 3.10.2 Analysis of missing child attendance data (post-population vs instrument completion) by sector within jurisdiction

Sector within jurisdiction	Records (count)	Post-pop	Number of days (% missing)	Family / cultural (% missing)	Illness / injury (% missing)	Other explained (% missing)	Unexplained (% missing)
New South Wales							
Government	70,910		0.0	17.8	17.8	17.8	17.8
Catholic	18,579	Yes	4.4	51.6	50.2	56.8	50.2
Independent	8,010		0.0	16.0	16.0	16.0	16.0
Victoria							
Government	55,846	Yes	0.0	9.5	9.5	9.5	9.5
Catholic	14,281		0.0	13.1	13.1	13.1	13.1
Independent	6,032		0.0	17.2	17.2	17.2	17.2
Queensland							
Government	47,160	Yes	0.0	7.1	7.1	7.1	7.1
Catholic	11,000		0.0	11.7	11.7	11.7	11.7
Independent	6,381		0.0	13.7	13.7	13.7	13.7
Western Australia							
Government	25,642	Yes	0.0	7.8	7.8	7.8	7.8
Catholic	5,029		0.0	14.8	14.8	14.8	14.8
Independent	3,508		0.0	13.5	13.5	13.5	13.5
South Australia							
Government	14,176		0.0	10.6	10.6	10.6	10.6
Catholic	3,230		0.0	10.9	10.9	10.9	10.9
Independent	2,814		0.0	14.1	14.1	14.1	14.1
Tasmania							
Government	4,605	Yes	0.2	100.0	8.7	8.7	8.7
Catholic	1,013		0.0	10.2	10.2	10.2	10.2
Independent	514		0.0	12.5	12.5	12.5	12.5
Australian Capital Territory							
Government	4,057	Yes	0.0	100.0	100.0	100.0	100.0

Catholic	1,138	0.0	14.4	14.4	14.4	14.4
Independent	677	0.0	18.2	18.2	18.2	18.2
Northern Territory						
Government	2,689	0.0	8.2	8.2	8.2	8.2
Catholic	291	0.0	14.1	14.1	14.1	14.1
Independent	364	0.0	15.4	15.4	15.4	15.4

The other attendance items include 'days absent by reasons for absence' with a number of categories for reasons for absence, as summarised at Table 3.10.2. For Government sector schools in Victoria, Queensland and Western Australia, which chose to post-populate this information, there was a lower rate of missing data for these items compared to their non-Government sectors which did not post-populate. Whilst it would be more accurate to compare the two methods of population within the same jurisdiction / sector (i.e. from one cycle to another), this does indicate that the Government sector in these jurisdictions can successfully post-populate this information.

The Tasmanian Government sector, which also provided this information via post-population, was unable to report days absent due to 'family / cultural reasons' (as noted by 100 per cent missing in Table 3.10.2), but did not have a problem with the other reasons for absence. The Australian Capital Territory Government sector was unable to post-populate days absent by any of the pre-coded reasons, despite commitment to do so.

For the New South Wales Catholic sector schools, there were some dioceses which committed to post-population, but then reverted during collection and attempted to collect what they could as part of instrument completion, but, as shown, there was still a moderate degree of missing data overall, with 'days absent by reason' the most affected.

3.10.3. Implications for future collections

Post-population of attendance data was successful for a number of jurisdictions / sectors which committed to providing this information in Cycle 4, but some problems were encountered by others, in that they were unable to provide all the information to the required specification. Consideration could be given to further consultation with jurisdictional data managers and other post-population information provision stakeholders regarding the availability of post-population items for Cycle 5. Stakeholders should be made aware that commitment to provide this data involves providing the data in the required format, as failure to do so will result in missing data for that jurisdiction / sector, given that the items will have been suppressed during data collection. If in doubt, it is better to not provide commitment to post-populate, and not to suppress the relevant items during data collection. For the Catholic sector, it is essential that all individual dioceses are consulted.

Those jurisdictions / sectors intending to post-populate this data would ideally be requested to submit a 'dummy' data file prior to the commencement of data collection to ensure the data meets the required specifications, prior to the suppression of relevant items in the instrument.

3.11 Helpdesk activity

This section seeks to review helpdesk activity, based on information available from the Helpdesk Report. It assesses helpdesk traffic and performance against KPIs, and examines reasons for contacting the helpdesk.

3.11.1. Helpdesk transactions over time by mode

Table 3.11.1 provides an overview of the distribution of 'transactions' (individual queries) recorded by the helpdesk over time and by mode of transaction.

A total of 26,239 transactions were recorded over the 32-week period from the start of the school activation phase, this represents a six per cent decrease in the number of transactions relative to Cycle 3. As noted in Section 2.9.2, the expectation was that the number of helpline transactions would be roughly comparable to Cycle 3, or slightly improved as a result of a more 'intuitive' / 'self – contained' system and changes to supporting documentation.

The proportion of helpdesk activity generated during the school activation phase made up 11 per cent of all helpdesk transactions, this is largely consistent with the school activation phase in Cycle 3.

Over 75 per cent of all Cycle 4 transactions occurred during the data collection period, an increase of 11 percentage points from Cycle 3.

Despite being a week longer in Cycle 4, helpdesk contact during the data collection extension period decreased to 5.4 per cent of all traffic in Cycle 4 compared to 8.5 from Cycle 3. This decrease may be attributable to system enhancements and refinements around the invoice submission and school finalisation workflows as most of the traffic during this period in Cycle 3 related to teacher relief reimbursement and finalisation. Helpdesk transactions during the invoice submission period decreased as well from 14.7 per cent of all transactions in Cycle 3 to 6.1 per cent in Cycle 4. This further highlights the success of the teacher relief reimbursement and school finalisation system enhancements made in Cycle 4.

The maximum number of transactions logged on a weekly basis was recorded on week 16, the ninth week of the data collection period, close to the end of Term 2 for most jurisdictions (2,045 transactions, 7.8 per cent of all transactions recorded by the helpdesk). The second highest level of traffic was recorded in week 21, the last week of the data collection period (2,043 transactions, 7.8 per cent), followed by week 8 (1,992, 6.4 per cent).

Over three quarters of helpdesk transactions (76.5 per cent) were inbound telephone, around one in six (15.9 per cent) related to email queries and outbound telephone calls, and one in thirteen (7.6 per cent) relating to emails.

Outbound telephone calls were typically in response to messages left on the helpdesk voicemail, however a small proportion were prompted by something other than an inbound call (such as calls to resolve bounced emails or return to sender mail).

The proportion of email transactions spiked with the release of email communications, often prompting large numbers of recipients to reply by email with queries.

Table 3.11.1 Helpdesk transactions over time by source

Phase	Week number	Email	Telephone inbound	Telephone outbound	Percentage calls taken 'live'	Total transactions	*Total Cycle 4*	*Total Cycle 3*
School activation	1	55	57	17	77.0	129		
	2	45	137	13	91.3	195		
	3	68	188	11	94.5	267		
	4	76	214	20	91.5	310		
	5	135	618	69	90.0	822		
	6	114	353	25	93.4	492		
	7	93	464	39	92.2	596		
Subtotal		**586**	**2031**	**194**	**91.3**	**2,811**	**10.7**	**10.0**
Data collection	8	371	1375	246	84.8	1,992		
	9	264	1,374	219	86.3	1,857		
	10	351	1,288	179	87.8	1,818		
	11	227	1,024	110	90.3	1,361		
	12	230	1,082	78	93.3	1,390		
	13	155	896	59	93.8	1,110		
	14	206	968	73	93.0	1,247		
	15	220	1,398	131	91.4	1,749		
	16	238	1692	115	93.6	2,045		
	17	106	731	32	95.8	869		
	18	69	130	10	92.9	209		
	19	157	776	72	91.5	1,005		
	20	182	1,453	81	94.7	1,716		
	21	271	1632	140	92.1	2,043		
Subtotal		**3,047**	**15,819**	**1,545**	**91.1**	**20,411**	**77.8**	**66.8**
Data collection extension	22	128	552	38	93.6	718		
	23	68	371	9	97.6	448		
	24	48	198	16	92.5	262		
Subtotal		**244**	**1,121**	**63**	**94.7**	**1,428**	**5.4**	**8.5**
Invoice submission	25	79	351	23	93.9	453		
	26	45	208	43	82.9	296		
	27	53	196	30	86.7	279		
	28	48	181	67	73.0	296		
	29	33	87	10	89.7	130		
	30	5	14	6	70.0	25		
	31	9	38	0	100.0	47		
	32	28	30	5	85.7	63		
Subtotal		**300**	**1,105**	**184**	**85.7**	**1,589**	**6.1**	**14.7**
Total Cycle 4		**4,177**	**20,076**	**1,986**	**91.0**	**26,239**	**100.0**	**100.0**
As % transactions		15.9	76.5	7.6		100.0		
Total Cycle 3		**5,814**	**17,967**	**4,116**	**81.4**	**27,897**		
As % transactions		*20.8*	*64.4*	*14.8*		*100.0*		

3.11.2. Helpdesk transactions by user type

Table 3.11.2 summarises helpdesk transactions by user type.

Transactions with 'un-registered staff' increased substantially from 7.5 per cent of all transactions in Cycle 3 to 21.5 per cent in Cycle 4. This increase was most likely driven by the separate batches of *School Leader Pack* mailing and the improved helpdesk functionality around the system user type 'un-registered staff'. Delivery of the *School Leader Packs* in two batches meant there was a period where schools which had not yet been sent the *School Leader Pack* could not activate and become a 'registered user'. This, in tandem with the increased helpdesk functionality of being able to switch between separate users and unregistered users associated with a specific school likely drove the increase in contact from this user group.

The proportion of helpdesk transactions with almost all other user types were reduced in Cycle 4. The increase in 'un-registered staff' was likely to have driven this change, particularly with the AEDC Coordinator and Principal given these user types were more likely to contact the AEDC helpdesk prior to school activation. There was a substantial decrease in helpdesk transactions with Financial Managers in Cycle 4 (from 22.6 to 17.8 per cent). As the Financial Manager role relates to the tail end of school participation, it's unlikely the increase in transactions with un-registered staff would be responsible for this reduction and is instead more likely a result of the school finalisation system enhancements for Cycle 4.

Table 3.11.2 Helpdesk transactions by user type

	Cycle 4		*Cycle 3*	
User type	**Number**	**Percentage distribution**	***Number***	***Percentage distribution***
AEDC Coordinator	9,796	37.3	11,545	41.4
Principal	1,780	6.8	3,259	11.7
Teacher	4,006	15.3	4,048	14.5
Financial Manager	4,670	17.8	6,307	22.6
Un-registered staff	5,646	21.5	2,095	7.5
STC	189	0.7	276	1.0
Subtotal system users	**26,087**	**99.4**	**27,530**	**98.7**
Academic	29	0.1	52	0.2
Parent	7	0.0	3	0.0
Media	9	0.0	4	0.0
Other	107	0.4	308	1.1
Subtotal other parties	**152**	**0.6**	**367**	**1.3**
Total	**26,239**	**100**	**27,897**	**100**

A very small proportion of helpdesk transactions (academics, parents, media) was with non-users of the data collection system.

3.11.3. Helpdesk performance against KPIs

As can be seen in Table 3.11.1, overall, on average, 91.0 per cent of calls to the helpdesk were taken in real time across the 32 week period of Helpdesk operation. This represents an improvement of 9.6 percentage points compared to Cycle 3 and exceeds the helpdesk's target of 90 per cent. Cycle 4 is the first time the 90 per cent target has been met since its introduction in 2012.

There were a number of factors which contributed to the AEDC helpdesk's ability to meet the 90 per cent target in Cycle 4, these included:

- staggering of reminder activity so certain states and territories were sent reminder emails at different times and in some cases different days to evenly distribute the resulting increase in helpdesk traffic
- a helpdesk resourcing plan which included having additional helpdesk operators on standby to respond to unpredictable spikes in traffic and hosting multiple helpdesk briefings to top up the team as call volumes increased
- consistent placement instructions and explanations on the right-hand side of the school activation, school set up and other user registration screens with links to fact sheets and explanatory videos.

Possible strategies to ensure the helpdesk can continue to answer a high proportion of calls in real time for future cycles may include:

- continue to enhance the workflows, communications and supporting materials, to help reduce the overall volume of calls to the helpdesk
- utilisation of IVR (Interactive Voice Response) for inbound telephone calls to pre-identify the caller's query and channel the call to the appropriate operator, this will allow operators to specialise in specific areas of the workflow.

The helpdesk's other primary KPI - returning / actioning calls within 24 hours also saw improvement in Cycle 4. With the improvement in the proportion of calls taken in real time and the reduction in voicemail and email traffic, there was overall less queries which required follow up.

In Cycle 3, various supporting materials and systems enhancements were introduced to encourage early preparation for the AEDC. Supporting materials drew attention to the steps to prepare for participation in the AEDC, and the data collection system was open for school activation, teacher registration, teacher training and class list preparation before the start of the data collection period. These changes were made to reduce instances of teachers and schools seeking to register, complete training, create their class list and complete instruments 'in one sitting'. Given their perceived success, these materials and system updates were retained for Cycle 4. A significant reduction in exceptional circumstances and further positive feedback from the helpdesk team suggests these changes have reduced time sensitive helpdesk queries and should be retained for future collections.

3.11.4. Review of reason for contacting helpdesk

For each transaction, a reason for contacting the helpdesk was recorded. Reasons for contacting the helpdesk were coded to a highly detailed list of outcomes, comprising some 240 individual outcome codes. The coding of outcomes at this level of detail enabled the project management team to be highly responsive to issues arising from helpdesk activity.

The detailed list of outcomes was aggregated into themes as listed in Table 3.11.4, which summarises all reasons for contacting the helpdesk logged over the period of helpdesk operation.

Approaching half (43.4 per cent) of the reasons for contacting the helpdesk related in some way to 'getting started', whether for school activation (15.8 per cent), account creation and registration (11.7 per cent) or sign in / password related queries (15.9 per cent). Whilst overall this remains largely consistent with Cycle 3, the proportion of helpdesk transactions relating to account creation and password related issues were both reduced in Cycle 4 (3.4 per cent overall).

Table 3.11.4 Reasons for contacting the helpdesk

Outcome description	Number	Percentage distribution
Activation, registration and sign in	**4,146**	**15.8**
How to activate my school / Activation code misplaced	2,592	9.9
School scope / participation status - related	127	0.5
Other activation query	1,427	5.4
Account creation / registration	**3,064**	**11.7**
Teacher / Financial Manager registration	1,898	7.2
Verification email issue	1,166	4.4
Sign in / password related	**4,161**	**15.9**
Password retrieval not responding	1,632	6.2
Forgot password	1,367	5.2
Problem signing in	672	2.6
Other sign in / password problem	490	1.9
Materials related	**1,876**	**7.1**
School Leader Pack request	970	3.7
Teacher Pack request	561	2.1
Parent letter	266	1.0
Other materials and mailing related	78	0.3
Paper copy instrument related	1	0.0
School frame maintenance	**65**	**0.2**
New contact details	65	0.2
Class list creation and maintenance	**1,628**	**6.2**
Recording child non-participation / opt outs	532	2.0
Adding a child	314	1.2
Removing a child	231	0.9
Bulk upload query	99	0.4
Other class list creation / maintenance related	452	1.7
Instrument completion / navigation	**934**	**3.6**
Instrument completion / navigation	549	2.1
Teacher actions (e.g. starting / reviewing an instrument)	385	1.5
Invoicing, exceptional circumstances and finalisation	**4,376**	**16.7**
Finalisation	2,164	8.2
Creating an invoice summary	594	2.3
Exceptional circumstances claim process / rules	52	0.2
Other invoice / teacher relief related	1,566	6.0
Miscellaneous workflows	**2,061**	**7.9**
AEDC Co-ordinator actions	748	2.9
Teacher / ICC training	682	2.6
Teacher finalisation	366	1.4
Pre-population related query	265	1.0
System performance and site navigation	**697**	**2.7**
Site navigation issue	460	1.8

System access / performance issue	237	0.9

Table 3.11.4 *continued* Reasons for contacting the helpdesk

Outcome description	Number	Percentage distribution
Follow up activity	**2,057**	**7.8**
Message bank follow up	597	2.3
Follow up relating to alert / reminder responses	1,460	5.6
Other miscellaneous	**1,174**	**4.5**
AEDC general queries	614	2.3
AEDC website query /navigation	361	1.4
Accessing previous results / school profiles	171	0.7
Parent query	21	0.1
Complaint received	7	0.0
Total reasons for contacting helpdesk	**26,239**	**100**

Aside from helpdesk traffic related to 'getting started', the other main reason for contacting the helpdesk related to 'finishing off' tasks, such as invoicing and school finalisation (16.7 per cent). This continued to drop from Cycle 3 (17.1 per cent) and Cycle 2 (20.4 per cent).

Despite the introduction of the MCDS items (refer to Section 2.3.4) there were relatively few instrument-related queries (3.6 per cent), suggesting that the teacher training material and online information generally covered the instrument and related issues in sufficient detail.

For a collection of this size and scope, there were relatively few parent queries (21), complaints (7) and queries about confidentiality / privacy issues (11 – not shown separately in Table 3.11.4).

For further information related to detailed and summary-level outcomes, refer to Appendix 3.11.4.

3.12 Invoicing and exceptional circumstances claims

This section reviews financial information, based on the Financial Report and Headline Report.

3.12.1. Invoice submission

In Cycle 4 an invoice was submitted for 99.9 per cent of participating schools with one or more completed instruments (7,492 out of 7,504 schools[1]). This is an improvement on Cycle 3 when 98.3 per cent submitted an invoice and reflects the changes to the workflow for Cycle 4.

The 99.9 per cent invoice submission rate equates to twelve schools not submitting an invoice. Of these, four were New South Wales schools, and seven were Victorian schools.

There were an additional 20 schools which submitted an invoice but refused payment for Cycle 4. Of these, 16 were New South Wales Government schools and four were New South Wales independent schools. For the Government schools, payment was later requested to be made directly to the New South Wales Department of Education.

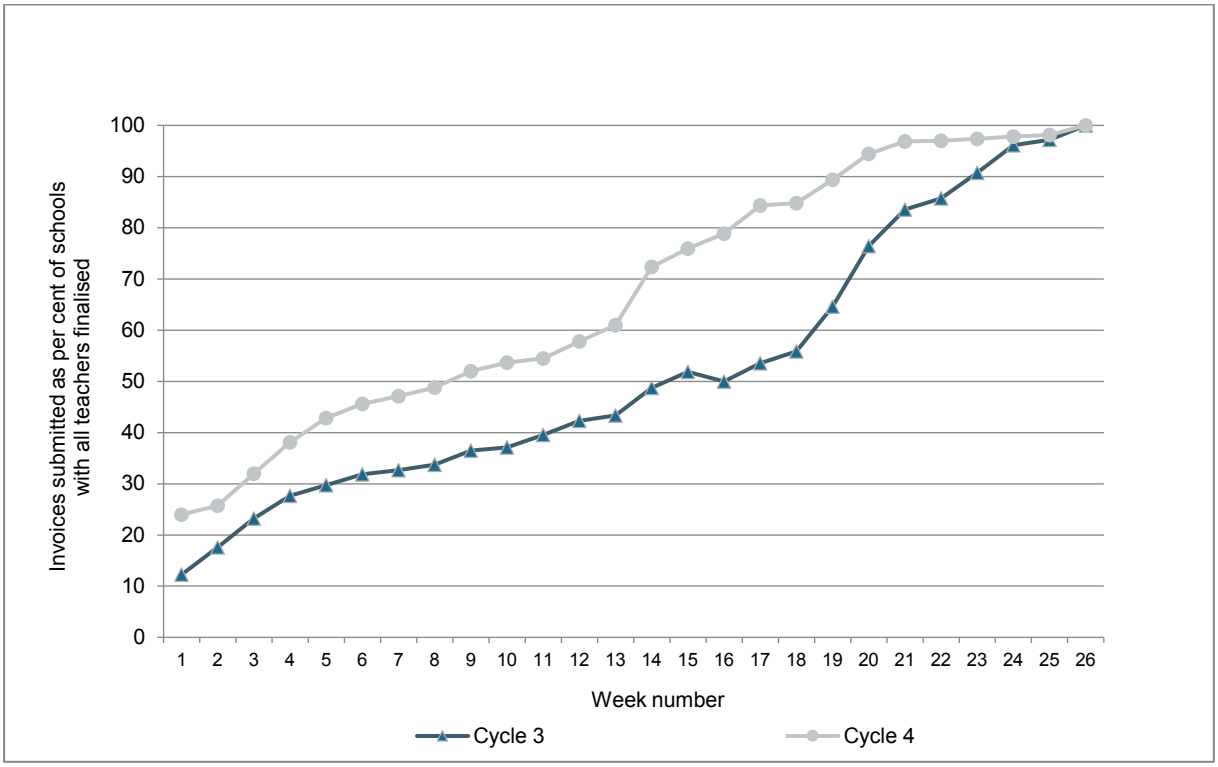
[1] Refers to the 'school' level for the purpose of the administration of the collection, not the 'campus' level.

3.12.2. Invoice submission dynamics

Figure 3.12.2 plots invoices submitted as a per cent of schools with all Teachers finalised for Cycles 3 and 4.

As shown, there was a notable increase in invoices submitted as a per cent of schools with all Teachers finalised throughout the collection in Cycle 4, relative to Cycle 3.

Figure 3.12.2 Invoice submission dynamics



By week 14, the original due date for the completion of data collection, nearly three quarters (72.4 per cent) of schools with all Teachers finalised in Cycle 4 had submitted an invoice, up 23.7 percentage points from Cycle 3 (48.7 per cent).

The difference between the invoice submission rate in Cycles 3 and 4 peaked at the end of week 17, at the conclusion of the data collection extension period (30.8 percentage points higher in Cycle 4 compared to the same time in Cycle 3), when 95.6 per cent of all Teachers had finalised in Cycle 4, and teacher finalisation was automated (to facilitate the invoice preparation process). At this stage, 84.4 per cent of schools with all Teachers finalised in Cycle 4 had submitted an invoice, compared to 53.6 per cent in Cycle 3.

The lift in the invoice submission rate in Cycle 4 is reflective of the simplified invoicing workflow that was implemented in Cycle 4, as well as the effort invested in successive rounds of email reminders. There was also an increase of nearly 10 percentage points in AEDC Coordinators who rated invoice preparation as being ‘easy / very easy to use’ in their feedback survey, from 76.9 per cent in Cycle 3 to 85.4 per cent in Cycle 4.

There is obviously still some lag between teacher finalisation (at which point the invoice preparation process could conceivably begin) and invoice submission, but it is unclear as to whether this is due to administrative processes at schools or other reasons. For Cycle 5, consideration could be given to removing the system requirement for a Financial Manger to submit the invoice and allow the

Coordinator to submit the invoice as the last stage of the finalisation process, with the ability to forward a copy of the invoice to the financial contact for the school / sector (whose details could be pre-populated as part of the school frame).

3.12.3. Exceptional circumstances claims

A total of nine exceptional circumstances claims were paid in Cycle 4 with a total value of $2,746.19. This is a significant decrease in claims relative to Cycle 3, when a total of 147 exceptional circumstances claims were paid (with a total value of $44,604.38).

The average claim amount was consistent across cycles ($303.43 in Cycle 3 relative to $305.13 in Cycle 4). Almost half of the claims (49.7 per cent) in Cycle 3 related to 'login / systems issues', where teacher relief had been booked but could not be used (and had to be re-booked) due to an issue with accessing the data collection system, whereas in Cycle 4 only three claims were made for this reason.

Another issue in Cycle 3, accounting for 50 exceptional circumstances claims (34.0 per cent), related to an additional teacher relief payment, where the three hour minimum payment did not adequately cover the actual cost of teacher relief. In Cycle 4, this issue resulted in only three claims being made.

In addition, in Cycle 3, 19 exceptional circumstances claims (12.9 per cent) were related to post finalisation activities, where the AEDC Coordinator finalised the school, before all teachers had finished instrument completion activity. This issue was not apparent in Cycle 4.

A summary of the Cycle 4 exceptional circumstances claims is shown in Table 3.12.4.

Of the nine exceptional circumstances claims made in Cycle 4, two were for $500 or more, and required department approval.

Whilst there were no significant changes to invoice layout, calculation methods or to the exceptional circumstances claims workflow in Cycle 4, it seems the top three issues that contributed to exceptional circumstances claims in Cycle 3 were avoided in Cycle 4 through workflow improvements made to other areas of the data collection system. It could also be due to STCs better handling the exceptional circumstances claims process with schools.

Table 3.12.4 Summary of exceptional circumstances claims

Reason	Number	As percentage total number	$	As percentage total $	Average $
Additional teacher relief payment	3	33.3	$710.82	25.9	$236.94
ATSI CC payment	2	22.2	$437.73	15.9	$218.87
Login / system issues	3	33.3	$1,423.08	51.8	$474.36
Travel	1	11.1	$174.56	6.4	$174.56
Total	**9**	**100.0**	**$2,746.19**	**100.0**	**$305.13**

3.12.4. Sundry financial analysis

As noted at Table 3.12.3, the 'three hour minimum payment' was triggered at 14.1 per cent of schools where an invoice was submitted. The highest incidence of the payment being triggered was in the Northern Territory Government (24.6 per cent), Queensland Government (22.3 per cent), New South Wales Government (18.6 per cent) and South Australian Government (17.2 per cent) school sectors.

The payment was triggered at one in six (17.2 per cent) Government schools nationally. This underlines the importance of addressing the needs of 'small' schools in the collection.

Based on *Teacher Registration* information, Teachers reported that they spent an average of 43.2 minutes undertaking teacher training activities, slightly longer than in Cycle 3 (42.7 minutes).

3.13 Stakeholder feedback

This section provides an overview of feedback from key stakeholders, including Teachers, AEDC Coordinators and STCs.

3.13.1. Teacher feedback

After finalising their participation in the AEDC by confirming they had completed all instruments, Teachers were sequenced to an online *Teacher Feedback Form* to collect their views on teacher training, the data collection system and the experience of conducting the AEDC. The questions included on the *Teacher Feedback Form* were refreshed for the Cycle 4 collection in order to collect additional information relating to the training materials and the use of an ATSI CC.

Whilst the completion of the *Teacher Feedback Form* was not compulsory, 17,091 (97.6 per cent) of the 17,512 Teachers who completed at least one instrument provided feedback. Table 3.13.1.1 compares the responses to closed ended *Teacher Feedback Form* questions of Teachers with previous AEDC experience, with those who have no previous AEDC experience, as identified in the *Teacher Registration* questions. Table 3.13.1.1, where possible also compares Cycle 4 responses with all previous cycles.

Two new items were added to the *Teacher Feedback Form* for Cycle 4: joint ratings with the ATSI CC and teacher training and resources. Of the 642 Teachers who responded to the feedback survey and had completed instruments with an ATSI CC, 96.0 per cent found it either easy or very easy to make joint ratings with the ATSI CC. Over 95.4 per cent of all Teachers who completed the feedback survey rated the teacher training and resources to be excellent, very good or good.

Feedback on the data collection system was also positive with 98.4 per cent of Teachers reporting they found the data collection system easy to use, up from 97.5 per cent in Cycle 3. The proportion of Teachers who indicated they had experienced technical issues while using the data collection system was reduced to 12.2 per cent in Cycle 4. This represents a substantial decrease from 20.7 per cent in Cycle 3 and is the lowest of all four collections to date.

There was a similar improvement in the proportion of Teachers responding in the positive to the statements 'My involvement in this project will assist our school and local community to better understand health, development and wellbeing of children in our area' and 'Completing the instruments was a good use of my time' improving by 0.8 and 0.9 per cent respectively.

Overall, Teachers with no previous experience participating in the AEDC answered more positively on all elements of the *Teacher Feedback Form* except for the technical issues item. This could be related to their relative lack of familiarity with the data collection system.

Table 3.13.1.1 Summary of responses to *Teacher Feedback Form* closed ended questions

	Previous AEDC experience	No previous AEDC experience	Total Cycle 4	*Cycle 3*	*Cycle 2*	*Cycle 1*
Base	*9,919*	*6,132*	***16,051***	*16,064*	*13,895*	*13,815*
Found instrument easy to complete for all / most children	95.5	97.1	**96.1**	*95.7*	*95.0*	*90.1*
Rated teacher training and resources as excellent, very good or good	95.0	96.1	**95.4**	-	-	-
Found it easy or very easy to make joint ratings with the ATSI CC	94.7	98.0	**96.0**	-	-	-
Found the system easy to use	98.3	98.4	**98.4**	*97.5*	*91.6*	*97.5*
Experienced technical problems using the system	10.5	14.9	**12.2**	*20.7*	*31.1*	*14.9*
My involvement in this project will assist our community to better understand health, development and wellbeing of children in our area	77.8	80.0	**78.7**	*77.8*	*75.0*	*74.8*
The experience of completing Instruments will be beneficial to my work	62.1	61.6	**61.9**	*62.0*	*59.2*	*63.9*
Completing the Instruments was a good use of my time	56.2	59.5	**57.5**	56.6	53.2	59.5

A copy of the *Teacher Feedback Form* is at Appendix 3.13.1.

The *Teacher Feedback Form* included six free text questions, inviting comments about instrument completion (Q2a), training resources (Q3d) teacher training (Q4), parts of the data collection system that were not easy to use (Q5a), technical problems using the system (Q7), and other comments about the AEDC (Q11). For each question, there was a very wide range of responses, with considerable variation in the level of detail provided, and some overlap in content. Responses were grouped into broad themes as presented at Table 3.13.1.2.

Approximately one in thirty (3.5 per cent) Teachers commented on 'what makes instrument completion difficult'. The most common difficulty mentioned related to difficulty accessing information about the student's prior education and care arrangements.

Over ten per cent of Teachers provided a free text response when asked to comment on teacher training (Q4). The majority of the comments regarding teacher training were positive (38.3 per cent), compared to only 5.6 per cent of Teachers responding negatively. There were various other comments made which did not relate specifically to teacher training that referred to collecting background information, IT / website issues and completing the Instrument itself (such as buttons too small etc).

A relatively small proportion of Teachers (1.5 per cent) commented on parts of the data collection system that were not easy to use. Of these, most comments related to instrument features (small buttons, absence of a 'select all' option), rather than other specific aspects of the Teacher workflow.

Table 3.13.1.2 Summary of responses to *Teacher Feedback Form* free text responses

Teacher Feedback Form - responses to free text questions	Number of mentions	As per cent of comments	As per cent teachers completing Feedback Form
Total teachers completing Feedback Form			17,091
Q2a What made the Instrument difficult to complete for children in your class			
Total applicable comments		605	3.5
Access to information about student's previous education / care arrangements	122	20.2	0.7
Questions were difficult to answer due to children's complex / special needs	104	17.2	0.6
Access to information about student (no further information)	91	15.0	0.5
Access to information about student's family / home life	86	14.2	0.5
Problems understanding / interpreting questions	73	12.1	0.4
Answer frame is too restrictive / narrow	33	5.5	0.2
Time consuming / insufficient time frame	32	5.3	0.2
Q3d Why did you rate the training resources in this way?			
Total applicable comments (fair / poor / very poor)		554	3.2
Too much information / time required / boring	185	33.4	1.1
Unnecessary / irrelevant	76	13.7	0.4
Access / navigation / technical issues	62	11.2	0.4
Not enough examples / questions missing explanation	57	10.3	0.3
Q4 Comments about AEDC teacher training			
Total applicable comments		1818	10.6
Positive comment about training generally	486	26.7	2.8
Positive comment about Guide, online training, videos	163	9.0	1.0
Positive comment about information icons	48	2.6	0.3
Negative comment about training generally	65	3.6	0.4
Negative comment about Guide, online training, videos	37	2.0	0.2
Negative comments about collecting background information	176	9.7	1.0
Negative comment about instrument completion process	65	3.6	0.4
Negative comments relating to IT / website issues	127	7.0	0.7
Q5a Parts of the data collection system that were not easy to use			
Total applicable comments		249	1.5
Would like a 'select all' option / answer by question instead of by student	48	19.3	0.3
Time Consuming	42	16.9	0.2
System issue	17	6.8	0.1
Access to background information about student	17	6.8	0.1
Problems understanding / answering questions	17	6.8	0.1
Problems with instrument display / usability	9	3.6	0.1
Teacher training materials	4	1.6	0.0
Q7 Technical problems experienced using the system			
Total applicable comments		1,543	9.0

Other system access / performance problem (system frozen / issues saving data)	494	32.0	2.9

Table 3.13.1.2 *continued* Summary of responses to Teacher Feedback Form free text responses

Teacher Feedback Form - responses to free text questions	Number of mentions	As per cent of comments	As per cent teachers completing Feedback Form
Login / password problem	381	24.7	2.2
Local IT systems problem	298	19.3	1.7
System speed	191	12.4	1.1
Website offline	51	3.3	0.3
Registration problem	51	3.3	0.3
Class list creation / maintenance problem	13	0.8	0.1
Instrument completion problem (size of buttons, etc)	5	0.3	0.0
Q11 Any other comments about the AEDC			
Total applicable comments		1,831	10.7
Positive comment about benefits of AEDC	310	16.9	1.8
Negative comment / no benefit	85	4.6	0.5
Negative comment on time required	305	16.7	1.8
Comment related to auto-filling of instrument	90	4.9	0.5
Difficulty sourcing information	213	11.6	1.2
Concern about relevance of questions	111	6.1	0.6

The number of Teachers providing a comment at the free text question on technical problems experienced with the system was less than half the number providing a comment in Cycle 3. Less than one in ten (9.0 per cent) Teachers provided a comment on technical problems experienced with the system in Cycle 4. Most comments on problems experienced related to system access and performance issues (32.0 per cent), followed by login / password problems (24.7 per cent) and internal IT systems issues (19.3 per cent).

As could be expected, there was a broad range of responses at Q11 (any other comments about the AEDC) from the one in ten (10.7 per cent) Teachers who provided a response at this question. The main themes included positive comments about the AEDC (16.9 per cent), negative comments about the time required for AEDC tasks (21.3 per cent), and the difficulty sourcing information for some questions (11.6 per cent of comments).

3.13.2. AEDC Coordinator feedback

Upon confirming the school is ready to finalise, AEDC Coordinators were sequenced to an online *AEDC Coordinator Feedback Form* to collect their views on supporting materials, using the secure data collection system, support provided by the helpdesk, and the most important issues to address for the next collection. Refer to Appendix 3.13.2 for a copy of the *AEDC Coordinator Feedback Form.*

In Cycle 4, 3,553 AEDC Coordinators provided feedback on their experience with the AEDC, this is significantly less than in Cycle 3 where 5,190 responses were received. This decrease in participation in the feedback survey is likely driven by workflow adjustments which meant the Coordinator completed the feedback survey after school finalisation whereas in Cycle 3, the Coordinator would be asked to provide feedback before being able to finalise.

Table 3.13.2.1 on the next page summarises responses to the closed ended questions on the *AEDC Coordinator Feedback Form*.

Around two thirds (64.4 per cent) of AEDC Coordinators had participated in the AEDC before as either a Principal or AEDC Coordinator (42.7 per cent), a Teacher (24.5 per cent) or in some other capacity (2.9 per cent). Coordinators who had previously participated in the AEDC were asked whether their experience participating in Cycle 4 was better or worse than their last collection. Almost half (45.1 per cent) indicated that it was either much better or better than their last collection, the majority of the balance responded that it was about the same as their prior experience (51.0 per cent).

The proportion of AEDC Coordinators responding in the positive to the statements 'the school's involvement in this project will assist our community to better understand health, development and wellbeing of children in our area' (80.0 per cent), and 'The experience of completing instruments was beneficial to the Teachers at my school' (75.4 per cent) was marginally higher, relative to the equivalent statements for Teachers (78.7 and 61.9 per cent respectively).

Overall, responding AEDC Coordinators found the majority of workflows in the secure data collection system easy or very easy to use. Coordinators were most likely to rate 'keeping track of progress' (95.8 per cent), 'class list creation' (95.3 per cent), 'teacher set up' (95.3 per cent), and 'school activation' (92.9 per cent) positively. Although there was some improvement compared to Cycle 3, 'teacher relief invoice preparation' still had the lowest proportion of AEDC Coordinators finding it easy or very easy to use (84.1 per cent compared to 76.9 per cent from Cycle 3).

The proportion of AEDC Coordinators who reported experiencing technical problems with the data collection system fell by 6.6 percentage points from 22.8 per cent in Cycle 3 to 16.2 in Cycle 4. This is comparable to the Teacher feedback survey where 'experienced technical problems' dropped 8.5 percentage points from 20.7 in Cycle 3 to 12.2 Cycle 4.

For those AEDC Coordinators contacting the helpdesk (53.9 per cent), the level of satisfaction with the service received was extremely high with at least 98 per cent of Coordinators reporting being satisfied or very satisfied across all service domains.

Table 3.13.2.1 Summary of *AEDC Coordinator Feedback Form* responses (closed ended questions)

Item	*Base*	Percentage
Participated in a previous Cycle in some capacity	*3,553*	64.4
Experience of participating in Cycle 4 much better / better than last time	*2,268*	45.1
Experience of participating in Cycle 3 about the same as last time	*2,268*	51.0
Aware of AEDC data collection before school leader pack arrived	*3,553*	66.9
Agree that the school's involvement in this project will assist our community to better understand health, development and wellbeing of children in our area	*3,553*	80.0
Agree that the experience of completing Instruments was beneficial to the teachers at my school	*3,553*	75.4
Easy / very easy to use following aspects of data collection system:		
School activation	*3,553*	92.9
Teacher set up	*3,553*	94.5
Class list creation	*3,553*	95.3
Instrument completion	*3,553*	92.3
Keeping track of progress	*3,553*	95.8
Teacher relief invoice preparation	*3,553*	84.1
Easy / very easy to:		
Navigate the system	*3,553*	92.8
Know what do to next	*3,553*	91.4
Experienced technical problems using the system	*3,553*	16.2
Rated overall experience of using data collection system as good / very good	*3,553*	96.6
Contacted the helpdesk	*3,553*	53.9
Satisfied / very satisfied with service received from helpdesk in terms of:		
Timeliness of response	*1,914*	98.7
Helpfulness of helpdesk operators	*1,914*	98.3
Accuracy of information provided	*1,914*	98.0
Service overall	*1,914*	98.5

There are also several open-ended questions in the *AEDC Coordinator Feedback Form* where Coordinators were asked to provide additional feedback on various aspects of the data collection system. These open-ended questions relate to Coordinators experience relative to previous cycles, AEDC planning information and resources, technical issues using the data collection system, experience with the helpdesk and the main issues to address for next collection. As with the feedback received from the *Teacher Feedback Form*, a very wide range of responses were present on the *AEDC Coordinator Feedback Form*. The most frequently occurring themes are summarised in Table 3.13.2.2, and broadly reflect the pattern of responses in the closed ended questions.

Feedback relating to technical problems while using the data collection system was largely as expected with the most common issues relating to 'account activation problems' (32.2 per cent), 'login / password problems' (28.4 per cent) and 'invoice / finalisation problems' (20.8 per cent).

Table 3.13.2.2 Summary of issues from *AEDC Coordinator Feedback Form* open ended questions

AEDC Coordinator Feedback Form - responses to free text questions	Number of mentions	As per cent of comments	As per cent AEDC Coordinators completing Feedback Form
Total AEDC Coordinators completing Feedback Form			3,553
A2a Comment relating to experience of Cycle 4, relative to previous Cycles			
Total AEDC Coordinators making comment		*400*	*11.3*
No problems / everything was good (no further information)	64	16.0	1.8
System was confusing / difficult to use / technical issues	35	8.8	1.0
More / better information than previous years	59	14.8	1.7
System was easier to use / more user friendly	59	14.8	1.7
Time consuming / took longer	27	6.8	0.8
B2a Comment regarding timing of provision of School Leader Pack			
Total AEDC Coordinators making comment		*355*	*10.0*
Positive comment about timing	91	25.6	2.6
Timing coincided with report writing / other busy period	57	16.1	1.6
Insufficient information in School Leader Pack / School Leader Pack not received	41	11.5	1.2
Not enough notice / would like to receive pack earlier	38	10.7	1.1
B5 Comment regarding planning information and resources			
Total AEDC Coordinators making comment		*273*	*6.6*
Positive comment (general)	87	31.9	2.4
Negative comment (general)	39	14.3	1.1
Positive comment about Parent Information Letter	48	17.6	1.4
Negative comment about Parent information Letter	18	6.6	0.5
D4 Technical problems experienced using the system			
Total AEDC Coordinators making comment		*457*	*12.9*
Account activation problem	147	32.2	4.1
Login / password problem	130	28.4	3.7
Website offline	11	2.4	0.3
Other system access / performance problem	56	12.3	1.6
System speed	12	2.6	0.3
Local IT systems problem	35	7.7	1.0
Class list creation / maintenance problem	40	8.8	1.1
Instrument completion problem (size of buttons, etc.)	15	3.3	0.4
Invoice / finalisation problem	95	20.8	2.7
E3 Helpdesk comments			
Total AEDC Coordinators making comment		*286*	*8.0*
Positive comment about helpdesk (including operators)	228	79.7	6.4
Helpdesk couldn't fix problem	21	7.3	0.6
Helpdesk service prompt	35	12.2	1.0

Helpdesk service slow	7	2.4	0.2
No response / trouble getting through to operator	6	2.1	

Table 3.13.2.2 *continued* Summary of issues from *AEDC Coordinator Feedback Form* open ended questions

AEDC Coordinator Feedback Form - responses to free text questions	Number of mentions	As per cent of comments	As per cent AEDC Coordinators completing Feedback Form
F1 Most important issue to address			
Total AEDC Coordinators making comment		*1,135*	*31.9*
General positive comment about AEDC	106	9.3	3.0
Require more time / funding to complete	174	15.3	4.9
Negative response to time of year that AEDC is conducted	146	12.9	4.1
Account creation / registration / login process	114	10.0	3.2
Difficulty collecting required information	164	14.4	4.6
Improved training / information / resources	281	24.8	7.9
Invoicing / finalisation process	102	9.0	2.9
Communications about how results / data can be used	102	9.0	2.9

AEDC Coordinators were asked what the three main issues are to address for future collections. The most common responses were categorised under 'Improved training / information / resources' with almost one in four Coordinators mentioning resources, with the majority of these comments related to simplification of resources including the *parent information letter.* Other common categorised responses included 'require more time / funding to complete' (15.3 per cent), 'difficulty collecting required information' (14.4 per cent) and 'negative response to time of year that AEDC is collected' (12.9 per cent).

3.13.3. ATSI CC feedback

A total of 1,062 schools received some kind of support from an ATSI CC in Cycle 4. ATSI CCs could register on the data collection system for Cycle 4 however this was not compulsory which meant hosting the *ATSI CC Feedback Form* in the secure data collection system (like the Teacher / Coordinator forms) was not be feasible.

Where the ATSI CC had registered on the data collection system, they were sent an email inviting them to provide feedback about their experience completing the AEDC via an external link. If the ATSI CC did not register on the data collection system, an email was sent to the AEDC Coordinator from their school requesting they provide the link to the ATSI CC.

Over the course of Cycle 4, 316 ATSI CC's were invited to provide feedback directly and 750 schools were emailed the link to the feedback survey to be passed onto their ATSI CC. A total of 183 responses to the ATSI CC Feedback Survey were received, equating to a response rate of 17.2 per cent.

Of these, 83 completed instruments together with the classroom teacher and were eligible for more detailed questioning about their experience of participating in the AEDC. A further 92 provided general advice, either about individual children, or not specific to a child.

Of the 83 ATSI CCs who completed instruments together with the classroom teacher:

- 44.6 per cent completed instruments for five or more children
- 83.1 per cent found the instrument easy to complete for all or most children
- 84.3 per cent found it easy or very easy to make joint ratings for the instrument questions
- 38.6 per cent thought their input was most valuable for the background information questions, equal with physical health and wellbeing (38.6 per cent), followed by social and emotional development (36.1 per cent), language and cognitive skills (28.9 per cent) and emerging needs (25.3 per cent).

ATSI CCs who completed instruments with a Teacher were also asked to provide feedback about the AEDC and their contribution as an ATSI CC:

- 88.0 per cent thought they could contribute cultural knowledge
- 86.7 per cent felt their contribution was valuable
- 84.3 per cent responded positively to the statement 'my involvement in this project will assist our community to better understand health, development and wellbeing of children in our area'
- 75.9 per cent thought completing instruments was a good use of their time.
- 73.5 per cent thought the experience of completing the instrument will be beneficial to their work.

A slight improvement in the response rate achieved in the Cycle 4 *ATSI CC Feedback Form* and considerably more invitations sent has resulted in more detailed ATSI CC feedback being available in comparison to Cycle 3. There is still capacity to improve the response to the *ATSI CC Feedback Form* for future collections, this could include collection of the ATSI CC email address regardless of their intent to register on the data collection system and more frequent reminder activity.

3.13.4. STC feedback

Towards the end of the invoice submission period, formal STC feedback was sought on the entire data collection process. A *STC Feedback Form*, which was a list of prompts reflecting various stages of the workflow, was circulated to STCs in two parts, covering each stage in the workflow, for STCs to provide written feedback. Feedback was only received from a few STCs despite numerous reminders.

The main issues arising from STC feedback, ordered by prompt list theme, included:

- **System specification and testing** – whilst the feedback relating to the 'design preview' process and the 'system orientation session' was positive, STCs felt that field testing with school stakeholders would be helpful. Limited feedback was received from STCs during the testing phase and they noted that this was due to conflicting demands and time constraints, as well as uncertainty if issues had already been raised and were in the process of being resolved.
- **Workflow** – STCs were positive about workflow changes and advocated for the continuation of the 'impersonate' function. STCs were complimentary about the ability to pre-populate Government sector bank details, the simplified activation process and improved dashboard functionality.
- **Data collection system features** – 'impersonate' functionality continues to be well received by STCs. There was a call for greater clarity around coding requirements for 'refused' schools and more detailed instructions regarding the recording of students who had left /

moved schools. Some considered the role of Financial Manager to be redundant and advocated for the removal of the requirement for a Financial Manager. There were multiple comments regarding improvements which could be made to the finalisation and invoicing process including clarification of terms and requirements.

- **School frame preparation and management –** Some continued frustration with the school frame preparation and cleaning process. Some felt that school frame requests were too close to one another and could be reduced.
- **Pre-population –** STCs were generally very positive about centralised pre-population, however feedback indicated the need to provide sufficient lead time and documentation to support independent sector schools to undertake pre-population. There was also a suggestion relating to the sharing of strategies from jurisdictions with high pre-population rates.
- **Supporting documentation** – STCs were supportive of the continuation of provision of hardcopy School Leader and Teacher Packs with increased use of screenshots in these packs would be helpful.
- **Helpdesk** – STCs were complimentary about helpdesk staffing levels and knowledge, but there were several comments requesting increased visibility of helpdesk communications with schools (including a request to link STC and helpdesk notes) and clarity around helpdesk staff members' role in data collection. Some STCs believed helpdesk staff should be provided with sector / jurisdiction specific messages in order to ensure increased consistency and accuracy of responses.
- **Progress monitoring** – the improvements to the STC dashboard were generally very well received. STCs suggested a number of changes should be made to the dashboard including increased filtering capability and more detailed progress tracking for schools i.e. breakdown of the stages provided, or alternatively some training to better utilise the 'Schools tab' export data.
- **Maximising participation** – as for previous cycles, there was unanimous feedback that personal follow up by telephone by the STC was the most effective method of encouraging response, and that data collection system alerts and reminders were an important component of the response maximisation strategy, with support to retain the flexibility to tailor content and timing of reminders by jurisdiction. There were comments that sharing of strategies for increasing participation by STCs from jurisdictions with high participation rates would be appreciated.
- **Invoicing and exceptional circumstances** – STCs supported the simplified finalisation and invoicing workflow with request for further refinement next cycle, such as removing the role of the Financial Manager (or make this optional) and allowing the Principal of their nominee to enter bank details at activation. Pre-population of centralised Financial Managers was well received by some STCs (though not well utilised by others).
- **ATSI CC engagement** – The ATSI CC video resource was found to be helpful. There was support to build in a mechanism to report ATSI CC usage by ATSI CC availability and include ATSI CC availability at a school on the dashboard.
- **Data cleaning –** STCs were generally pleased with the data cleaning process. Adequate time was allowed for the process. Some suggested more explicit descriptions and directive

instructions for required tasks would have been helpful. Some STCs suggested it might be beneficial if data managers could work together to establish children who had moved states.

- **Sense checking outputs** – STCs found this part of the cycle quite straightforward, requiring little to no support to complete. Some STCs were uncomfortable with the level of responsibility allocated via this task and wanted reassurance that this was not the only validity check carried out on the data, while others wanted to be able to carry out sense checking on regional and community level data.
- **School Profile dissemination** – STCs commented that the ability to tailor messaging and use school education portals was valuable. For most jurisdictions School Profile dissemination went smoothly however, due to system blockages, one jurisdiction had difficulties accessing the secure file exchange. STCs would appreciate the ability to see the number of helpdesk calls received in relation to accessing School Profiles via the secure file exchange. The Victorian STC commented that the preference in Victoria will always be to upload the School Profile and addendum via their principal's portal.

The *STC Feedback Form* asked STCs to nominate the three most important issues to address for Cycle 5. The most frequently mentioned issues were the school frame management process, pre-population for the independent sector and further refinements to progress monitoring.

The *STC Feedback Form* also asked STCs to nominate the three most important system / workflow features to retain for Cycle 5. The most frequently mentioned features were the 'impersonate' functionality for STCs, the simplified activation process and improved dashboard functionality.

Refer to Appendix 3.13.4.1 and 3.13.4.2 for a copy of the feedback forms.

3.13.5. Helpdesk operator feedback

Several helpdesk operator de-briefings were held over the course of the school activation, data collection and invoice submission periods. The main workflow and system features-related issues arising from helpdesk operator feedback included:

- a review of the 13 character password requirement prior to the next data collection. Password recovery has been a consistent driver of traffic to the helpdesk in past collections and feedback to the helpdesk suggests a shorter password with additional requirements for special characters / numerals would be easier to remember
- the helpdesk found Teachers and AEDC Coordinators were more willing to receive supporting materials in a digital format (electronic *School Leader / Teacher packs*) instead of hardcopies. In Cycle 3 there was a sense that schools remain quite 'attached' to paper copy supporting materials, but this did not appear to be the case from the helpdesk operators' perspective for Cycle 4
- feedback from AEDC Coordinators that the 'information you will need' page, which includes unfolding information hidden under clickable headings to be unnecessary and confusing. Suggestions include allowing the Coordinator to save their progress in this workflow so they can easily return if necessary
- the link 'go to secure data collection system' is not intuitive and could be made clearer with alternative language
- reasons for non-participation could benefit from some instructional text or from being covered in more detail in supporting materials so it is clear to Teachers which children

should be recorded as ‘not participating’ and for which children Teachers should complete the background information questions (before skipping the main part of the instrument)

- expansion of the key steps document to include a ‘who is responsible’ column for each step
- the change of language from ‘the Instrument’ to ‘the AvEDI’ was reported to the helpdesk as harder to follow
- there were isolated instances of the helpdesk being unaware of email alert and reminder activity being undertaken by STCs, which compromised the helpdesk’s capacity to respond to queries in the optimal way.

Helpdesk operators provided positive feedback on the refinements made to the teacher relief reimbursement and school finalisation process. The removal of the requirement for Coordinators to log back in and finalise the school following invoice submission made the finalisation process much smoother.

3.14 School Profile download summary

As noted in Section 2.16.2, there was a change to School Profile method of dissemination in Cycle 4. In Cycle 4, these were emailed directly to principals via a secure link using SRC’s secure file exchange which avoided the need for an activation code. Jurisdictions also had the option to upload their School Profiles to their sector educational portals, which was handled by the various sectors.

Cycle 4 School Profiles were initially emailed to schools in November 2018 and then updated with Addendum information and redistributed in March 2019 following national launch.

Table 3.14.1 shows the School Profile and / or Addendum download rates by jurisdiction / sector as at April 2019. As shown, nationally 62.2 per cent of schools downloaded their School Profile and this was higher for Government sector schools (64.8 per cent) than Catholic (58.9 per cent) and independent (58.0 per cent) sector schools. Download rates were highest in Tasmania (80.0 per cent, excluding Government sector) and South Australia (72.2 per cent) and lowest in the Australian Capital Territory (55.4 per cent).

Table 3.14.1 School Profile download rates by jurisdiction and sector

Sector within jurisdiction	Total sent	Revised base*	Download rate (School Profile and / or Addendum)
National	6,155	4,601	62.2
Government	4,209	2,655	64.8
Catholic	1,249	1,249	58.9
Independent	697	697	58.0
New South Wales	1,971	1,971	62.5
Government	1,353	1,353	62.7
Catholic	420	420	63.1
Independent	198	198	59.1
Victoria	1,488	473	56.9
Government	1,015	n/a	n/a
Catholic	349	349	55.6
Independent	124	124	60.5
Queensland	1,145	1,145	58.3
Government	795	795	62.6
Catholic	209	209	42.6
Independent	141	141	57.4
Western Australia	770	231	67.1
Government	539	n/a	n/a
Catholic	123	123	74.8
Independent	108	108	58.3
South Australia	518	518	72.2
Government	360	360	80.8
Catholic	83	83	59.0
Independent	75	75	45.3
Tasmania	55	55	80.0
Government	0	n/a	n/a
Catholic	29	29	86.2
Independent	26	26	73.1

Australian Capital Territory	101	101	55.4
Government	63	63	49.2
Catholic	24	24	58.3
Independent	14	14	78.6
Northern Territory	107	107	59.8
Government	84	84	61.9
Catholic	12	12	66.7
Independent	11	11	36.4

*Note: *Revised base is the 'Total sent' column with WA and VIC Government schools removed as downloads cannot be tracked*
***Tasmanian Government schools were excluded from the mailout entirely.*

4. Summary of issues for future collections

Whilst Cycle 4 could be considered a success in terms of headline school participation and child participation measures, there remain many opportunities for incremental improvement across a range of logistical, operational and technical aspects of the project.

The summary comments below should be read in conjunction with the detailed issues for consideration for future collections in Sections 2 and 3.

1. Data collection system specification and workflow development schedule

A decision would ideally be made early in the contract period (June 2020 at the latest) as to whether the data collection system needs to be tested, finalised and available for demonstration, with full supporting documentation, two to three months ahead of the start of Cycle 5 data collection.

To have the 'full system' available for demonstration would require all jurisdictional requirements to be finalised earlier than they were in Cycle 4 (such as by the end of 2020) so there is an adequate window for data collection system / workflow customisation and testing, as necessary, to accommodate jurisdictional requirements. Alternatively, the system that is made available for testing and demonstration could be the 'core' model and not include jurisdictional requirements.

It will be important to understand from STCs what resources would be best to support them with engagement and demonstration in schools, such as a demonstration video, workflow diagrams, etc.

It will also be important to develop a process which focuses stakeholders on the detail of the system specification and testing, with a view to minimising re-work and / or the incorporation of additional features late in the development and testing cycle.

2. Approach to field testing

The need to incorporate field testing for Cycle 5 should be determined by the extent of the changes made to core workflows. In Cycle 4, it was deemed unnecessary.

Field testing is considered appropriate at both the initial 'design preview' stage, and as part of final testing of the data collection system and supporting materials.

There are a number of areas in the workflow where there is evidence of some misunderstanding of the intended workflow, such as recording children where the Teacher has known the child for less than one month as 'non-participating' rather than completing demographics and 'skipping' the instrument, as well as the finalisation process. A comprehensive field testing phase would help resolve these types of issues. Other potential areas of the workflow that may benefit from field testing relate to improved functionality for Financial Managers responsible for multiple schools, or if the role of the Coordinator is increased to cover invoice submission, or the communications in relation to 'early activation' (refer also 6 below).

3. Data collection system roles

Changes to the Principal role in Cycle 4 (Principal invoice approval option removed entirely) was considered a significant improvement and addressed blockages in the finalisation and invoicing workflow.

Role analysis revealed a fair degree of overlapping roles within the data collection system. Whilst the role of the Financial Manager was reduced in Cycle 4 (as tasks such as entering ATSI CC training

details and bank account details could be done by the Coordinator) consideration should be given to removing the role of the Financial Manager entirely and have the Coordinator submit the invoice as part of the finalisation process.

There seems no valid reason to discontinue the (optional) ATSI CC registration process that was introduced in Cycle 4. However, the workflow and supporting documentation should be reviewed to ensure this process is made as simple as possible.

4. Planning for pre-population

Draft pre-population specifications were prepared, and jurisdictional stakeholders were consulted in October 2017, prior to distributing final pre-population specifications in February 2018 for Cycle 4. These included a clear deadline for information provision (April 2018) and adequate time (several months) for preparation of data. Despite this, a significant number of pre-population files were received late, mostly from the independent sector, putting strain on the data collection system opening in time for activation. This suggests there is scope for improved / earlier communications around pre-population in Cycle 5.

It would be useful to understand the ideal timeframe when STCs would like to talk to their independent sector representatives about the pre-population options and ensure all related functionalities (such as the 'bulk upload' feature) are finalised in time.

It is also particularly important to understand the implications of jurisdiction specific variations to the standard pre-population workflow (privacy agreements, etc.) as early as possible in the system specification cycle.

5. School frame management

School frame preparation and management is recognised as a particularly challenging aspect of data collection for the AEDC. In Cycle 4, a school frame specification was developed for the first time, similar to the pre-population specification, so that jurisdictional data managers could generate school frame information three times between November 2017 and February 2018, to support awareness building activities and *School Leader Pack* distribution. School frame management activities were driven from jurisdictional lists (rather than Australian Government lists, as was the case in previous cycles) following consultations with jurisdictional data managers undertaken in September 2017.

Regardless of the mechanism chosen for providing school frame lists (Government or jurisdictional), there must be capacity to generate a school frame list 'on demand' to support communications, and stakeholders must be primed to accept that it is more efficient to (re-)generate a list according to a specification from the source jurisdictional data, rather than edit / review a list that may quickly become out of date.

Queries from attempting to reconcile school frame information with participation history caused delays and created the need to send the packs out in batches in Cycle 4. This should be avoided for Cycle 5, particularly due to the proximity of Easter holidays to the planned *School Leader Pack* distribution date. As such, the reconciliation process with historical data should be brought forward in Cycle 5 to allow sufficient time to resolve queries. Consideration could also be given to relaxing the focus on 'scope' status until reconciliation of school frame against pre-population data is done in May.

STCs are tasked with flagging a number of important fields in the school frame (new schools, schools not in scope / refusal (and reasons), flags for participation and / or communication through head campus for multi-campus schools and centralised Financial Managers etc.), many of which were poorly populated in Cycle 4 and require more attention for the next cycle.

The integration of Cycle 4 variables relating to ATSI CC access and usage into the Cycle 5 school frame will enhance the STC's capacity to undertake targeted outreach and follow up activities.

6. Communications, scheduling and logistical issues

The opening of the data collection system for school activation that coincided with the distribution of *School Leader Pack* information was retained for Cycle 4, though some jurisdictions ran into issues with school frame delays and then school holidays, meaning that activation opened prior to some schools receiving their packs. Jurisdictions also had the ability to combine *School Leader / Teacher Pack* dispatch in Cycle 4 and whilst the tailoring of the timing of pack distribution was appreciated by STCs, there is some concern that distributing *Teacher Packs* too early may result in packs being misplaced. The 'early' distribution of *Teacher Packs* also has implications for the broader project schedule, as there is a need to ensure the full system is finalised earlier than may otherwise be required.

There is strong STC support to continue with hard copy packs, though helpdesk evidence suggests electronic packs are acceptable.

The calendar concept that was introduced in Cycle 4 was well received and should be retained for Cycle 5, as one method to help get the AEDC into school calendars and ensure school stakeholders are aware of key dates.

Consideration could be given to a discrete 'early activation' phase in Cycle 5 and putting more effort into getting schools to activate early. This might mean working towards an activation deadline such as the end of Term 2 or the start of data collection, rather than leaving activation open until the end of data collection as it has been in previous cycles. It is not ideal having no read on schools' intentions and effort wasted 'chasing' schools to activate late in the data collection period. Stakeholders would need to help flesh out the best approach to the operationalisation of this concept, as well as appropriate communications. School materials would need to be re-designed to prioritise 'activation' over 'preparation'. Distinct activation reminder activity would also need to be introduced, and STCs would need to invest effort in following up schools which have not activated much earlier in the overall data collection period.

Subject to School Profile release decisions, there may also need to be investment in strategies that seek to avoid the need for an extension to the data collection period in Cycle 5, such as limiting the core collection period to Term 2, and using Term 3 to 'tidy up' etc.

7. Invoicing workflow and related matters

The invoicing workflow was much improved in Cycle 4 with the introduction of a 'single teacher relief reimbursement rate' structure per sector within jurisdiction and simplifying the invoicing and finalisation process.

STCs should be tasked with ensuring all jurisdictional requirements relating to invoicing are known prior to December 2020 / January 2021 when web development would ideally close to ensure any custom workflow functionality is built into the system to alleviate manual processing. This includes the use of centralised Financial Managers, centralised bank accounts (using the relevant variables in the school frame), and the process for reimbursing ATSI CC usage if this differs from the standard workflow etc.

STCs would ideally also be more accountable for ensuring the teacher relief reimbursement rates are correct, as errors have occurred in the last two cycles in specific jurisdictions, and significant manual effort has been invested in correcting errors.

The number and amount of exceptional circumstances claims made in Cycle 4 was significantly lower than previous cycles, despite no significant changes to the workflow (likely the flow on effect of other workflow improvements). We therefore recommend leaving this workflow unchanged for Cycle 5, rather than invest in a fully integrated exceptional circumstances workflow.

8. Helpdesk resourcing

Cycle 4 saw the helpdesk achieve its primary KPI for the first time, exceeding 90 per cent of calls taken in real time. The helpdesk's other primary KPI - returning / actioning calls within 24 hours also saw improvement in Cycle 4.

Feedback on helpdesk performance is overwhelmingly positive and its resourcing plays a pivotal role in the successful delivery of data collection.

Initiatives to further improve the helpdesk's responsiveness in Cycle 5 include utilising Interactive Voice Response (IVR) for inbound telephone calls to pre-identify the caller's query and channel the call to an appropriate operator, who will specialise in a specific area of the workflow.

9. Instrument content and presentation

Continued effort to post-populate child attendance data is warranted with a view to relieving teacher burden and improving data quality etc. A number of jurisdictions / sectors successfully post-populated this in Cycle 4, and the availability of this data in administrative systems may have increased by Cycle 5.

Consideration could be given to expanding pre or post population for Cycle 5, through the inclusion of other instrument items or items of analytical interest that may be captured in school enrolment forms and could enrich the AEDC data.

An early decision (at least 12 months prior to the commencement of Cycle 5 data collection) regarding the inclusion of the MCDS items would be appreciated, as this has implications for communications, system displays (e.g. refining the logic checks which trigger the presentation of MCDS questions) as well as other aspects of collection such as invoicing.

10. ATSI CC engagement and related issues

There was a lot of effort invested in Cycle 4 to improve ATSI CC utilisation and engagement in the AEDC, with modest results. Improved context for ATSI CC usage was available through the inclusion of a question relating to 'access to an ATSI CC' into the school activation process, and this information should be incorporated into the STC dashboard, progress reporting and the Instrument completion workflow for Cycle 5.

Consideration could be given to a more comprehensive analysis than that presented in Section 3.3.4 of this report to build a more compelling story around the value of the ATSI CC's contribution to instrument completion.

11. Maintaining the participation rate

It is clear that there are a range of challenges with regard to maintaining engagement with schools, with the independent sector engagement a particular challenge, especially in New South Wales and Victoria.

After four cycles there still seems to be some question around the value of the AEDC and it will be important to strengthen the messaging of the value of the AEDC in all communications.

New schools represent a priority group for a separate engagement strategy for STCs to target to reduce the risk that they will choose not to participate in Cycle 5. Non-participating schools may require a separate strategy also, particularly those which have participated previously but chose not to participate in Cycle 4. There is significant information about schools' participation history available to STCs to enhance their participation maximisation activities, however, it may require more specific training to enable STCs to better utilise the reports and outputs available from the STC Dashboard.

It will be important to ensure STCs fully record reasons for school non-participation, and enhancing functionality to collect this information in the data collection system will help provide insight into the types of engagement strategies that may be required to maintain the participation rate in the future.

There is a general sense that efforts must be made to 'get schools on board' earlier and to ensure schools have a generous and respectful window for planning, whilst avoiding the need for an extension to data collection. Sharing strategies and learnings from jurisdictions / sectors which performed strongly when the system opened for activation / Instrument completion should be encouraged.