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Social Science Research

Learning through COVID-19

Maximising educational outcomes for Australia's children and young people experiencing disadvantage

Pillar 1 Report:
Who are the students most at risk of falling behind in their learning?

Title:	**Pillar 1 Report: Who are the students most at risk of falling behind in their learning?**
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Director (or delegate)

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Executive Summary

In Australia, many schools shifted to remote schooling for parts of Terms 1 and 2 (and Term 3 in Victoria) as the result of school closures in response to COVID-19. The impact of COVID-19 has also significantly affected families' health and socio-economic circumstances. Some children and young people already experiencing disadvantaged circumstances may be at greater risk of poorer educational outcomes now than they would have been had the pandemic not occurred.

The *Learning through COVID-19* project is an immediate assessment (less than six months) that aims to understand the experience and needs of children and young people already at risk for poorer wellbeing, educational outcomes and future employment, whose risk of educational disadvantage has increased as the result of COVID-19. The project will also provide an evidence-based platform to respond to these students' needs in the recovery from COVID-19.

The *Learning through COVID-19* project is structured across three interrelated stages of work (Pillars 1 to 3) that are designed to inform solutions to address worsening educational disadvantage. This Report summarises rapid literature reviews, data analyses, and a scan of current government responses undertaken in the first stage of the project (Pillar 1). This information informs the activities to be undertaken in the next stage (Pillar 2).

What do we know about the educational impacts of COVID-19?

The recent literature about the potential impacts of COVID-19 on education deals mainly with the immediate consequences of school closure. The consequences that impact on student educational outcomes fall into four categories: teacher capacity, lost learning and student engagement, student mental health and wellbeing, and parent and carer support (see box). This work relates largely to the overall student population, with only a small number of studies considering the impact of COVID-19 on those already at risk of poorer outcomes.

COVID-19 educational impacts: Emerging issues

Teacher capacity

- Lack of digital literacy and resources
- Substantially increased workloads
- Mental health impacts

Lost learning and student engagement

- Students tend to learn less when home learning
- Student engagement with online learning varied
- Disadvantaged students less resources for home learning

Student mental health and wellbeing

- Concern over the health impacts of COVID-19
- Reduced social connections during lockdowns
- Uncertainty and concern for the future

Parent and carer support

- Parents working from home during school closures
- Parents lacked teaching and digital literacy skills
- Higher challenges among parents from lower SES

Who are the students at risk of poorer educational outcomes?

Learning through COVID-19 focuses on three cohorts of students likely to be most affected by the educational disruption of COVID-19:

- Cohort 1: Young children who started school already behind.
- Cohort 2: Older students who were already at risk of disengagement, who may not return to school but whose employment prospects have worsened.
- Cohort 3: Children and young people who have had contact with the child protection system.

Based on rapid literature reviews and secondary data analysis, we have established these three cohorts of children and young people are already at risk of poorer educational outcomes, and that their educational disadvantage could potentially worsen as a direct result of COVID-19. We have also identified risk factors within and across these cohorts that are potential correlates or mechanisms for heightened educational disadvantage.

The risk factors we identify are based largely on evidence that predates the pandemic but is relevant for understanding its effects (see box). However, across all three cohorts, there is an urgent need for additional, high-quality research that investigates the impact of COVID-19 on these three cohorts and the possible solutions to address these impacts. The risk factors identified in this Report are a preliminary guide to risk factors for worsened educational disadvantage that might be triggered by COVID-19. Pillars 2 and 3 will extend and refine these risks by providing critical data on the newly emerging risk factors in response to COVID-19, diversity and significance of the risks identified, and the key mechanisms for targeting of effective solutions.

Risk factors likely to be exacerbated by COVID-19				Sub-cohorts likely to be at increased risk due to the impact of COVID-19
	Cohort 1: *Young children starting school behind*	Cohort 2: *Older students at risk of disengaging*	Cohort 3: *Children and young people in contact with the child protection system*	
Student	Health issues	Mental Health issues	Health and Mental Health issues	Boys in any of these cohorts
Family	Socioeconomic status	Socioeconomic status	Economic and social stresses	Children and young people from low socio-economic backgrounds
	Poor home learning environments		Poor home learning environments	Children and young people of Aboriginal or Torres Strait Islander descent in any of these cohorts
			Maltreatment/Violence	Older students in cohorts 2 and 3 who are also refugees
			Placement instability	Children and young people with poor English proficiency (English not their first language) in any of these cohorts.
School		Limited connectedness to school and teachers	Limited connectedness to school and teachers	Older students in cohorts 2 and 3 who have a history of suspension
		Absences/truancy	Absences/truancy	
			Schooling mobility	
Community		Youth unemployment	Youth unemployment	

The risk factors for educational disadvantage that are likely to be exacerbated by COVID-19 are a result of compounding risks that are experienced by the students as a result of their individual, family, school and community circumstances. These factors are also likely to be compounded further depending on their geographic location, which is also explored in this report.

What is the current government response to the educational needs of students experiencing disadvantage?

A comprehensive review across the States and Territories identified three categories of government response that are broadly targeted at all children and young people and their families (see box). Only a small number of actions by government were specifically aimed at the three cohorts, with the exception of advice and guidance provided directly for foster and kinship carers and the provision of continued supervised school attendance for those from disadvantaged backgrounds (i.e. children in Out of Home Care or considered to be at risk of harm or vulnerable).

State and Territory Government key responses to support students and families

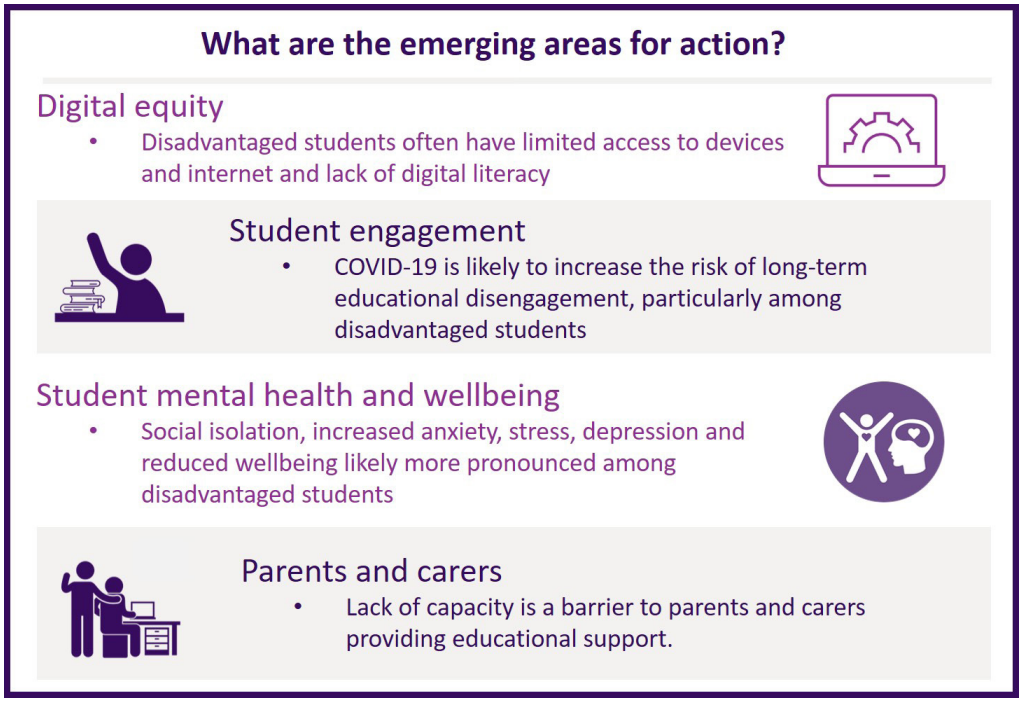
- Developing online information, tools and resources
- Providing funding and resource support
- Adapting school reporting and assessments

Despite the government responses already in place in response to COVID-19, some gaps in the response are evident. In general, the current responses mainly offer a 'broad brush' approach, with limited evidence to suggest consultation and co-design with students and their families, or targeted and tailored actions that recognise the risk factors and address the needs of students experiencing disadvantage.

Moreover, there is a lack of strategies or plans across the States and Territories for addressing the longer term impacts of COVID-19 on the education outcomes of already disadvantaged students and student mental health. Limited attention has also been given to rural and remote contexts, where challenges in providing high-quality education and student supports can be exacerbated under school closures.

What are the emerging areas for action?

Early commentary on the likely immediate education impacts and responses to COVID-19 included a number of recommendations. Most of these are targeted at the school (and mainly at teachers), with limited advice or information on long-term action or how to affect change at the community level. Four emerging recommendation themes are evident that are strongly aligned to the categories of educational impact of COVID-19 found in the literature published in response to COVID-19 so far (see box).



A comprehensive catalogue of these recommendations that is mapped by student, family, school and community is provided in this report. As the COVID-19 situation evolves, new actionable insights will emerge through the published literature and through this *Learning through COVID-19* project.

Next steps

The information provided about students' risk factors and the likely impact of COVID-19 will be validated and expanded upon by consulting with families, children and young people from the three cohorts as part of the Pillar 2 activities. The Pillar 2 activities will allow us to better understand the issues, the responses, and what will work to support these students.

Targeted stakeholder consultation will be undertaken in Pillar 2 to confirm and expand on what responses have been undertaken to support students, in particular from the three cohorts that we have identified as experiencing disadvantage and to explore what else could be done. Children, young people and their families will also be consulted to expand on what has and has not worked for them.

Background

According to the United Nations (2020), school closures in response to COVID-19 have impacted 94% of the world's student population. COVID-19 has not only disrupted schooling, but has also significantly affected families' health and socio-economic circumstances. Children and young people already experiencing disadvantaged circumstances will potentially be at risk of poorer educational outcomes as a result.

The *Institute for Social Science Research* (ISSR) at the University of Queensland is undertaking a study, funded by the Paul Ramsay Foundation, to explore the impact on learning through COVID-19. The study aims to understand the experience and needs of children and young people already at risk for poorer wellbeing, educational outcomes and future employment prospects, and provide an evidence-based platform to respond to these students' needs.

Based on previous studies, three cohorts of students have been identified as likely to be most affected by the educational disruption of COVID-19:

- **Cohort 1: Young children who started school already behind;** defined by identification as developmentally vulnerable on two or more domains by the Australian Early Development Census (AEDC) for children in their first year of formal compulsory schooling (or appropriate proxies where AEDC data are not available).
- **Cohort 2: Older students who were already at risk of disengagement;** who may not return to school but whose employment prospects have become very much bleaker; defined by Year 10, 11, and 12 students with school attendance below a 90% threshold (or appropriate proxies where detailed attendance data is not available), except for those who do so to take up employment or alternative learning or training opportunities.
- **Cohort 3: Children and young people who have had contact with the child protection system;** defined by having had at least one referral of abuse or neglect to child protection systems, or been referred because of involvement in youth justice.

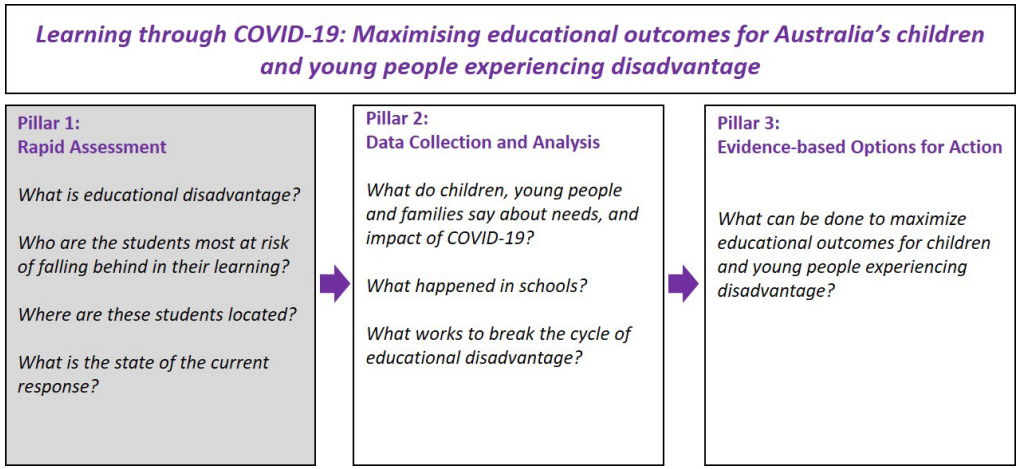
COVID-19 is not a single event, and there are many potential stages of impact – some that have already occurred, some that are emerging, and others that we need to anticipate. Combining evidence from the literature, policy and practice reviews, and listening to key stakeholders and children, young people, and their families, this *Learning through COVID-19* project will:

- Capture the experience, practice, and learnings from across the sector (from government to individuals) with respect to learning through COVID-19.
- Identify the geographic distribution, intensity and diversity of the needs of children and young people in the three cohorts.
- Identify what currently works and what other evidence-based actions (policy, practice and programs) are needed to enable schools, government, and service providers to continue to understand, respond, adapt, and support the learning needs of children and young people.

The lessons learned and solutions identified in this project are anticipated to have wider reach beyond the three cohorts and the impact of COVID-19, with the potential to further enhance educational outcomes for Australia's children and young people beyond the pandemic.

Purpose of this report

This Pillar 1 report provides a summary of the key research activities for the first stage of the *Learning through COVID-19* project. Due to the urgency of the COVID-19 situation, the *Learning through COVID-19* project is designed to yield results rapidly and is structured across three interrelated pillars of work (stages). The findings from Pillar 1 (this report) will inform Pillar 2 stakeholder consultations and primary empirical analysis, which will in turn inform priorities for actionable solutions in Pillar 3.



What is educational disadvantage?

Educational disadvantage comes in many forms and refers to disadvantage with respect to both learning outcomes and educational milestones that must be achieved to ensure satisfactory onward progression in school and beyond. It is important to note that learning outcomes and educational milestones are not mutually exclusive.

Learning outcomes

Learning outcomes are what students actually learn from the curriculum and are therefore sometimes described as the '*achieved curriculum*' (Department of Education 2014). The current Australian curriculum specifies eight key learning areas, seven general capabilities, and three cross-curriculum priorities. A new curriculum is due to be published by the start of 2022 following a review of the current curriculum by the Australian Curriculum, Assessment and Reporting Authority (ACARA).

Learning outcomes against the curriculum are assessed through The National Assessment Program (NAP). The NAP includes: the *National Assessment Program – Literacy and Numeracy* (NAPLAN), which tests students' ability in three areas of literacy – reading, writing and language conventions – and in numeracy in Years 3, 5, 7 and 9. Students not meeting the minimum NAPLAN standard may need further support to progress satisfactorily to the next year level in school. The NAP also includes three yearly assessments, in randomly selected schools, for literacy in science, civics and citizenship, and information and communication technology.

Australia also participates in three international assessments, which unlike NAPLAN, are only collected for a sample of students and tend to have higher standards than NAPLAN. These assessments are the Program in International Student Assessment (PISA), Trends in Mathematics and Science Study (TIMSS), and Progress in International Reading and Literacy Study (PIRLS). These assessments also identify students who may need further support to progress satisfactorily to the next year level in school.

Children's developmental readiness is of additional importance because it is both an outcome of early childhood education and a risk factor for subsequent educational disadvantage. Australia therefore assesses children's readiness to enter school through the Australian Early Development Census (AEDC). The AEDC is a population measure of children's developmental readiness in five domains that are linked to children's later health, education and social outcomes: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school based), and communication skills and general knowledge. The AEDC is collected every three years by teachers of children in their first year of school. Children whose domain score is in the lowest 10% of scores for that year are classed as '*developmentally vulnerable*' on that domain, with children able to be developmentally vulnerable on more than a single domain.

Educational milestones

Australian schooling consists of Primary School (Foundation Year plus Years 1 to 6) and Secondary School (Junior – Years 7 to 10; Senior – Years 11 and 12) in all States and Territories, apart from South Australia, where Primary School includes Year 7. Educational milestones occur throughout the formal schooling period (Table 1).

Table 1. Educational milestones in Australian schools.

	Educational Milestones[1]
Milestone 1	School readiness indicated by developmental readiness on the AEDC assessed in the Foundation Year.
Milestone 2	Meeting minimum standards of literacy and numeracy in NAPLAN in Year 3.
Milestone 3	Meeting minimum standards of literacy and numeracy in NAPLAN in Year 5.
Milestone 4	Successful completion of Year 6 and transition to Year 7 (except South Australia where transition occurs between Year 7 to Year 8). Meeting minimum standards of literacy and numeracy in NAPLAN in Year 7.
Milestone 5	Meeting minimum standards of literacy and numeracy in NAPLAN in Year 9.
Milestone 6	Successful completion of Year 10 and transition to Year 11.
Milestone 7	Successful attainment of Year 12 or equivalent certificate.

[1]These milestones are adapted from Lamb et al. 2015.

Putting learning outcomes and milestones together provides an educational trajectory, spanning the early years through to successful completion of Secondary School and transition to post-secondary education, training and/or employment. **Educational disadvantage from this perspective is failing to achieve specified minimum standards or complete stages that are standardly required for progression to the next stage.**

Understanding educational disadvantage in context of the ecological system and the life course

In Australia, educational disadvantage is not equally or uniformly distributed. Some individuals and groups are more likely to experience educational disadvantage than other individuals and groups. The specific three cohorts that form the basis of the *Learning through COVID-19* project, while not homogeneous in their risk profiles, have already experienced disadvantage, and the sequential nature of education means that early disadvantage is a potential precursor for later disadvantage. Such longitudinal dynamics of educational disadvantage have been documented for

Australia (e.g. Lamb et al. 2015) and increasingly been acknowledged in discourses surrounding equity reporting and intervention frameworks (AIHW 2014; Naylor et al. 2013; Pitman and Koshy 2014). The impact of COVID-19 on the education system and social supports is likely to exacerbate educational disadvantage in these cohorts.

Children and young people grow and develop in environments that are shaped by economic, social and cultural systems and institutions. These environments support and limit opportunities to progress through education. In order to understand how COVID-19 might worsen educational outcomes for students at risk of heightened educational disadvantage, it is important to consider not just children or young people, but also their families, schools and communities.

Ecological systems theory (Bronfenbrenner 1999; Darling 2007) provides a useful framework to think about how education environments are defined, and how children and young people relate to them. For children and young people at school, the education environment is defined most immediately by family, school and community (Duncan and Murnane 2011). Student learning occurs as young people interact with others and the physical environment in ways that families, schools and communities both make possible and constrain (Zubrick et al. 2009). Student learning also takes place in physical settings associated with these institutions. Other institutions like labour markets, the welfare state, the health system and the broader economy also define the environments influencing young people's education, by shaping the economic circumstances of families and households – for instance, driving the demand for particular skills and knowledge, or supporting or failing to support families to weather shocks and disruptions such as job loss, family separation or a major health event or condition.

Ecological systems theory draws attention to individuals' interactions with their environments, and recognises that these environments are embedded in social institutions, times and places. In addition, life course theory recognises that human development occurs across people's lives and that their lives are organised according to socially and historically specific categories such as infancy, childhood, adolescence, young adulthood, middle age and later life. Some common events and transitions signal movement over the life course, and early events matter for later life events and outcomes (Elder and Giele 2009). The life course perspective also emphasises the importance of 'linked lives', where individuals' lives influence and are influenced by others (Settersten 2015). The lives of children influence and are influenced by the lives of their parents, siblings, friends and peers, and so on.

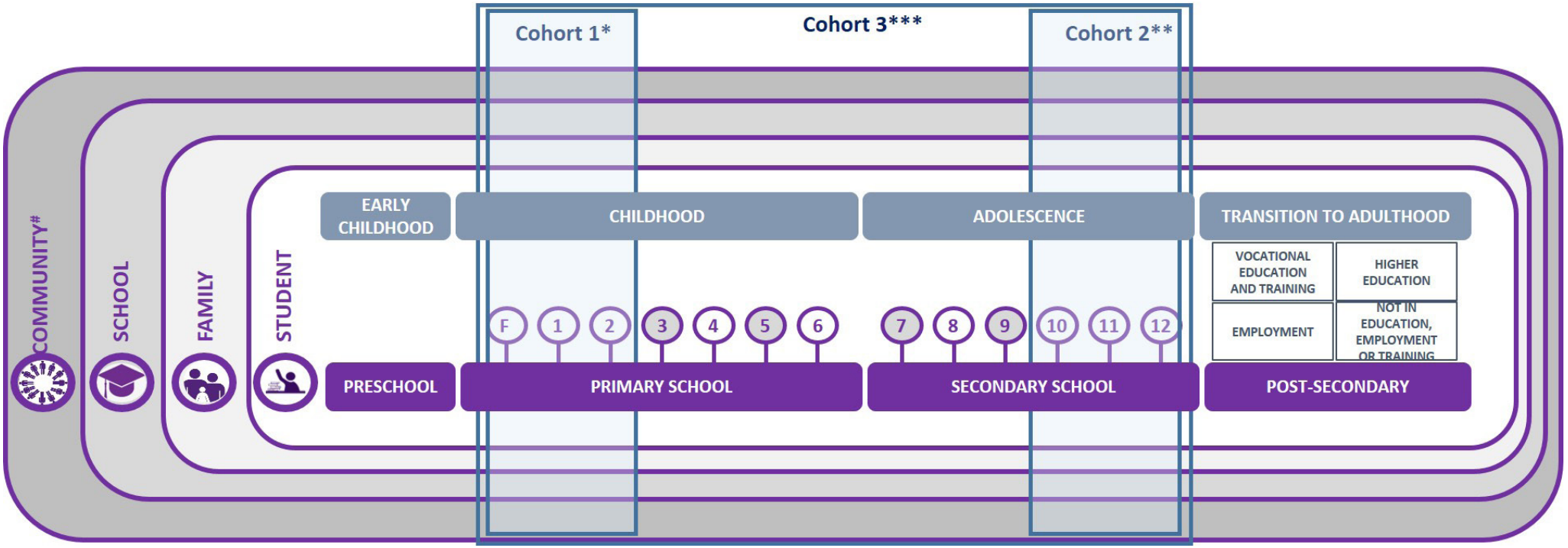
Australia and many other countries largely organise education around the life course. Educational milestones such as Preschool, Primary School, early Secondary School, later Secondary School, and post-secondary education are associated with life course stages like infancy, early childhood, later childhood, adolescence and young adulthood. Some educational transitions (Preschool to Primary School, Primary School to Secondary School, and the transition from Secondary School) also signal life course transitions (early childhood to later childhood, adolescence, and young adulthood). Educational trajectories are also commonly, but not exclusively, sequential from Preschool to Primary School to Secondary School, and key educational transitions and events (like leaving school early) matter for later life events.

Life course theory and ecological systems theory highlight that in order to understand how COVID-19 potentially exacerbates some disadvantaged students' educational outcomes, we need to recognise the following features about how their *educational lives* are organised:

- Educational trajectories unfold in environments defined immediately by families, schools and communities, and more distantly by other social, economic and cultural institutions.
- These institutional systems and subsystems are interconnected in influencing young people's lives.
- Educational trajectories are also organised around life course stages or categories, marked by shared experiences, events and transitions.
- Individuals' lives influence and are influenced by those of others.

From this perspective, COVID-19 potentially exacerbates educational disadvantage in different ways. It can disrupt elements of students' immediate environments, the family, school or community, in ways that have greater impact on students already dealing with, or at risk of educational disadvantage. The shift to home learning, for example, potentially affects students in low income families more severely than students in higher income families if home learning increases costs to household budgets. COVID-19 can also disrupt the more extended environments, such as the labour market, which also influence students' education. Some effects of COVID-19 on education might be common over the student life course, while others are not. Finally, COVID-19 can influence disadvantaged students' educational outcomes by influencing their own lives directly, and by affecting the lives of others they interact with, such as parents, carers or siblings.

Figure 1 represents the ecological and life course model for the cohorts under consideration by this *Learning through COVID-19* project, and demonstrates the influence of the broader external factors on the individual.



Notes:

* Cohort 1: Young children who started school already behind.

** Cohort 2: Older students who were already at risk of disengagement, who may not return to school but whose employment prospects have worsened.

*** Cohort 3: Children and young people who have had contact with the child protection system.

Community reflects the immediate community where the child or young person resides and includes the socio economic circumstances of that community and the available social and support networks, services and opportunities. Broader societal systemic influences are considered separately in the narrative discussion of this report.

F = Foundation Year; Grey circles represent NAPLAN testing.

Figure 1: The ecological life course model.

What do we currently know about the educational impacts of COVID-19?

The COVID-19 pandemic has multifaceted effects on educational disadvantage through ongoing comprehensive impacts on students, their educational and learning environments, and the lives of people they interact with, such as family members, peers and teachers.

Despite the recent and dynamic nature of the COVID-19 situation, a growing body of literature examines its educational impacts. Much of this emerging research has been undertaken by international and national organisations and has not been subject to traditional academic peer review, but it does provide preliminary evidence. Upon review of this national and international literature at this early stage of the pandemic, four themes are evident (and often interrelated) across the ecological life course model, but new insights will continue to appear as the COVID-19 situation evolves, allowing research into longer term impacts.

Student

Lost learning and student engagement

Preliminary international evidence suggests that students experienced educational losses in numeracy and literacy outcomes during school closures (Kuhfeld and Tarasawa 2020), but there is currently limited understanding of the breath, depth and long-term impacts of these losses. In Australia, teachers believe students learnt at only about 50–75% of their usual pace during the school closures, suggesting that students tend to learn less when their schooling is done remotely rather than in the classroom (Sonnemann and Goss 2020).

Student engagement with online learning varied with outcomes shaped by both extrinsic (e.g. support from family, adequate study environment and digital resources) and intrinsic factors (e.g. learning motivation, ability to set daily learning objectives and concentration) (Tran et al. 2020), as well as the age and digital literacy of the student (Brom et al. 2020). Maintaining effective engagement with online learning required frequent communication with and feedback from teachers (Youth Insight 2020), which likely contributed to the increase in teacher workloads.

Students experiencing disadvantage were less likely to have access to resources to support home learning. For example, research from the UK (Andrew et al. 2020), Denmark (Jæger and Blaabæk 2020) and Australia (Flack et al. 2020b) suggests that children from higher socioeconomic backgrounds had better access to resources such as private tutoring, and were more likely to attend schools that provide high quality online classes, and video and text chatting to support student learning. Andrew et al. (2020) further suggest that pupils from wealthier families in the UK spent 30% more time on home learning during COVID-19 restrictions than those from poorer families.

It is still too early to understand the impacts of the COVID-19 school closures and home learning on long-term student disengagement, but initial findings from Scotland suggest that male students are likely to be at higher risk of disengagement (Scottish Children's Parliament 2020).

Student mental health and wellbeing

Emerging evidence suggests that COVID-19 has placed multiple pressures on the mental health and wellbeing of students. These pressures are driven by stress and concern over the health impacts of COVID-19, reduced social connections during lockdowns, uncertainty and concern for the future with regards to personal educational outcomes and career prospects, and increased stress and burdens in the home environment during remote learning (Brown et al. 2020; Western Australia Commissioner for Children and Young People 2020). According to Dickinson et al. (2020), home learning and disruption to social connections had a pronounced impact on students with a disability. That said, there is currently little information about how the student mental health and wellbeing impacts experienced during COVID-19 will affect educational outcomes, or what protective factors, strengths and resiliencies of students might mitigate these potential effects. Future, prospective research will be important to monitor the impact on mental health and wellbeing over time.

Family

Parent and carer support

COVID-19 also affected the working situations of parents, with many forced to work from home during the school closures. The time commitment of parents supporting children with home learning and work commitments was identified as a significant challenge across several countries, including Australia. This caused stress and detracted from parents spending as much quality time with their children (Brom et al. 2020). While this work, home educator and parent balance challenge was reported across the socio-economic gradient, Australian research noted that the challenges were more pronounced among parents from lower socio-economic backgrounds (Brown et al. 2020) and among parents of students with a disability (Dickinson et al. 2020).

Parents also largely felt they lacked the teaching skills and digital literacy to effectively support their child's learning (Brom et al. 2020), and in the case of older students, that they did not have adequate content knowledge (Bol 2020). As a result, parents in Argentina were reported to rely heavily on teacher support, which further added to the increased workload challenges experienced by teachers. In Australia, the barriers to supporting home learning were more pronounced among parents who had lower

levels of educational attainment and digital literacy (Brown 2020).

Digital resources

Home learning challenges faced by students experiencing disadvantage include limited access to devices (e.g. not owning a laptop, multiple people needing to use the one device), internet (e.g. affordable broadband and data plans, increasing internet bills) and lack of digital literacy (The Smith Family 2020). The digital divide or digital exclusion among disadvantaged students compared to their peers is a key driver of the widening learning gap seen during school closures (Drane et al. 2020).

School

Teacher capacity

According to UNESCO (2020), up to 106 country-wide school closures have occurred as part of initial responses to COVID-19. These closures have largely resulted in an immediate switch to home learning via various forms of online platforms (many countries allowed exceptions for children of essential workers and some others). The speed with which COVID-19 led to school closures placed immense pressure on schools and teachers to facilitate the changed learning conditions. Preliminary research exploring the experiences of teachers during the school closures and online teaching identified three common challenges found across the geographical range.

While teachers generally supported online modes for delivering education, many noted their **lack of digital literacy** (skills, confidence, competence) **and digital resources** (IT support, devices, software) as key barriers to effectively delivering remote learning (OECD 2020; Santi et al. 2020; Song et al. 2020). The sudden switch to online learning and the associated work of planning, preparing and adapting curricula for online delivery also resulted in teachers reporting **substantially increased workloads** (Flack et al. 2020a; Kaden 2020). As a result of the increased workloads and the additional emotional burden from worrying about students during school closures (particularly those that were difficult to maintain contact with), the preliminary evidence suggests that the school closures directly **impacted the mental health** of teachers (Clausen et al. 2020; Flack et al. 2020b).

Community

The current literature has not really considered the impact on communities or community responses. This is a current gap and one that will be explored as the study progresses.

Addressing these impacts

Addressing these impacts requires a comprehensive approach to research and solution development. Current Australian and international evidence has largely examined the short-term impact of COVID-19 school closures on schools, teachers and, to some extent, students. This work has not specifically addressed the cohorts that are the focus of the *Learning through COVID-19* project, or the longer-term impacts of COVID-19 on their educational disadvantage. Early analysis has also understandably emphasised the direct impact of changes in the local learning environment on students, parents, and teachers, such as the shift from learning at school to learning at home, rather than more distant changes, such as the loss of family income. This highlights several gaps in our knowledge that are critical to the development of solution-focused strategies to address educational disadvantages among these cohorts.

Gaps in what we know about the impact of COVID-19 on educational outcomes

- How has school disruption exacerbated existing educational disadvantage?
- What are the impacts of the broader social, economic and health effects of COVID-19?
- Which places are likely to have experienced exacerbated impact?
- What are the views of families, children and young people?
- How can families, children and young people contribute to the solutions?
- What have (and should) governments, schools, service providers and other groups put in place to effectively mitigate the impact?

Defining the students at risk of educational disadvantage

The *Learning through COVID-19* study is exploring the impact of COVID-19 on three specific cohorts of children and young people already experiencing disadvantaged circumstances, and who are potentially at risk of poorer educational outcomes as a result of COVID-19. Based on rapid literature reviews and secondary data analysis, utilising secondary (pre-COVID) data, we have validated/identified the following:

- That these three cohorts of children and young people are at greater risk of educational disadvantage.
- The key risk factors for poorer academic and educational outcomes (pre-COVID) for these students.

Table 2 summarises the findings and illustrates the current risk factors identified for each cohort mapped onto levels of students' educational environments. Risk factors were identified via rapid reviews of the literature and secondary data analyses (see Appendix 1 for a summary of the methodology used). In the rapid literature reviews, risk factors were assessed by the quality of the studies (risk of bias), and the reported effect sizes (see Appendix 2 for a summary of the research quality). The secondary data analyses used data from the Longitudinal Survey of Australian Children (LSAC) study, the Longitudinal Survey of Australian Youth (LSAY), a recent Report of Government Services (ROGS), and Australian Census Data.

Table 2 should be interpreted with the following considerations:

- It summarises likely risk factors for educational disadvantage for students in the three identified cohorts before the COVID-19 pandemic.
- The findings come from research published between 2005 and 2020.
- The research does not always correspond directly with the cohort definitions and extrapolation was therefore necessary.
- Some research areas may be identified as moderate quality or potentially biased because they are preliminary and exploratory.

These points do not mean the studies are unimportant and they may in fact signal important knowledge gaps that need to be addressed more systematically before they are ruled in or out of consideration. While risk of bias has been taken into consideration, caution needs to be exercised against placing too much weight on this for determining which risk factors to focus on in this project. Areas where there is strong evidence according to conventional scientific criteria, may be well researched and well understood, and existing COVID-19 responses may consequently address them effectively, implying that they are not a primary focus of this project. Conversely, risk factors that have been identified in preliminary or exploratory studies may be new or emerging factors that this project needs to consider in some detail.

That said, from Table 2 it is evident that across the three cohorts there are many shared risk factors, but there are also factors that may be unique to each cohort.

High-quality evidence suggests that lower socio-economic status (SES) and poorer parenting/family functioning are shared risk factors for educational outcomes across each of the three cohorts. This may be unsurprising; however, it is important to note that SES is a complex construct, which was differentially defined across the cohorts, and between studies. SES, in these studies, includes measures of household composition (i.e. single parent family), family income and parent education. Likewise, parenting/family functioning incorporates family relationships, parenting styles, attachment, support and/or structures.

The evidence further suggests that shared risk factors across the three cohorts may also include gender (especially being male), developmental disorders/delays, being of Aboriginal and Torres Strait Islander descent, a history of maltreatment/violence, and a poor home learning environment. The secondary data analysis also indicates that location may be an important factor to consider, with prevalence rates of cohorts differing across regions and comparatively high prevalence rates in remote and very remote areas and within some places in greater capital cities.

Table 2 also suggests that boys, Aboriginal or Torres Strait Islanders, refugees, students from lower SES households and households with poor English proficiency may be sub-cohorts that warrant further investigation. Intuitively, students in sub-cohorts at particular risk of disadvantage who also have multiple other risk factors are potentially those in the greatest need, and also potentially of most relevance to the *Learning through COVID-19* project.

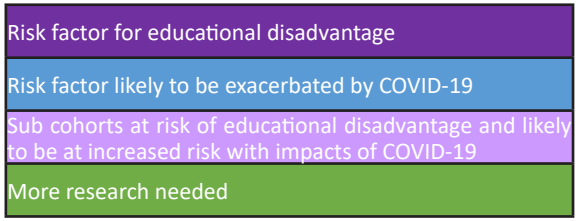
Table 2 further summaries the risk factors assessed as likely to be exacerbated by COVID-19, which may be areas of focus in supporting children, young people and families to limit experiencing greater educational disadvantage – which will be explored in the Pillar 2 activities.

Table 2. Identified risk factors for educational disadvantage for the three cohorts.

Risk factors for sub-cohorts at risk of educational disadvantage	Risk factors identified by cohort		
	Cohort 1*	Cohort 2**	Cohort 3***
Student			
Gender			
Being male			
Sexual orientation/gender Identity			
Health			
Health conditions			
Developmental delay/disorders			
Mental health issues			
Illicit substance use			
Behaviour problems			
Family			
Aboriginal and Torres Strait Islander descent			
Refugee			
Poor English proficiency (English not first language)			
SES[a]			
Parenting/family functioning			
Maltreatment/violence			
Internet access and usage			
Placement instability			
School			
Poor home learning environment			
Limited or poor early childhood education and care			
Limited teacher support/school connectedness			
Limited social support (community)			
School mobility			
History of suspension			
Absences/truancy			
Community[#]			
Youth unemployment			
Location			
Juvenile detention			
Homelessness			

Hypothesised risk factors for educational attainment are combined from Cohorts 1 and 2.

Legend:



Notes:

* Cohort 1: Young children who started school already behind.

** Cohort 2: Older students who were already at risk of disengagement, who may not return to school but whose employment prospects have worsened.

*** Cohort 3: Children and young people who have had contact with the child protection system.

a Definitions of SES varied in the literature and across cohorts, as such, SES includes measures of household composition (i.e. single parent family), family income, and parent education.

Community reflects the immediate community where the child or young person resides and includes the socio economic circumstances of that community and the available social and support networks, services and opportunities. Broader societal systemic influences are considered separately in the narrative discussion of this report.

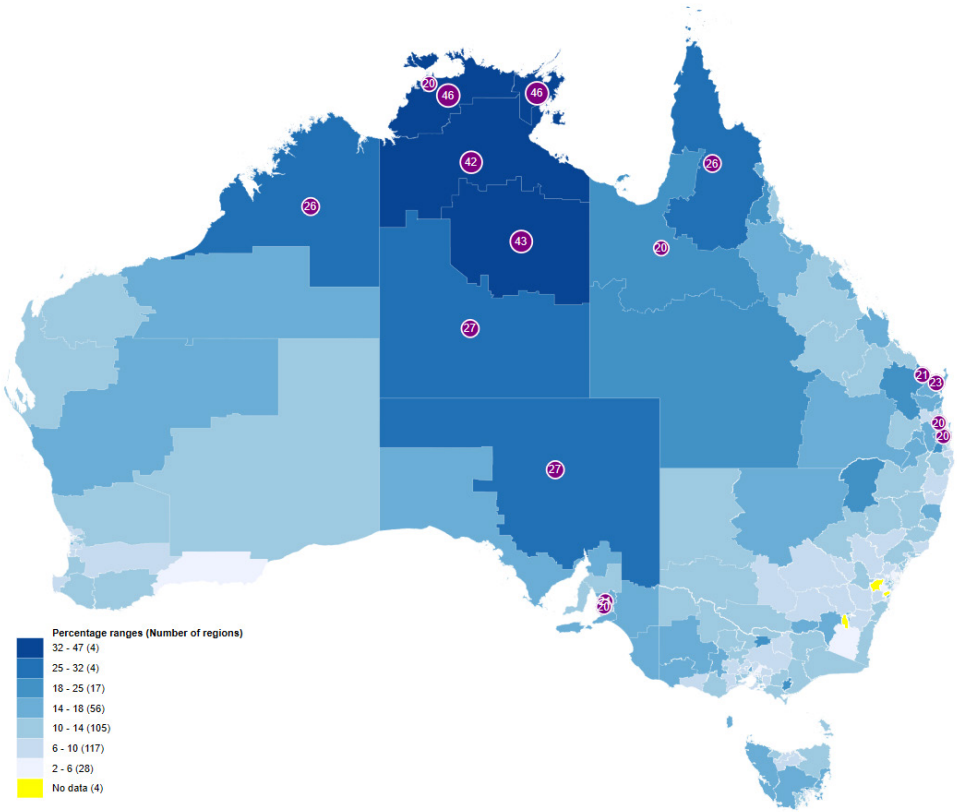
Cohort 1: Young children who started school already behind

Geographical distribution

As noted earlier, Australia assesses children's readiness to enter school through the AEDC, which collects data on five domains of developmental readiness: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school based), and communication skills and general knowledge.

Across Australia, less than 15% of children are identified as vulnerable on two or more of the AEDC domains (developmentally vulnerable – our definition for Cohort 1). However, geographical variation is evident (Figure 2). Regional rates in 2018 ranged from 2.3% to 46.1%, with three regions (all in the Northern Territory) being clear outliers with more than 40% of children who had been included in the AEDC identified as vulnerable on two or more domains. A remoteness dimension of the prevalence of Cohort 1 is apparent, which in turn will be associated with socio-economic characteristics and different Indigenous population densities across the different areas. That said, the findings here must be considered in light of the debate about functioning of the AECD within Aboriginal populations (Guthridge et al. 2016) as the AEDC is a report measure completed by teachers who are typically monolingual English speakers and non-Indigenous, and therefore there is likely a bias to underestimate developmental competence.

The regions with the 20 largest Cohort 1 population sizes are listed in Table 3. The list is dominated by regions that lie in the greater capital city areas of the mainland states, and the three regions outside a greater capital area (Townsville, Toowoomba and Ormeau-Oxenford) are all situated in Queensland. The 20 regions with the largest cohort sizes accounted for 20% of the 32,427 children who were assessed to be vulnerable on two or more domains in 2018. Table 3 also lists the regional rates, which ranged from 9% to 21%. Two regions (Playford and Ipswich Inner, highlighted) are also included within the 20 regions with the highest rates of children who were identified as being vulnerable on two or more development domains. These may be of interest in the context of piloting regional interventions, as they represent both regions with many Cohort 1 children and a relatively high rate of Cohort 1 children.



Notes:

Regions with a Cohort 1 density of 20% or more are indicated in the map. The size of the purple circles is proportional to the regional Cohort 1 rate. The number of regions included in a regional range (colour category) are indicated in brackets in the legend. The two SA3s (Daly - Tiwi - West Arnhem and East Arnhem), which are combined in the AEDC data are shown with the same colour but are separated by a boundary on the map.

Figure 2. Cohort 1: Percent of children who are vulnerable on two or more domains in Australia 2018.

Source: AEDC (2019), downloaded from https://www.aedc.gov.au/data/downloads.

Table 3: Twenty regions with highest number of Cohort 1 in Australia 2018.

					Change 2009–2018	
Name of region	Greater capital city/ rest of state	State	Size	Rate (%)	Change in size (n)	Change in rate (% points)
Wyndham	Greater Melbourne	VIC	516	12	243	-2
Tullamarine - Broadmeadows	Greater Melbourne	VIC	474	18	174	-1
Townsville	Rest of Qld	QLD	401	16	16	-2
Fairfield	Greater Sydney	NSW	358	14	28	1
Merrylands - Guildford	Greater Sydney	NSW	339	15	67	0
Casey - South	Greater Melbourne	VIC	338	10	80	-4
Campbelltown	Greater Sydney	NSW	321	14	51	0
Playford	Greater Adelaide	SA	319	21	159	3
Brimbank	Greater Melbourne	VIC	317	14	66	1
Ipswich Inner	Greater Brisbane	QLD	308	19	65	0
Toowoomba	Rest of Qld	QLD	299	14	-28	-4
Ormeau - Oxenford	Rest of Qld	QLD	299	13	161	3
Whittlesea - Wallan	Greater Melbourne	VIC	296	9	82	-2
Salisbury	Greater Adelaide	SA	295	16	53	-1
Springfield - Redbank	Greater Brisbane	QLD	294	16	106	-3
Dandenong	Greater Melbourne	VIC	287	13	9	-2
Mount Druitt	Greater Sydney	NSW	285	15	13	-1
Wanneroo	Greater Perth	WA	274	9	7	-3
Onkaparinga	Greater Adelaide	SA	260	13	65	1
Bankstown	Greater Sydney	NSW	258	11	-32	-2

Source: AEDC data by SA3 (2009, 2012, 2015 and 2018), downloaded from https://www.aedc.gov.au/data/downloads.

Some of the regions with the largest numbers of Cohort 1 students in 2018 had experienced substantial growth in the size of the cohort over the preceding nine years. However, only Playford and Ormeau-Oxenford saw increases in the size of Cohort 1 and the rate at which children were identified as vulnerable on two or more domains over the same timeframe (+3 percentage points). In the other regions, the Cohort 1 population appears to grow as the regional population grows, rather than because the prevalence of children who are developmentally vulnerable increases.

Seven regions had notably higher numbers of children who were identified as vulnerable on two or more domains (more than 100) than would be expected based on their population sizes (Figure 3).

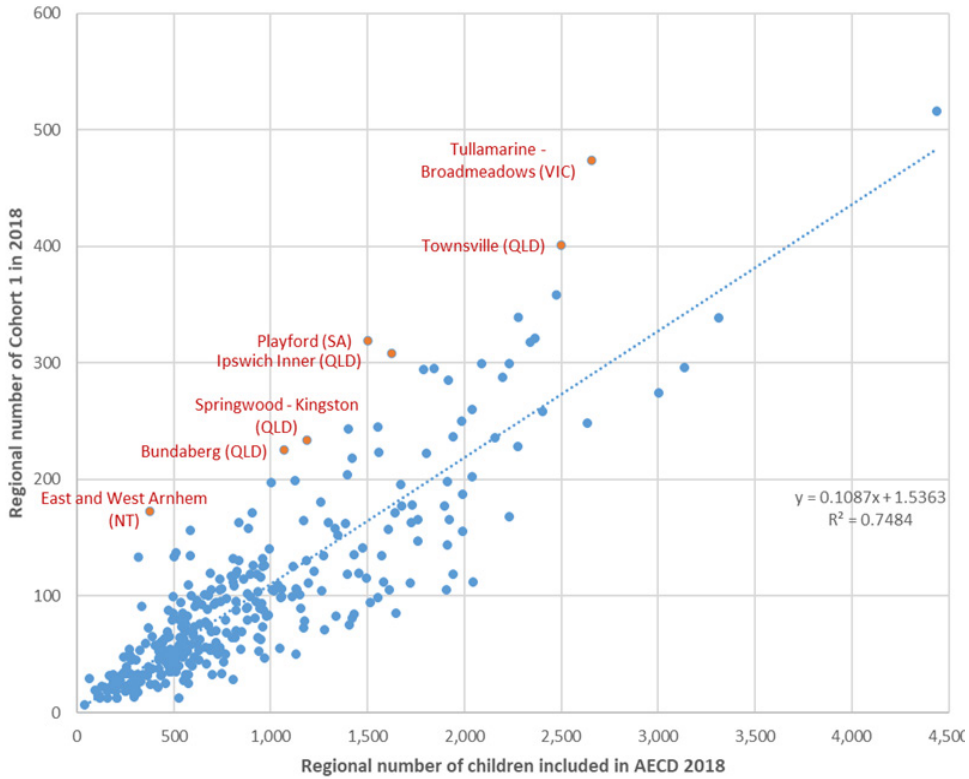


Figure 3. Regional size of Cohort 1 and regional size of children population in Australia 2018.

Source: AEDC data by SA3 (2009, 2012, 2015, 2018), downloaded from https://www.aedc.gov.au/data/downloads.

Risk factors for experiencing educational disadvantage

For Cohort 1 we sought to identify the risk factors for poorer educational outcomes of children who started school already behind. Our rapid review and data analysis identified several factors to consider at the student, family and school level. It should be noted that most of the existing research has focused on relatively proximate risk factors that directly affect the child or student rather than, for instance, other members of the household. The experience of Early Childhood Education and Care (ECEC) can also play a role, but here we focus on the risks for the Cohort 1 children in school and the potential disruption to these students' schooling in Years 1 and 2.

Being male: A number of studies showed that girls adjusted to Primary School more readily than boys and had fewer behavioural difficulties than boys; and being female was associated with higher scores in a school readiness assessment (Best Start Kindergarten Assessment) (Taylor et al. 2013). Research outside the scope of the rapid review suggests that the gender differences are most pronounced for the domains of social competence and emotional maturity, or social and emotional development (Lamb et al. 2015). The AEDC (2014) report that these gender differences do not appear to have longer term consequences for educational outcomes, however our secondary data analysis suggests being male is a risk factor for negative educational outcomes for Cohorts 1 and 2, and another study recently undertaken (in press) shows persistence in poorer educational outcomes in boys who started school behind.

Health and behavioural issues: Children who have chronic illness could be developmentally vulnerable. For example, Bell et al. (2016) found that compared with children who did not have a chronic illness, those with a chronic illness were 1.3 times more likely to be considered developmentally vulnerable on the AEDC domains of physical wellbeing, social competence, emotional maturity, and communication skills and general knowledge. However, risks may be long lasting. For example, Nasuuna et al. (2016) found that, compared with children who had no health conditions at school entry, those with any health condition, or with multiple health conditions, were more likely to have reading difficulties and poor numeracy through to Grade 3. Other studies suggest developmental delay, indicated by poor language and literacy skills, is associated with poorer measures of school readiness (Taylor et al. 2013; Carson 2017; Prior et al. 2011; Westerveld et al. 2018), and hyperactivity in Preschool could be negatively associated with engagement levels in the first year of school (Searle et al. 2014). However, these studies were noted to have moderate risk of bias.

SES: Although measured differently across studies, high-quality evidence suggests that lower SES is a risk factor for poor educational outcomes in Cohort 1. For example, Taylor et al. (2013) found a negative impact on children's vocabulary at school entry for those whose households who are in the lowest income bands (when compared with wealthier families), and Petriwskyj et al. (2014) found a negative impact on adjustment and parent-report behavioural difficulties among lower income families. Similarly, Hughes et al. (2016) found that those living in lower socio-economic status communities had a relative risk of being 1.6 times more likely to experience comorbid speech-language and socioemotional and behavioural difficulties at school entry than those from wealthier communities.

Aboriginal and Torres Strait Islander heritage: Children from an Aboriginal or Torres Strait Islander background were significantly more likely to have comorbid speech-language difficulties and socioemotional and behavioural difficulties at school entry (Hughes et al. 2016), and to be vulnerable on one or more AECD domains compared with other children (Guthridge et al. 2016). As noted earlier, this should be considered in the context of potential bias to underestimate developmental competence.

Case Study: Processes that affect developmental and educational trajectories of Aboriginal and Torres Strait Islander Australian children

Bell-Booth et al. (2014) examined some of the key processes that affect developmental and educational trajectories during and after transition into primary school by following two young children from an Aboriginal or Torres Strait Islander background for three years (from age 5 to 8). They measured school and behavioural adjustment.

The study highlighted the importance of not treating Aboriginal and Torres Strait Islander children as homogenous with regards to their needs for support. Rather, the authors found that individual and family backgrounds profoundly impact educational trajectories. There are many differences between children of similar cultural backgrounds regarding the challenges they face. This study indicated that providing high quality support outside the school environment and providing intense, proactive, long-term support (beyond the first few months of school entry) was essential to achieving educational success.

Poor English language proficiency where English is not their first language: Several studies found an association between children whose first language is not English and/or their mother's first language is not English and starting school behind (Guthridge et al. 2016; Taylor et al. 2013). Guthridge et al. (2016) found that children for whom English was a second language were 3.11 times more likely than English-speaking students to be rated as vulnerable on one more AEDC domains. The relationship between language and school readiness is not necessarily straightforward; however, McLeod et al. (2016) found that being from a multilingual background had a negative impact on vocabulary, but not necessarily on overall school readiness. Instead, having a language concern during preschool years was a stronger predictor of a composite measure of school readiness than language background alone.

These results should also be considered alongside other research about the developmental vulnerability of children with language backgrounds other than English

(LBOTE). English-proficient LBOTE students are less likely than English only students to be developmentally vulnerable (Lamb et al. 2015). LBOTE is also a NAPLAN reporting category for older students, where research shows that controlling for language and cultural factors associated with LBOTE status, such as first language use, or visa status, substantially accounts for LBOTE associations with NAPLAN learning outcomes (Creagh 2014). English proficiency is therefore the key risk factor in children from language backgrounds other than English.

Maltreatment and violence: Children who had experienced maltreatment or witnessed violence were significantly more likely to be rated as starting school already behind. For example, Bell et al. (2018) showed that children who had experienced any form of physical, sexual or emotional abuse, or neglect, were between 1.26 and 2.15 times more likely to be rated as developmentally vulnerable in each of the AEDC domains than children who had not experienced maltreatment.

Poor home learning environments: The home learning environment, defined here as activities undertaken in the home with learning opportunities (Melhuish et al. 2008; Yu and Daraganova 2014), such as reading to children, parent–child play, and teaching letters and numbers, was found to be associated with starting school already behind. Compared to parents who read to their children every day, there is a large negative effect on children's vocabulary for those whose parents never read to them and those whose parents read to them 1–2 days per week (Taylor et al. 2013), while children who rarely experienced educational activities and were from low-income households were 2.30 times more likely to have a lower vocabulary score at school entry than children who experienced at least 30 minutes of educational activities each day (Gialamas et al. 2015). Furthermore, McKean et al. (2015) found that several factors impacted on the rate of 'catch up' for children who started school with poor language proficiency, with the number of books in the home of particular importance. They found that children who started school already behind and who had fewer than 10 books in their home took approximately five years to catch up to their counterparts with more books in their home.

Quantitative data: The risk factors identified above are supported by the quantitative analyses of LSAC data for Cohort 1. Logistic regression analyses found that being male, having low SES (parental income ≤$36,399), and low home learning environment were significant predictors of scoring in the bottom 25% for both reading and numeracy on NAPLAN among Cohort 1 children. Findings are further supported by the latest AEDC report, which shows that boys (15.3%) were more than twice as likely to be assessed as developmentally vulnerable on two or more AEDC domains as girls (6.7%); Aboriginal and Torres Strait Islander children were much more likely to be in Cohort 1 (25.8%) than non-Aboriginal and Torres Strait Islander children (10.1%); and children from language backgrounds other than English (13.1%) were more likely to be in Cohort 1 than children with an English-only language background (10.4%), although the difference in rate was far less pronounced (DET 2019; Australian Early Development Census National Report 2018).

Impact of COVID-19 on Cohort 1

COVID-19 presents the potential for increased stress for families, exacerbating pre-existing risk factors. Multiple levels of risk for children are likely to be affected simultaneously, including at the individual, family, school, and community level, compounding potential impacts on educational achievement. Based on the current evidence, the COVID-19 crisis may exacerbate several risk factors of this cohort, including but not limited to:

- **Direct and indirect health risks** – increased absences and reduced engagement is likely to occur due to susceptibility to illness and virus-related safety concerns.
- **Low socio-economic circumstances** of the student's family are likely to be exacerbated by COVID-19 due to the impact on the labour market. This may have an impact on food and housing security as well as limiting financial resources for purposes directly linked to education.
- **Home learning context** – learning from home arrangements require parent support, particularly for young children. Recent exploratory research suggests that parents report a number of challenges associated with learning from home, including balancing responsibilities for employment and learner needs; balancing the needs of multiple learners; maintaining personal balance; managing the emotional toll of learning from home; supporting a lack of learner motivation; supporting learner special needs; lacking content or pedagogical knowledge; inadequate teacher communication; quality and access issues relating to internet and computer technology; poor online teaching resources; and concerns about children's academic progress and socio-emotional development (Garbe et al. 2020).

Furthermore the sub-cohorts of **boys, children from SES disadvantaged backgrounds, Aboriginal and Torres Strait Islander children, and children with poor English proficiency where English is not their first language** have been identified as being at potentially increased risk of poorer outcomes following the impacts of COVID-19.

Children and their families with experience of the risk factors above may need additional supports to promote child engagement in school and learning. This will be particularly true for those children whose parents may already struggle to provide supportive and engaging home learning experiences.

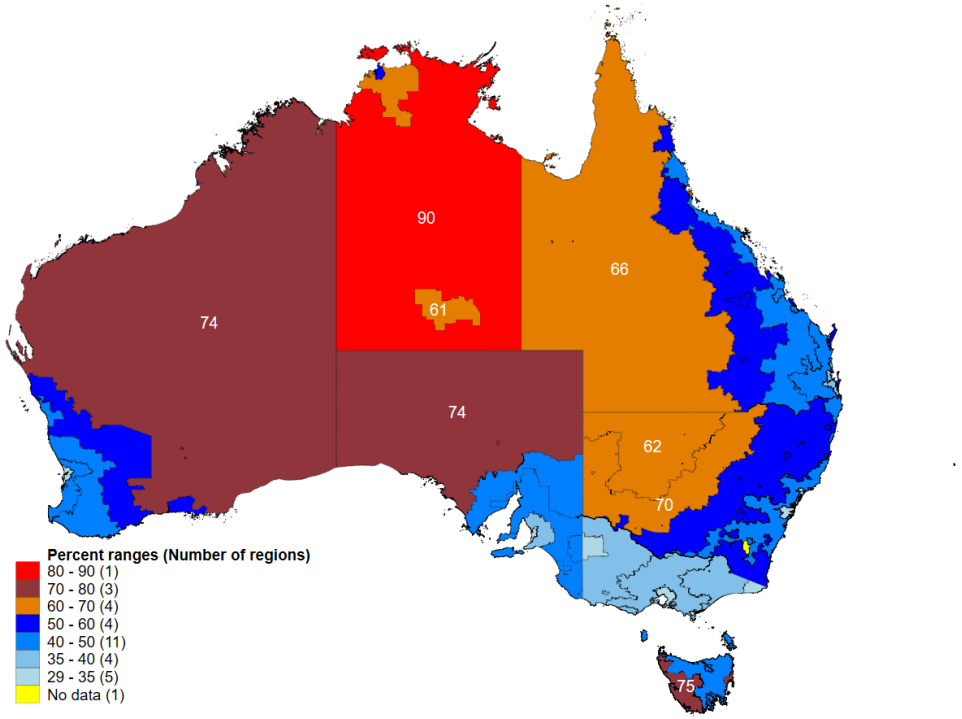
Cohort 2: Older students who were already at risk of disengagement

It is compulsory for all young Australians to complete Year 10 and to participate full-time in education, a recognised training program, or paid employment until the age of 17. Despite this, a substantial proportion of young people struggle in the mainstream schooling system, whether academically, socially, or behaviourally (Snow et al. 2019). The impact of COVID-19 on the labour market is expected to have a disproportionate effect on Cohort 2 – older students who were already at risk of disengagement from Australian schools, and who may not return to school. Their employment prospects may also have substantially worsened and may continue to do so as the pandemic will likely have long-term effects on the youth labour market, especially for young people with poorer educational outcomes (International Labour Organisation 2020). The Global Financial Crisis in 2008 disproportionately affected the employment prospects of young people, and these did not start to recover for about ten years (Gilfillan 2016).

Geographical distribution

School attendance data is used to approximate Cohort 2. A low school attendance level is defined as attending less than 90% of possible school days (attending school for at least 90% of days is a key performance measure for schooling in Australia), and this was used this as a proxy to identify students in Cohort 2 (i.e. those at risk of disengagement). Data on the population of Year 10 students and data on the characteristics of low attendance students is not publicly available, so no information on the size of Cohort 2 and its characteristics was available.

The ten regions with the highest prevalence (54% or more students) of low attendance all include very remote or remote areas across the seven Australian jurisdictions that have such areas (all but the Australian Capital Territory) (Figures 4 to 6). Major capital cities across Australia all have relatively low prevalence of low attendance students (<35% of students have low attendance), except for the greater Canberra region which has 43% of students with low attendance.

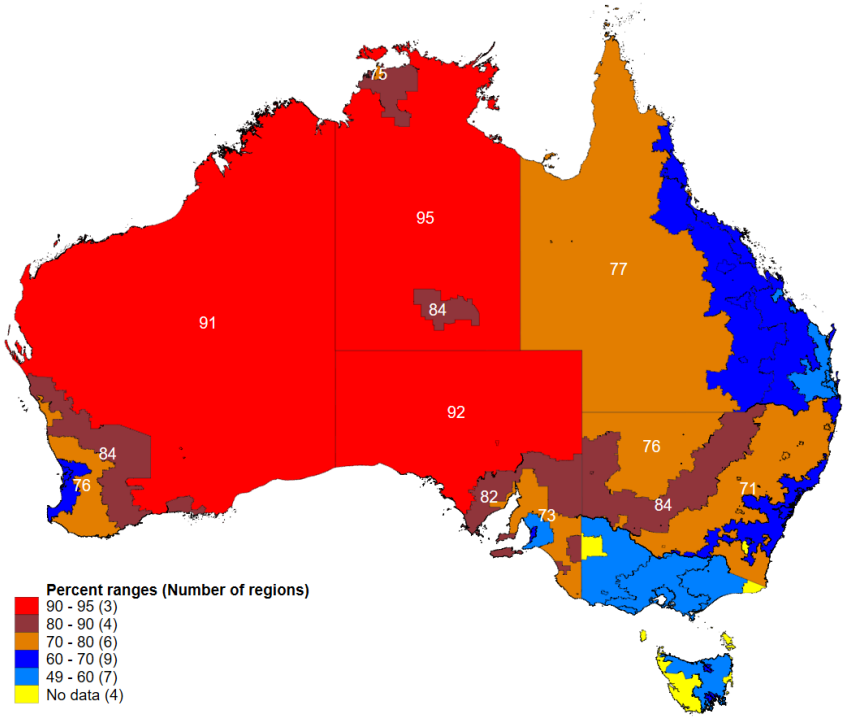


Notes:

Regional low attendance levels >60% are labelled on the map.

Figure 4. Cohort 2: Year 10 students with low school attendance (%) in Australia 2019.

Source: ACARA (2020).

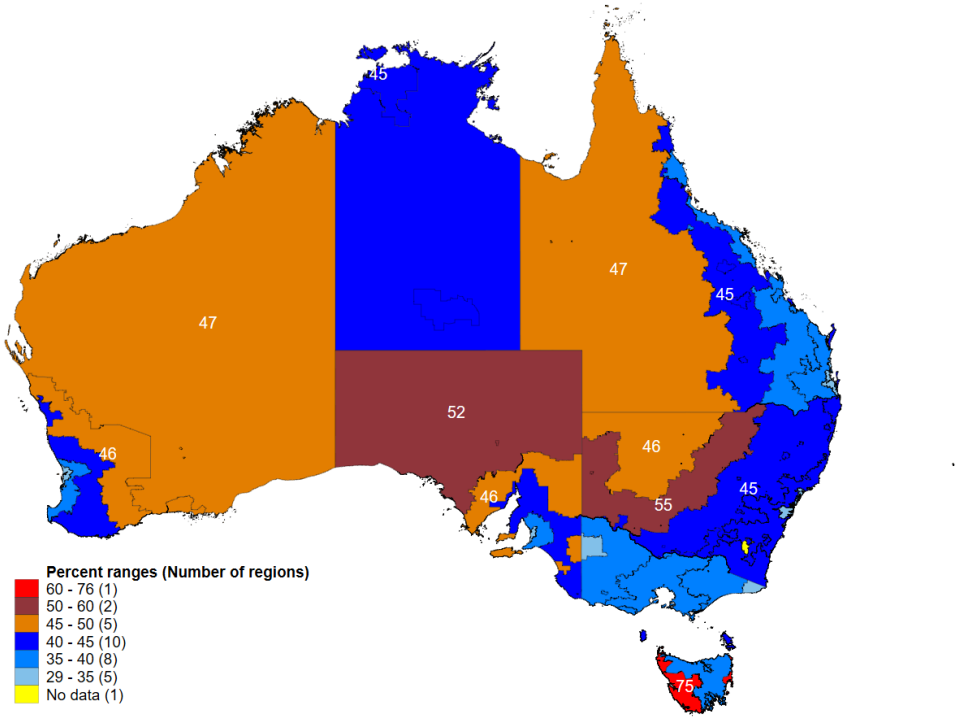


Notes:

Regional low attendance levels >70% are labelled on the map.

Figure 5. Cohort 2: Year 10 Indigenous students with low school attendance (%) in Australia 2019.

Source: ACARA (2020).



Notes:

Regional low attendance levels >=45% are labelled on the map.

Figure 6. Cohort 2: Year 10 non-Indigenous students with low school attendance (%) in Australia 2019.

Source: ACARA (2020).

There was a clear gradient of increasing prevalence of Cohort 2 among Year 10 students the more remote the area in which students learned. Furthermore, the more remote the area, the higher the proportion of Aboriginal or Torres Strait Islander students falling into this cohort. Very remote parts of the Northern Territory had the highest prevalence of low attendance (90% of all students). Of note, remote areas in Tasmania feature the highest rate (75%) of low attending non-Indigenous students in Australia.

There was little difference in the prevalence of low attendance between female and male Year 10 students. However, 67% of Aboriginal or Torres Strait Islander students were low attendance students, compared with 34.3% of non-Indigenous students. Low attendance among Year 10 students in Government schools (40.2%) was more common than in Catholic (33.2%) and Independent schools (26.6%), likely reflecting SES differences across the sectors.

Risk factors for experiencing educational disadvantage

For Cohort 2 we sought to identify the risk factors for educational outcomes for adolescents, aged 15 to 18 years, who were already at risk of disengagement from school. Much of the literature examines mental health and emotional outcomes associated with being 'at risk' for disengagement of school, and fewer studies focus on academic and educational attainment. The main educational outcomes assessed included academic achievement (perceived and actual – e.g. literacy, language and reading comprehension, and NAPLAN); absenteeism; suspensions/expulsion; not completing high school; not in education, employment, or training (NEET) status (in young adulthood); and engagement. Most studies were classified as high to moderate risk of bias and caution is needed in interpreting the results presented.

Our rapid review and data analysis identified several factors to consider at the individual, family and school level, with similarities to those identified for Cohort 1.

Being male and low SES: These factors were associated with poorer educational outcomes. However, it is important to note that the literature is inconsistent and inconclusive (Abello et al. 2016; Boon 2008; Freeman et al. 2011; Gray and Hackling 2009; Martin 2012; Quin 2019; Ramsey et al. 2011; Ullman 2015; Verweij et al. 2013).

Health and behavioural issues: Mental health problems are associated with a range of negative psychosocial and academic outcomes. Adolescence is a significant time of development, as such, it is also a pivotal time in which mental health issues begin to emerge. One study reported that early onset and persistent mental disorders in adolescence resulted in an increase in the odds of students failing to make the transition from school to employment (Rodwell et al. 2018). The need for integrated employment and mental health support programmes in schools is suggested (Abello et al. 2016; Rodwell et al. 2018). Behaviour and emotional regulation is frequently cited as a risk factor of disengagement, with some evidence indicating that having more total difficulties, behaviourally, socially and academically makes engagement in school difficult for many students (Quin 2019). Alcohol and illicit substance use are premised as associated with school disengagement but can be difficult to disentangle from other environmental effects (Verweij et al. 2013). Two studies specifically report that cannabis use was an important marker of lower educational attainment and risk of becoming NEET, while alcohol was not (Rodwell et al. 2018; Silins et al. 2015).

Aboriginal and Torres Strait Islander status: The literature consistently reports that Aboriginal and Torres Strait Islander children and young people are at risk of educational disengagement, which accords with data reported by the Australian Bureau of Statistics showing that Indigenous students are less likely to complete Year 12 or the Higher School Certificate than non-Indigenous students (ABS 2017). Two intervention studies did note that teaching Aboriginal astronomy within the classroom (Bhathal 2011) and incorporating commonly used language into the classroom (Grote 2005) showed positive trends in encouraging engagement in Indigenous youth.

Parenting style and family functioning: The home environment, and in particular parenting and family functioning, is commonly included in the studies in this area. For example, neglectful and authoritarian parenting styles were associated with children reporting the lowest levels of self-efficacy, mastery goals, and positive coping strategies, alongside having the highest levels of projective coping and self-handicapping, and number of suspensions (Boon 2014). Another study reported that having poor family management practices (e.g. 'the rules in my family are unclear') was associated with greater odds of being suspended (Quin 2019) – further reinforcing that risks for disengagement from school go beyond the school environment.

Teacher support and school connectedness: This is integral to school engagement. A systematic review indicated that fostering individual children and adolescent's sense of belonging at school was associated with increased retention of marginalised students (Pendergast et al. 2018). The authors identified five themes, which could be formalised into a series of strategies to increase retention of these students: relationships in school climate; pedagogical practices; specific program and activities; and other issues, with a particular focus on student mental health, family, trauma, and poverty.

History of suspensions: This was associated with risk of disengagement from school. Examining the risk factors for suspension from school, Quin (2019) reported that declines in commitment to school and lower ratings of supportive teachers, along with higher incidence of engagement with antisocial peers were associated with increased odds of being suspended. Again, it may be hard to disentangle cause and effect.

Youth unemployment: One broader environmental risk factor for later disadvantage unique to this population is the level of youth unemployment in the wider labour market. One Australian study did account for individual youth unemployment as part of their social exclusion index, suggesting that although youth unemployment rates were less heavily impacted by the Global Financial Crisis of 2008 in Australia than other countries (the European average rate of youth unemployment was over 20% for instance), youth unemployment in Australia had remained at or above 17% nationally (Abello et al. 2016,) which was high in comparison to the period before the Global Financial Crisis. As noted above, young people were disproportionately more affected by unemployment from the Global Financial Crisis than other Australian workers. With forecasting already indicating that unemployment is increasing due to COVID-19 (Coorey and Fernyhough 2020), and that it may disproportionately affect youth, the risk of long-term disadvantage associated with early school-leaving in this cohort potentially becomes more acute.

Quantitative data: The quantitative analyses for Cohort 2 used data from the LSAY, which is designed to track Australian youth's transitions from school to further education, work and other destinations. The 2009 cohort of LSAY was used because they were surveyed immediately after the 2008 Global Financial Crisis, which may resemble some aspects of the COVID-19 context. LSAY data enables the identification of Cohort 2 students using an indicator of engagement in Year 10 as a proxy. This analysis confirmed that parental expectations for their education was a strong independent predictor or engagement (Figure 7). Poor academic achievement (perceived and actual), being male, having Aboriginal and Torres Strait Islander heritage, and living in a single-parent family were all significant independent predictors of poorer educational outcomes (Figure 7)

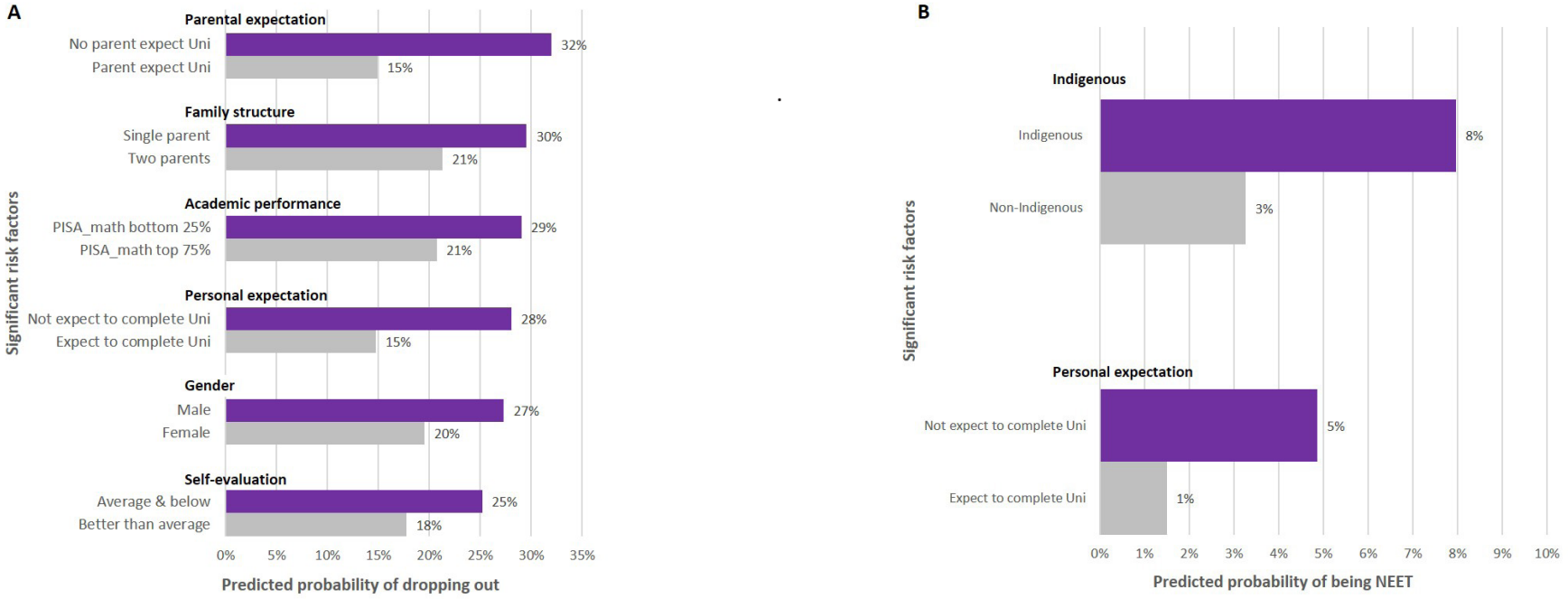


Figure 7. Cohort 2 predicted probability of (A) dropping out of school before completing Year 10, and (B) not being in education, employment, or training (NEET).

Impact of COVID-19 on Cohort 2

As for Cohort 1, increased stress on the immediate family factors due to COVID-19 will potentially exacerbate pre-existing risk factors of SES, and parenting and family functioning for Cohort 2. Based on the current available evidence, the COVID-19 crisis may also exacerbate other risk factors including but not limited to:

- **Low socio-economic circumstances** of the student's family are likely to be exacerbated by COVID-19 due to the impact on the labour market. This may have an impact on food and housing security as well as limiting financial resources for purposes directly related to education.
- **Loss of connectedness to school and teachers** – with school closures there may be significant declines in students' sense of belonging at school. If there has been a mix of real and/or perceived disruptions to connections/relationships with teachers and school, this may further exacerbate disengagement for those already at higher risk. Previously noted research on the impact of school closures on parents highlights a number of specific risks to this cohort, including declining learner motivation; challenges faced by parents supporting learner special needs; learning content and pedagogy; inadequate teacher communication; quality and access issues relating to internet and computer technology; and poor online teaching resources (Garbe et al. 2020).
- **Youth unemployment** – according to current Australian Bureau of Statistics figures, Australia's youth unemployment rate (15to 24 years) in July 2020 was 16.3%, while the overall unemployment rate was 7.5% (ABS 2020). This statistic highlights the vulnerability of the youth labour market to an economic downturn associated with COVID-19.

As for Cohort 1, the **sub-cohorts of boys, children from SES disadvantaged backgrounds, and Aboriginal and Torres Strait Islander students** have been identified as being at increased risk of poorer educational outcomes as a result of the impact of COVID-19. **Students from a refugee background and/or with poor English proficiency and from a non-English speaking background or with a history of suspension** are also at risk.

These young people and their families may need additional supports during this time. However, with the lack of current research to inform best practice, talking to stakeholders, families and young people as part of the Pillar 2 activities will help identify specific strategies and risk factors that are most critical.

Cohort 3: Children and young people who have had contact with the child protection system

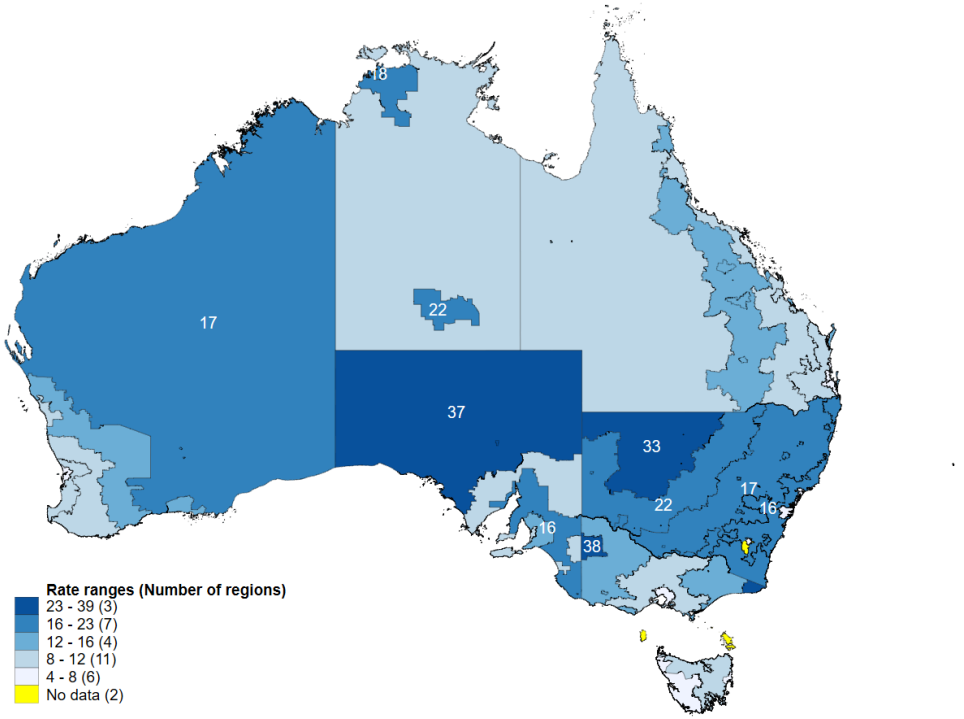
Children and adolescents who have had contact with the child protection system include those for whom there have been Notifications and Investigations, those under Care and Protection Orders, and placed into Out of Home Care. There are several types of Out of Home Care, including foster care, kinship care, family group homes, and other alternatives (Australian Institute of Health and Welfare 2018). Children in Out of Home Care and Care and Protection Orders are potentially at a greater risk of disruption and disengagement from school compared to other children, and potentially most at risk from COVID-19 effects. Even in the absence of COVID-19, some children in Cohort 3 are subject to disruptions caused by initial abuse or neglect, and the subsequent transitions from biological parents to Out of Home Care placements. These are also accompanied by contact with youth justice and truancy as young people in unsettled living circumstances may run away or exhibit behavioural disruption.

Geographical distribution

The Australian child protection system encompasses several components that are managed by State and Territory jurisdictions. Data on the child protection system are mainly available on three areas: Notifications and Investigations; Care and Protection Orders; and Out of Home Care. The regional distribution of Cohort 3 is based on Out of Home Care data, arguably the most at-risk sub-cohort of Cohort 3. Regions in this section are defined by 33 remoteness area by jurisdiction combinations (no Out of Home Care data was available for very remote areas in Tasmania, leaving 32 regions to be included).

The highest prevalence rate of Out of Home Care was in remote areas in Victoria (38.2 per 1,000), which was six times the prevalence rate for the State as a whole (6.0 per 1,000) (Figure 8).

Table 4 shows the number of children in Out of Home Care and the associated Out of Home Care rates for the 10 area-by-jurisdiction combinations, which included the highest number of Out of Home Care children. These 10 regions accounted for approximately 84% of Out of Home Care children in Australia. Major cities in New South Wales accommodated by far the highest number of children in Out of Home Care, and most children in Out of Home Care reside in the capitals of mainland Australia and some inner and outer regional areas along the eastern seaboard.



Note:

The rate for Inner regional ACT was given with 531.9 per 1,000 in the source data. This was an extreme outsider value that was excluded from the mapping, which is why this area shows as yellow on the map (no data).

Figure 8. Cohort 3: Rate of children in Out of Home Care (per 1,000) in Australia 2018.

Source: AIHW (2020), Table S5.9c.

Table 4: Regional number and rate of Out of Home Care regions with top 10 Cohort 3 sizes in Australia 2019.

State	Remoteness area	Number	Rate (per 1,000)
NSW	Major Cities	9,572	7.2
NSW	Inner Regional	5,366	16.0
VIC	Major Cities	4,713	4.3
QLD	Major Cities	3,841	5.2
WA	Major Cities	3,062	6.6
VIC	Inner Regional	2,946	11.2
QLD	Inner Regional	2,374	10.3
SA	Major Cities	2,270	8.5
NSW	Outer Regional	1,681	16.8
QLD	Outer Regional	1,539	9.3

Source: AIHW 2020, Table S5.9c.

More than half the children in Out of Home Care (54%) resided in major cities; 29% resided in inner regional areas; 14% in outer regional areas; about 2% in remote areas; and about 2% in very remote areas. Aboriginal and Torres Strait Islander children in Out of Home Care were more likely to reside in inner or outer regional areas (49%) and in remote and very remote areas (9%). The major city results are largely driven by population size where the numbers are high, but the rates are not, while rates are higher in inner and outer regional areas than major cities. This pattern could reflect prevalence, reporting, lack of alternative services, compositional population effects and differential response, or a combination of these; and it is important that these complexities are considered when interpreting the results. They may allude to differences in the spatial distribution of need and disadvantage, but we note that the geographical distribution of Cohort 3 is indicative of the geographical Out of Home Care service structure and not necessarily the geographical distribution of child neglect and abuse or prevalence. However, the results do point to the current spatial distribution of this sub-cohort and provides guidance for where interventions to address the educational outcomes discussed below might be best trialled.

Risk factors for experiencing educational disadvantage

Conceptually, Cohort 3, may include some of the children in Cohorts 1 and 2, however, Cohort 3 students may have additional risks that are indicated by their contact with the child protection system. However, there is little current research on this specific issue. In our review, it was evident that many studies focus on mental health and emotional outcomes for children with a history of being in the child protection system; however, few report on the child's academic and educational attainment and often do so concurrently with social and emotional outcomes. Most of the studies also focused on children in Out of Home Care, and especially foster care.

Apart from age, gender and ethnicity, the most common risk factors reported for children in this cohort were maltreatment, neglect or prior history of abuse. Abuse, neglect and family violence are the main reasons for children being placed into Out of Home Care (Campo and Commerford 2016). It should be noted that most of this research has been conducted in the United States, with just two studies conducted in Australia, so there is little Australian research to inform best practice. There is also a limited amount of moderate-good quality research, which suggests some links between home instability and poor educational outcomes, with improvements in home stability being associated with improved educational outcomes, including adaptive functioning, school attendance, graduation and stability.

Placement mobility: Studies found associations between home mobility and educational outcomes (Fernandez 2019; Trout et al. 2012; Zorc et al. 2013). Zorc et al. (2013) demonstrated that young children in foster care with more unstable placement experience had higher levels of school absenteeism (when accounting for child characteristics, including children's earlier behaviour and prior history of abuse), while Fernandez (2019) demonstrated gains in adaptive functioning, including effort, behaviour and learning in class and large gains in happiness in class following two years of stable care. Home or school instability had unique effects on educational outcomes, even when including variables such as child maltreatment and homelessness (Fantuzzo and Perlman 2007), prior history of abuse (Zorc et al. 2013), and juvenile detention (Clemens et al. 2016; Leve and Chamberlain 2007). In their study, Fantuzzo and Perlman (2007) found that **maltreatment** and **homelessness** have significant mediating effects on the relationship between out-of-home placement and children's educational wellbeing, as well as direct effects on several components of academic achievement. There was variation in the risk of bias in these studies and results were not consistent across all studies, and depended on other factors in the models (e.g. self-regulation, caregiver support, early learning skills, early educational scores, socioemotional competence), suggesting that the factors associated with (in) stability contribute to the educational outcomes experienced.

Increased instability – particularly school and home: The evidence suggests increased home and school instability is associated with poorer educational outcomes while increased home stability appears to be associated with improved educational outcomes. Despite a low risk of bias in four of the five studies (Clemens et al. 2016; Hong et al. 2020; Pears et al. 2012, 2015), there was mixed evidence for the association between school mobility and educational outcomes. However, Clemens et al. (2016) found school mobility to be negatively associated with academic outcomes as assessed by dropping out of school, taking longer time to complete than expected, or obtaining an equivalent qualification.

In addition to the number of school changes, there were some direct effects for experiencing a school change in Grade 12 on academic outcomes. The effects were apparent even while including prior history of juvenile detention and special education, and many were maintained after a six-year period. The other studies failed to find a significant association between schools' changes and academic outcomes. School mobility is not a unitary phenomenon as there are different types of moves, some driven by push factors, some by pull factors, and some that are incidental or unrelated to education – which would be true of Cohort 3 as it is of the general population. Assessing the number of moves might be most appropriate, with large numbers potentially signalling a range of instabilities in education and care.

Multifaceted interventions that target different aspects of the factors associated with being in the child protection system may benefit this cohort. Two intervention studies (Leve and Chamberlain 2007; Trout et al. 2012), which aimed to integrate youth back into the community, showed promising results. Both studies employed randomised control trials and demonstrated that improved stability was associated with improved academic performance.

Quantitative data: Due to restrictions in the available data, it was not possible to repeat the methodology used for our secondary data analyses of Cohorts 1 and 2. Mapping of census data with school completions indicate that children in foster care[1] were 17 percentage points less likely to have completed Year 11. The results indicate that there is an educational disadvantage for foster children relative to other children in the secondary school years.

Using AIHW (2020), we were, to a limited extent, able to examine the demographic profile of children in Cohort 3. We found that boys were slightly more represented in Cohort 3 than girls, and while Aboriginal and Torres Strait Islander children constituted approximately 6% of the Australian population of children aged 0 to 17 years in 2019, they accounted for 37% of children on protection orders and 40% of children in Out of Home Care. This points to the necessity of designing services with communities that can be tailored towards different cultural backgrounds, particularly for Aboriginal and Torres Strait Islander families.

Impact of COVID-19 on Cohort 3

As noted earlier, multiple levels of risk are likely to be exacerbated simultaneously, including at the individual, family, school and community level, compounding potential impacts on educational achievement. For Cohort 3, many of the risk factors and sub cohorts at increased risk, identified for Cohorts 1 and 2 would reasonably apply, and could be exacerbated by COVID-19. Conditions associated with the pandemic may also exacerbate effects on educational disadvantage of specific risk factors of this cohort, including but not limited to:

- **Placement instability** – additional disruption to placement due to reduction in the availability of foster places and/or reduction in the availability of government support staff.
- **Schooling mobility** – additional disruption to schooling due to lockdown, school closures etc. Additional removals and longer time in placement due to high levels of economic stress among caregivers' families.
- **Economic and social stresses** – parents and caregivers will face economic hardship as the economic impacts of COVID-19 continue. These will include some of the economic and social stresses already noted, with other potential factors, such as an increased risk of family violence, or additional and increased involvement with the child protection system.

1 Children in foster care are a sub-category of children in out-of-home care. In 2019, 39% of children in out of home care were in foster care.

What is the current government response to the educational needs of students experiencing disadvantage?

In Australia, the extent of COVID-19 cases and school closures differed by state, and the responses of different governments changed as COVID-19 case numbers rose and fell. Commonwealth, State and Territory government responses to support disadvantaged students' educational needs during the school shutdowns varied across different jurisdictions (based on a comprehensive review of the COVID-19 related information and resources provided on government education and child service department websites across all jurisdictions as well as the websites of family and child commissions for each State and Territory up until mid-August 2020). Few responses were aimed directly at the three cohorts, except for specific advice and guidance provided for foster and kinship carers, which relates to Cohort 3.

The government responses across States and Territories to date have largely focussed on developing online information, tools and resources; providing funding and resource support; and adapting school assessments and reporting. These initial responses have largely been directed at children and young people and their families (Table 5).

Developing online information, tools and resources

A key response of government has been to develop an array of online information, tools and resources for parents and carers, teachers and educators, and students (although as yet, there are no data on how these have been taken up). Departments have either developed their own resources (e.g. COVID-19 FAQ factsheets for parents of students) and/or included links to resources developed by other non-government organisations (e.g. Australian Special Education Principals Association; Triple P Positive Parenting). In addition to online resources, most States and Territories have created COVID-19 Hotlines, and in some cases mobile applications (e.g. NSW School Updates app). The key focus of these resources has been providing information and advice to **support student education and student mental health and wellbeing** during the school closures.

Table 5: Mapping current government responses across system levels.

Government response	Student	Family	School	Com-munity
Online information, tools and resources				
Providing online information, tools and resources to support student education (e.g. learning at home websites and platforms) and student wellbeing (e.g. factsheets, advice and guidance for parents and carers).	✓	✓	✓	
Funding and resource support				
Provision of resources to support home learning including internet access (e.g. affordable data plans and internet modems), digital devices (e.g. laptops) and educational materials (e.g. hardcopy books and learning packs).	✓	✓		
Financial relief for families (including foster and kinship carers) with school aged children (e.g. waived school and ECEC fees, one-off payments).		✓		
Young people in care turning 18 years of age during the COVID-19 pandemic (from March 2020 onwards) are supported to stay with their carer.	✓			
During school closures learning at school remained available at government schools for students experiencing disadvantage including: • Children in Out of Home Care. • Children and/or family services considered at risk of harm. • Children that the school considers to be vulnerable (this may be because the school has been contacted by a family violence agency, homelessness or youth justice service or mental health or other health service or because the child has a disability).	✓	✓	✓	
Information and funding support for schools to reduce health risks for students returning to classrooms and campus.			✓	
Wage subsidies and job matching services for trainees and apprentices.	✓			
Increased funding for student mental health support services.	✓			
Changes to education plans and assessments				
The reduction in assessment load (e.g. cancellation of NAPLAN in 2020, reduced internal assessment in Queensland) and adapting assessments to allow flexibility and individualisation (e.g. Consideration of Educational Disadvantage process in Victoria).	✓		✓	

All Department of Education websites have dedicated learning from home portals, which have been updated in response to increased demand and specific requirements in relation to COVID-19 restrictions. Most Departments also provide links to external organisations that provide educational support for Aboriginal and Torres Strait Islander students (e.g. the Victorian Aboriginal Education Association Incorporated); students with a refugee background (e.g. Foundation House); and students experiencing domestic and family violence (e.g. Safe Steps). Advice and guidance is also provided to support schools, teachers and educators, and students to return to school following closures – including advice on developing COVID-19 safety plans to ensure reduced risks for students returning to schools.

All Department of Education websites include links to relevant support resources and websites (e.g. CREATE Foundation, Beyond Blue – REACHOUT, Headspace, Mind), or have developed their own guidance to support student mental health and wellbeing. For example, the Queensland Department of Education has developed a fact sheet entitled '*Supporting primary students' wellbeing and mental health during COVID-19: Advice for parents and carers*'.

Wellbeing resources for students focused on building skills and self-care (e.g. practising mindfulness or gratitude journals, staying socially connected while physically distanced, being physically active and engaging in hobbies) are also provided. Advice for parents and carers tended to focus on building awareness for how parents' behaviour may affect student wellbeing, paying attention to the child's needs and emotions and establishing routines, and linking to resources to help parents have age-appropriate conversations about COVID-19 that are designed to mitigate anxiety and stress (e.g. CREATE Foundation's cartoon series *'Gus talks COVID-19 with kids, for kids!'*; and The Raising Children Network's resources for discussing mask wearing).

Providing funding and resource support

Funding support (Table 6) and resource support in the form of the provision of access to computers and internet devices for home learning were the main responses implemented in the early phase of the pandemic to address the educational impacts of COVID-19. Students experiencing disadvantage also had the opportunity to attend physical school campuses during remote schooling, but there is little publicly available data on the extent to which this occurred (Sonneman and Goss 2020). In addition, funding and resources have also been committed to support student mental health and wellbeing.

Table 6. Example funding support for families during COVID-19.

Funding support	Examples
Waived school fees	Catholic schools across Australia have extended school fee relief for families facing financial hardship due to the COVID-19.
Waived early childhood education and care fees	Australian Government's Early Childhood Education and Care Relief Package which ran until 12 July 2020.
One off payments	Victorian foster and kinship carers received a one-off $600 payment for every child cared for.
Wage subsidy	Australian Government's Supporting Apprentices and Trainees wage subsidy.

Case Study: Victorian Government funding to support students

The Victorian government have committed an additional AUD$28.5 million to expand student mental health support services. As part of this funding:

- More than 1,500 school staff will undergo additional mental health training in partnership with headspace, to help identify at-risk students as remote learning continues.
- All specialist schools with secondary aged students will also receive funding to recruit a school-based mental health practitioner, who will build provide wrap-around support to students and families.
- Mental Health and Wellbeing Coordinators with teaching qualifications will be employed across an additional 15 primary schools as part of an expansion to the Mental Health in Primary Schools pilot.
- The Navigator program, which supports young people to re-engage with school will be expanded to reach more students and ensure even during coronavirus, they remain connected to their education.
- The LOOKOUT program will be expanded to tackle disengagement from education of highly vulnerable students in out-of-home care, and other young Victorians who are at risk.

The COVID-19 restrictions have had a negative impact on Australian school-based apprenticeships in that registered training organisations were unable to provide classroom based training; and traineeships or apprenticeships were often suspended or cancelled by employers who could no longer provide the service, which will ultimately result in delays to students acquiring their certification of proficiency or verification of attainment. This is likely to have a direct impact on engagement and employment prospects of older students. As a result of these disruptions, the Australian Government's Supporting Apprentices and Trainees wage subsidy has been extended and expanded, and job matching services have also been created (e.g. the Continuing Apprentices Placement Service in New South Wales; the newly developed Program for Retrenched Apprentices and Trainees in Victoria).

In addition to the government responses aimed at educational outcomes, other government responses to COVID-19 potentially indirectly support the educational outcomes of students experiencing disadvantage. For example, income support initiatives as part of the Australian Government Economic Response to COVID-19 (e.g. JobKeeper; increased JobSeeker payments; early access to superannuation funds) and state-level responses to support rent relief and security provided benefit to students and their families in the form of short-term financial security and housing stability.

Adapting school assessments and reporting

Increased flexibility and customisation of education plans and assessments to reflect the needs of disadvantaged students, and to account for the changed learning environments resulting from COVID-19 restrictions have been a key response of the government sector.

At the national level, certain national tests have been cancelled for 2020 (e.g. NAPLAN), and the National Cabinet agreed to a set of National Principles for School Education to support the ongoing delivery of high-quality education for all students during COVID-19. The Education Council also agreed that Year 12 students will be able to achieve a Senior Secondary Certificate of Education this year, which will facilitate access to university and/or further education and employment. Within the States and Territories, assessment loads have been reduced and individual or personalised assessments and reports have been introduced.

For example, the Queensland Curriculum and Assessment Authority has removed one summative internal assessment from the assessment requirements for both General and Applied subjects in order to support senior students, teachers and school communities. The Victorian Curriculum and Assessment Authority is also set to introduce a wide-ranging '*Consideration of Educational Disadvantage*' process to calculate Victorian Certificate of Education scores, considering disruptions to learning caused by the coronavirus pandemic. As a result, each Victorian student will be individually assessed, and any adverse impacts of COVID-19 will be reflected in Australian Tertiary Admission Rank (ATAR) rankings.

National Principles for School Education during COVID-19

The National Cabinet agreed to a set of National Principles for School Education to support the ongoing delivery of high quality education for all students during COVID-19, to enable students to progress through their year level, and to support a successful transition to 2021:

- Our schools are critical to the delivery of high quality education for students and to give our children the best possible start in life. Our education systems are based on the recognition that education is best delivered by professional teachers to students in the classroom on a school campus.
- It is accepted that during the COVID-19 crisis, alternative flexible, remote delivery of education services may be needed.
- Our schools must be healthy and safe environments for students, teachers and other staff to ensure the effective and efficient delivery of education to students.
- State and Territory Governments and non-government sector authorities are responsible for managing and making operational decisions for their school systems respectively, subject to compliance with relevant funding agreements with the Commonwealth.
- Decisions regarding the response to COVID-19 in the schooling sector must continue to be informed by expert, official, national and state-based public health and education advice, consistent with these national principles.
- All students must continue to be supported by their school to ensure participation in quality education during the COVID-19 crisis.

The health advice consistently provided by the Australian Health Protection Principal Committee (AHPPC) is that attendance at a school campus for education represents a very low health risk to students. The advice also notes that appropriate practices must be employed at schools, like at other workplaces, to provide a safe working environment for school staff, including teachers, and that the specific AHPPC advice regarding school campuses should be followed.

Potential gaps in the government responses

Government responses to date have tended to focus on all students and address immediate needs associated with home learning, financial hardship, and to a lesser extent, mental health. There is limited evidence to suggest consultation and co-design with students and their families, or targeted and tailored actions that recognise the risk factors and address the needs of students experiencing disadvantage.

Few strategies or plans federally and across the States and Territories address the longer term impacts of COVID-19 on the education outcomes of already disadvantaged students. The current responses addressing the immediate needs of students and their families need to be embedded within longer term strategies and policies that recognise and address the ongoing and far reaching impacts of COVID-19.

There is also a need to develop supporting policy across the States and Territories to support the ongoing delivery of high-quality education for all students during COVID-19 in line with the National Principles for School Education. To date only a few jurisdictions (e.g. New South Wales; Victoria) have developed clear and publicly available education plans and policies.

The effectiveness of the wage subsidy support and job matching services to encourage apprentices and trainees to complete their training remains to be seen, and the long-term impacts on engagement and employment prospects of current trainees and apprentices remains unaddressed in policy responses. Limited attention has also been given to rural and remote contexts where challenges in providing high quality education (e.g. lack of telecommunications infrastructure and/or digital literacy) and supporting student mental health can be exacerbated under school closures.

Finally, from the current review of government responses it was not possible to determine if any of the responses were undertaking monitoring and evaluation to assess their status relative to respective targets and outcomes, and provide the evidence of why targets and outcomes have (or have not) been achieved.

What are the emerging areas for action?

Early insights on the immediate education impacts and responses to COVID-19 have led to a number of recommendations, which can be used to inform mapping of potential solutions. These insights have been derived from published papers by national and international academics, Think Tanks and commentators – the majority of which have not been peer reviewed and are often based on expert opinion rather than demonstrable evidence. Most of the current recommendations lack actionable insights or direction on how to enact the recommendations. In particular, there is currently limited information about:

- What evidence informed the recommendations.
- How the recommendations should be implemented.
- What the measures of success are for these recommendations.
- Who the specific target audience or context for these recommendations are.
- Who the stakeholder(s) responsible for the recommendations is/are.

Most recommendations are directed at the school (and mainly at teachers), with limited advice or information on long-term action or how to affect change at the community level. As such, the recommendations place a high expectation on teachers in terms of innovative and adaptive pedagogies and relationship management, but currently provide limited consideration about teacher workloads and burnout, health and wellbeing, and salaries. Nonetheless, upon review of the literature at this early stage of the pandemic, four emerging recommendation themes are evident (and mapped by student, family, school community), but it is anticipated that as the COVID-19 situation evolves and more time is available to gather additional knowledge, new actionable insights will emerge through the published literature and through this *Learning through COVID-19* project.

Digital equity

Digital equity refers to safe, fair and equitable access to technology (internet, data and devices) and the literacy, skills and capacity to use technology effectively. COVID-19 and the associated switch to home learning further compounded the already existing divide in digital equity. The divide in digital equity is particularly prevalent among households experiencing disadvantage and Indigenous, rural and remote communities, and is a key driver of the widening learning gap seen during school closures (Drane et al. 2020). Disadvantaged students experience challenges such as limited access to devices (e.g. not owning a laptop, multiple people needing to use the one device), internet (e.g. unaffordable broadband and data plans, increasing internet bills), and lack of digital literacy (skills to effectively use online learning platforms and safely navigate the internet). While remote learning alone presents shortcomings, there is evidence to suggest that 'blended learning', combining face-to-face and remote learning, may be as effective as classroom learning for many students (Finkel 2020).

Table 7 outlines a summary of digital equity recommendations for action, to inform planning for future disruption and home learning. However they also indicate a response that may assist improving digital equity for students to support homework, safe online practices, digital literacy of families and carers and future blended approaches to learning.

Table 7. Summary of digital equity recommendations for action.

Student	Build age-appropriate technology skills and digital literacy to support effective engagement with online learning. Raise awareness of safe online practices and mitigation strategies for cyberbullying.
Family	Support low-income families with technology access and use. This includes access to reliable, sufficient speed and quality, and affordable connectivity/internet, as well as access to suitable devices (internet modems, laptops). Build digital literacy of parents and carers to support students to safely navigate the internet and effectively engage with online learning.
School	Build the readiness, skills, confidence and capacity of teachers and educators to use ICT for teaching, adapting pedagogies for online learning and incorporating blended approaches and combined modalities (e.g. educational radio and television in regions with poor internet connection). Build school ICT infrastructure and resources to provide safe, accessible and inclusive learning management systems. Streamline the number of applications and platforms used to deliver online learning and make them user-friendly and accessible in order to avoid over-burdening parents/carers and students.
Community	Ensure ICT infrastructure supports equitable access to reliable and high quality internet. Implement measures to ensure data privacy and data security and limit exposure to malicious content on the internet.

Student mental health and wellbeing

Students are more likely to experience psychosocial challenges such as social isolation, increased anxiety, stress and depression and reduced wellbeing as a result of COVID-19, with exacerbation of these challenges likely to be more pronounced among disadvantaged students (Drane et al. 2020).

Table 8 outlines the mental health and wellbeing recommendations for action.

Table 8. Summary of the mental health and wellbeing recommendations for action.

 Student	In the short-term, 'prioritise solutions to address psychosocial challenges before teaching' (UNESCO 2020) and apply a 'Maslow before Bloom' approach (Doucet et al. 2020) where students' safety and wellbeing is prioritised before academic outcomes. Consider online mentoring programs to support student wellbeing.
 Family	Provide outreach to, and proactive support for, the health and wellbeing of families and carers most impacted.
 School	Work with educators to introduce social emotional learning modules that address stigma and social exclusion caused by the COVID-19 pandemic and that utilise protective factors. Build awareness and skills of teachers to deliver mental health support and trauma informed care. Teachers must operate with an understanding of the complexities of home lives and or the mental, emotional and physical strain their communities are facing. Support the health and wellbeing of teachers, create peer-support communities to foster social connections and share knowledge and resources, monitor teachers for signs of distress and burnout, and provide teachers with access to psycho-social support.
 Community	None of the recommendations reviewed included recommendations for intervening at the society level.

Student engagement

Disruption to education caused by COVID-19 is likely to increase the risk of long-term educational disengagement, particularly among students already experiencing disadvantage (Drane et al. 2020). This is of particular concern for young people at risk of school disengagement and in contact with the child protection system given the severe disruptions to traineeships and apprenticeships that offer a popular education and training pathway for students in these cohorts.

Table 9 outlines a summary of student engagement recommendations for action.

Table 9. Summary of student engagement recommendations for action.

 Student	Implement 'catch-up' plans for students experiencing disadvantage with assessment of lost learning and targeted, sustained support. Maintain and foster student social connections and relationships even during home learning contexts.
 Family	Help parents/carers to understand elements of teaching such as how students learn, how parents/carers can help their children to seek support from teachers; errors should be learning opportunities, not evidence of failure.
 School	Develop flexible, responsive and customised modes and models to education delivery that adopt blended approaches to learning. Be adaptive and innovative with pedagogies to find solutions to incorporating culturally appropriate pedagogies within online and blended learning approaches and to meet the needs of students experiencing disadvantage. Teachers should seek feedback from parents about the educational needs of the student, including their emotional status. Support positive, consistent and clear communication between teachers, parents and students. Foster positive relationships between teachers and students. Identify students who may have fallen behind, monitor progress and intervene to ensure they catch up with their peers. Build an evidence base of what has and hasn't worked in supporting students during school disruptions, and develop a proactive and evidence-based approach to responding to future potential disruptions.
 Community	Collaborate within and across schools and across sectors and government agencies to support students experiencing disadvantage. Long-term solutions are needed to address the inequities in education beyond the immediate impacts of COVID-19.

Parents and carers

Parent/carer engagement in children's learning and the quality of the home learning environment are associated with improved educational outcomes at all ages (ACER 2020). The switch to home learning during school closures created a unique circumstance where parents/carers gained firsthand experience and understanding of their child's learning (Clinton 2020). There is an opportunity to build on this to better engage parents and carers with supporting children's learning.

Table 10 outlines a summary of recommendations for action for parents and carers.

Table 10. Summary of recommendations for action for parents and carers.

 **Student**	Parents and carers play an active role to help children develop independent learning skills.
 **Family**	Engage parents/carers and children in designing and developing curriculum that is manageable within the home environment and responsive to the particular needs of the learner. Provide parents/carer with practical strategies and materials (including books and paper-based learning packs) to support learning at home. Respectfully support parents/carers to create a rich home learning environment.
 **School**	Develop clear understanding of the roles of teachers and parents/carers during home learning – role of the parent is not to replace the teacher, but rather to support the learning of the child with the nature of this support varying depending on the age of the child.
 **Community**	Cross-sector collaboration between schools, government, business, philanthropic and the community sectors is needed to support disadvantaged students and their families.

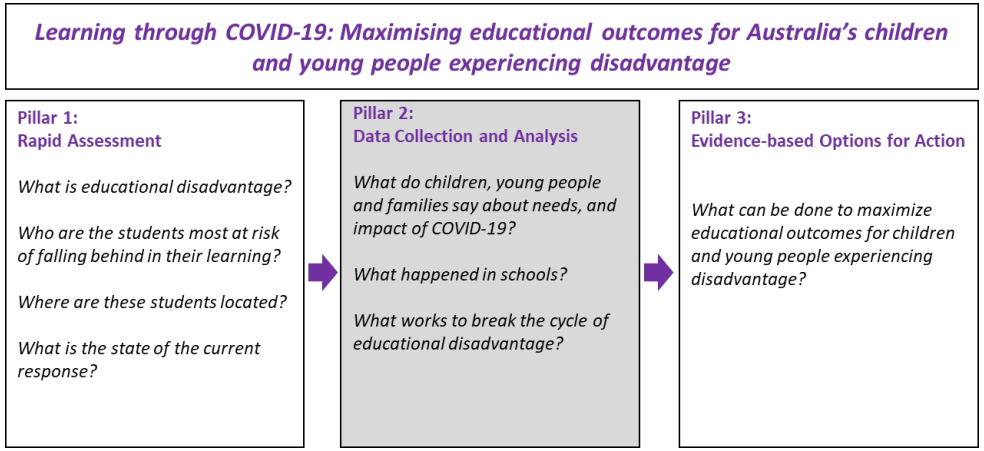
Next steps and acknowledgments

Next Steps

This report highlights some common risk factors across two or three cohorts and other factors that are specific to a single cohort. Some risk factors identify sub-cohorts, such as boys, Aboriginal or Torres Strait Islander students, students from backgrounds with limited English language proficiency, or students from low SES backgrounds. Other risk factors relate to the individual circumstances of students, such as having a health or mental health condition; or to the education environment, such as challenges faced by parents supporting home learning, weaker student connectedness to teachers and schools, financial hardship and food insecurity in families, and a weaker youth labour market. The cohorts are also unevenly distributed geographically, with some regions having comparatively high prevalence, but small numbers, others having higher than average prevalence, but relatively large numbers, and some having large numbers reflecting population size, but not especially high prevalence levels. Within these cohorts the students in greatest need will be those with multiple risk factors living in places and communities with high levels of socioeconomic disadvantage. Providing effective solutions for such students will be particularly challenging, because solutions may need to address many factors, and the environment in which students learn may be highly disadvantaged.

This information presented in this report about students' risk factors and the likely impact of COVID-19 will be validated and expanded upon by consulting with families, children and young people from the three cohorts as part of the Pillar 2 activities.

The Pillar 2 activities will enable a better understanding of the issues, the responses and what will work to support these students. In addition, an extensive stakeholder consultation will also be undertaken in Pillar 2 to confirm and expand on what responses have been undertaken to support students experiencing disadvantage, and what else could be done.



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Appendix 1. Summary of the methodology used to develop this report

An understanding of the needs of children and young people within Australia, and how these are likely to be impacted by COVID-19, required triangulation of the available evidence across multiple data sources. Brief methodologies are provided here, but the full protocol and methodologies for each of these components is provided in the seven technical supporting materials that underpin the contents of this report.

International grey literature scan

A grey literature scan was undertaken to identify current evidence of the education impacts directly emerging from the COVID-19 situation in Australia and internationally. Given the speed and recency of the pandemic, much of the current emergent data is available through non-traditional data sources. For this reason, the grey literature, including government and non-government agency reports, abstracts and early print academic papers are an important source of early contextual data.

A total of 20 national and international databases were searched, including scanning of ~2500 potential data sources. All primary source literature presented in English and providing direct data on educational outcomes of COVID-19 were included. Data for each source was extracted and thematically analysed to examine the range, diversity and gaps in evidence regarding the educational impacts of COVID-19 currently available for Australia and internationally.

Rapid literature reviews

The three rapid reviews that were conducted focused on understanding risk factors for Australian children across each of the target cohorts. Review protocols were developed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guidelines (Moher et al. 2009) and tailored specifically for each cohort with input from experts within the field. Database searches were developed in consultation with an expert librarian to ensure coverage and consistency across searches.

All peer reviewed studies published in English that reported on risk factors for educational outcomes of Australian[2] children within the specified cohorts were included within these reviews. As a specific focus was on understanding of evidence regarding those risk factors that are most likely to be exacerbated by the context of COVID-19, data emerging from 'proxy' events were examined to establish how these cohorts may be impacted by similar contextual events (e.g. economic shocks, natural disasters, public health events, school absences).

Across the three reviews, more than 8,500 papers were scanned for inclusion, with 77 papers reporting on data for over 800,000 children and young people included in the final analyses. Once included papers were identified, risk of bias assessments were undertaken to account for the quality of evidence and, where appropriate, effect sizes were examined to capture the relative influence of different risk factors. Analyses focused on (1) the range and type of risks; (2) the relative impact of these risks for educational outcomes; and (3) the extent to which these risks are likely to be modifiable and/or exacerbated by the COVID-19 pandemic.

Secondary data analyses

Secondary data analysis was undertaken as part of the Pillar 1 work, utilising pre-COVID-19 data. These analyses aimed to:

- Quantify the size and geographic distribution of the three cohorts, and assess variation in terms of key characteristics to support the identification of relevant sub-cohorts.
- Validate the cohorts through an assessment of their educational outcomes, relative to the outcomes for children and young people who are not members of the identified cohorts.
- Validate the risk factors identified through the rapid reviews that are likely to compound educational disadvantage within the cohorts.

A number of secondary data sources were used in these analyses, including the Longitudinal Survey of Australian Children (LSAC), the Longitudinal Surveys of Australian Youth (LSAY), as well as publicly available statistics published by the Australian Bureau of Statistics (ABS), the Australian Institute of Health and Welfare (AIHW), the Australian Curriculum, Assessment and Reporting Authority (ACARA), and the Reports of Government Services (ROGS) compiled by the Productivity Commission.

Policy mapping

The rapid review of current government responses applied a two-stage approach. First, a website audit was conducted to record the COVID-19 related information and resources provided on government education and child service department websites across all jurisdictions (State, Territory and Commonwealth) as well as the websites of family and child commissions for each state and territory. Information was collated on responses that have been implemented to support the educational needs of children and young people during the COVID-19 pandemic and identified any gaps in responses. The second stage involved the collation, screening, data extraction and analysis of relevant documents identified during the website audit. Any supporting

2 Note that for Cohort 3: Children in contact who have had contact with the child protection system, due to the limited population size, eligibility criteria was extended to include those in countries beyond Australia with similar child protection systems (e.g. USA, UK).

policies or plans that were publically available were also included.

A systematic search strategy was used to rapidly identify current, relevant COVID-19 resources, policies and guidelines using key terms relevant to the review (i.e., 'COVID-19', 'education' and 'disadvantage'). Twenty-seven (27) websites were audited and searches were completed in early August 2020. Relevant documents were identified and collated for full data extraction. Searches were limited to publically available documents. Data was extracted from approximately 45 documents. Extracted data was analysed to identify commonalities in responses applied across different jurisdictions. Responses were mapped against the needs of the three cohorts and assessed to determine key gaps in the current responses across jurisdictions.

Appendix 2. Quality of the risk factor evidence

Risk Factors for Educational Disadvantage	Identified Cohorts						
	Cohort 1		Cohort 2		Cohort 3		
	RR	QA	RR	QA		RR	QA
Student							
Gender							
Being male	2	*	2	*		2	
Sexual orientation/gender Identity	3		2	-		2	
Health							
Health conditions	2	*	3			2	
Developmental delay/disorders	2		2			2	
Mental health	3		2	-		2	
Illicit substance use	NA		2	-		2	
Behaviour problems	3^		2			2	
Family							
Aboriginal and Torres Strait Islander	2	-	2	*		2	†
Refugee	3		1			1	
Poor English proficiency (English not first language)	1#		3			1	
SES[a]	1	*	1	*		1	
Parenting/family functioning	1		1	-		1	
Maltreatment/violence	1		2			1	
Internet; access and usage	3		2	-		2	
Placement stability	NA		NA			2	
School							
Home learning environment	1	*	2	*		1	
Early childhood education and care	2	-	3			2	
Teacher support/school connectedness	3		1	-		1	
Social support (community)	3		2			2	
School mobility	3		3			2	
History of suspension	NA		1	-		1	
Absences/truancy	3		2			2	
Community							
Youth unemployment	NA		2			2	
Location	3	†	2	†		2	†
Juvenile detention	NA		NA			2	
Homelessness	3		3			2	

Hypothesised risk factors for educational attainment are combined from Cohorts 1 and 2.

Legend:

1	High-quality
2	Moderate-quality
3	Unclear/unknown
NA	Not applicable

Notes:

Purple indicates that one or more studies identified that risk factor, reported moderate to high effect sizes and had low to moderate risk of bias; blue indicates where the literature was not specific for these cohorts however, based on other knowledge about the contributing factors to disadvantage, and where more research is needed.

RR – Rapid Review.

QA – Quantitative Analysis.

High-risk was allocated to studies with moderate to large effect sizes (Chen et al. 2020; Cohen 1988) and low to moderate risk of bias. Moderate-risk was allocated to studies with small effect sizes and moderate to high risk of bias. Unclear/unknown was allocated if none of the identified studies examined the specified risk factor directly.

[a] Definitions of SES varied in the literature and across cohorts, as such, SES includes measures of household composition (i.e. single parent family), family income, and parent education.

^ Many studies examined behavioural problems as an outcome or a marker of school readiness.

Caveat is that this was only significant if the child also exhibited problems with English in conjunction with being from a culturally linguistic background.

* Indicates factors that were significant predictors of educational outcomes in logistic regression models

- Indicates factors that were included in the model but were not significant independent predictors.

† Indicates factors that were observed to differ using census data, but were unable to be included in the modelling.

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