Submission to the South Australian Royal Commission into Early Childhood Education and Care

Mitchell Institute

April 2023

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About the Mitchell Institute

The Mitchell Institute is an education and health policy think tank based at Victoria University. Our role is to translate in-depth insights from research and practice into practical policy ideas, while looking beyond simplistic solutions. We have a focus on making health and education systems fairer for all.

The Mitchell Institute works to inform and influence public policy and practice to improve the health and education opportunities of all Australians, in particular those in socio-economically disadvantaged communities.

The key activities of the Institute in support of this goal are:

Analysing evidence and data to understand how our education and health systems are performing; who they are supporting well and who they are failing; how policy settings are influencing health and education outcomes; and the extent to which international evidence and experience can contribute to improving the health and education of Australians.

Supporting and stimulating public discussion and debate to increase policymakers' and public understanding of the key health and education challenges we face; the benefits to both the economy and society of fairer and more responsive health and education systems; and how these systems can be improved through evidence-based policy and practice.

Assisting and advising policymakers to make better use of evidence in designing and implementing reform. The Institute's experts translate complex health and education system data into clear policy ideas; they engage directly with decision-makers, service providers and service users to provide a deep and well-rounded perspective on challenges that Australia faces; and they research international health and education systems to understand the impact of different policies and practices, and possible relevance to the Australian context.

The Mitchell Institute has a proven ability to **translate in-depth insights from research and practice into practical policy ideas, while looking beyond simplistic solutions**. Through collaboration with experts, governments and influencers, and practitioners, the Mitchell Institute connects with the right people to create meaningful change. Its **major research reports and high-level policy briefings** have been highly influential in informing and catalysing policy debate across a range of areas.

In the education policy area, the Mitchell Institute covers the entire education system from early childhood education and care (ECEC) to lifelong learning. Our ECEC program has been particularly prominent and published many influential reports.

We welcome the opportunity to outline some of the research that we have undertaken in ECEC. We would further welcome any opportunity to discuss this research with the Royal Commissions as it undertakes its important work.

Childcare access: Deserts and Oases

Access to quality childcare is increasingly critical to Australian children, families and the economy. In the first research of its kind in Australia, the Mitchell Institute examined access to centre-based day care in over 50,000 neighbourhoods across the country.

We found that when it comes to access to childcare, where you live matters.

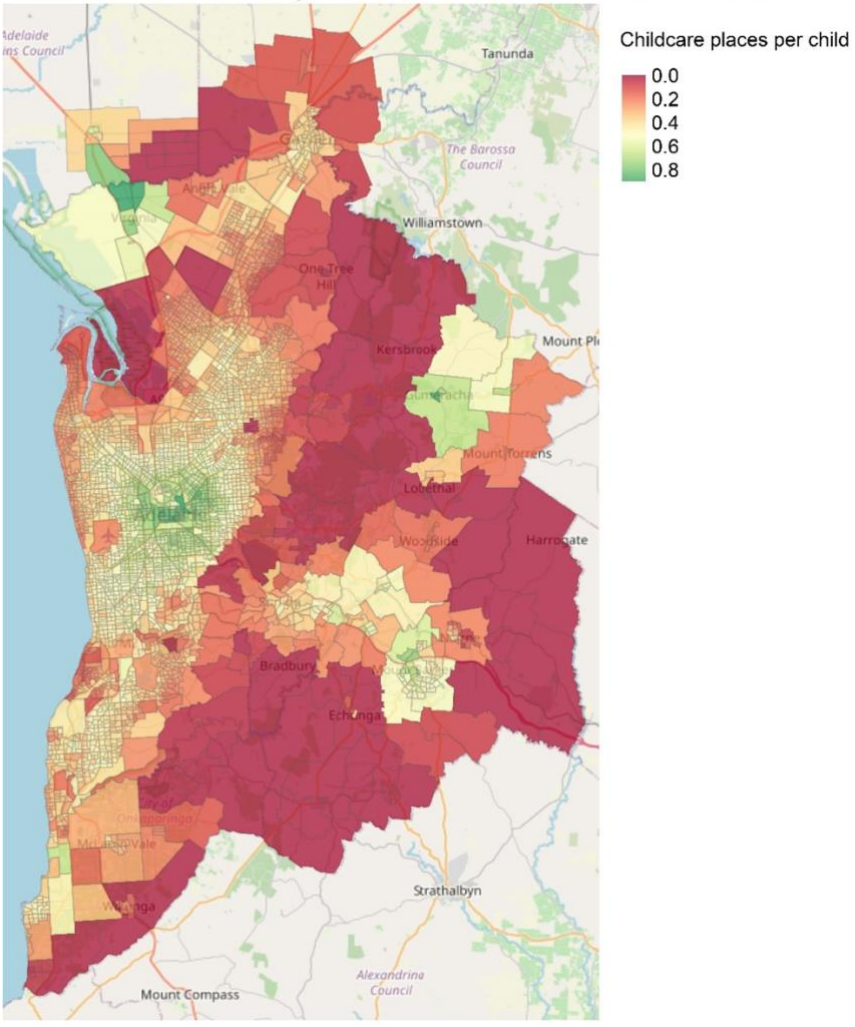
About nine million Australians, 35% of the population, live in neighbourhoods we classify as a childcare desert. A childcare desert is a populated area where there are more than three children per childcare place, or less than 0.333 places per child aged four or under.

This is where childcare access is most scarce and there are deserts in all states and territories, and in all capital cities.

Figure 1 below shows the results of our analysis for Greater Adelaide.

Figure 1: Childcare accessibility of Greater Adelaide

Childcare deserts. Orange and red areas indicate childcare deserts



The pattern shown in the above figure of Greater Adelaide is typical of childcare accessibility in Australia's major cities. The centre of cities, close to central business districts, have the greatest accessibility, indicated on the map in green. There are pockets of green elsewhere in the city indicating neighbourhoods with relatively high childcare access. The orange and red areas indicate childcare deserts and are located throughout the city. Some outer regions

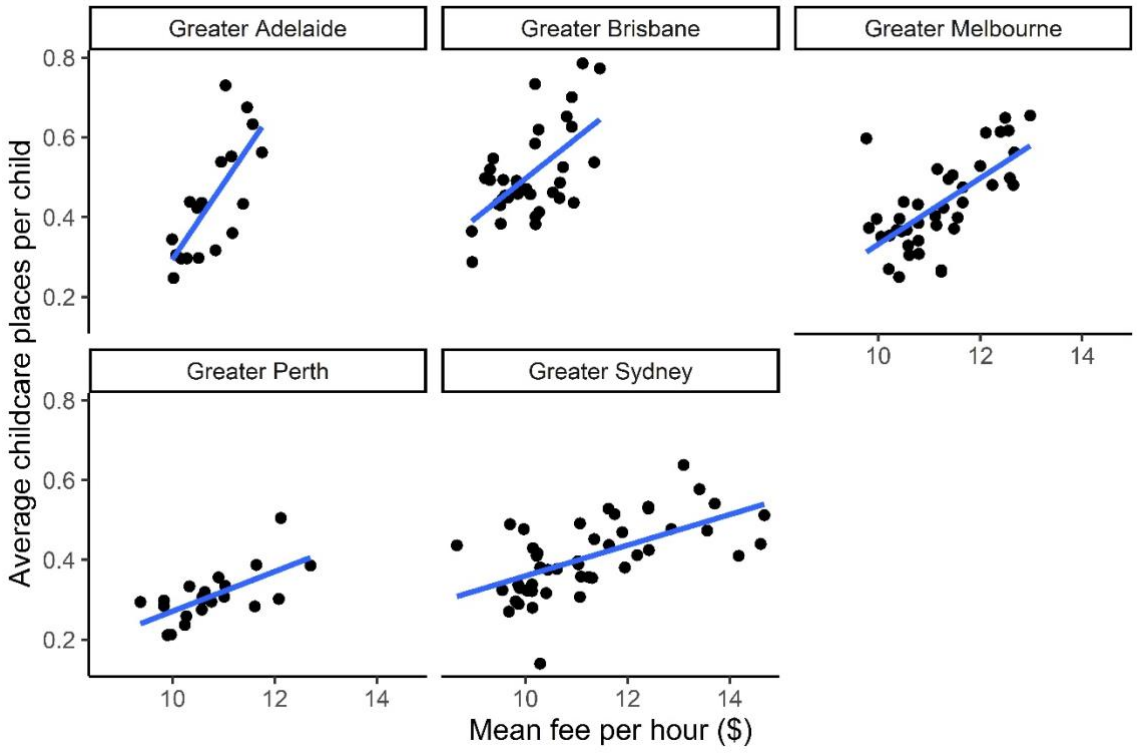
appear as dark red and are areas where there is very little or no childcare available. These areas also often have fewer people living in them.

There is strong evidence that families from more disadvantaged backgrounds benefit the most from high-quality early childhood education and care.

Yet our research shows that it is the most disadvantaged that have the lowest accessibility to childcare. Part of the reason for this may be the underlying principles of the childcare system that encourage providers to establish services where there is lower risk and greater reward. One way of illustrating this is to explore the correlation between price and accessibility.

Figure 2 shows the relationship between the median cost per hour of childcare and the average childcare places per child in the five major capital cities with a population over 1 million people. Each dot is an SA3 region and represents a population of between 30,000 to 180,000 people. The horizontal axis shows the mean fee per hour and the vertical axis shows the average childcare places per child in each SA3 region. The blue line shows the trend.

Figure 2: Average childcare places per child and mean fee per hour ($) by SA3 in the five largest cities in Australia



This figure highlights how areas, where there is greater supply of childcare, are also areas where providers charge higher fees. These areas of higher supply and higher fees are oftenareas of greater advantage.

This figure suggests that there is an incentive for providers to operate in advantaged areas where they can charge higher fees, even if there is greater competition. This leaves more disadvantaged areas with lower levels of childcare accessibility. As a consequence, Australia is not fully capitalising on the long-term benefits to children from more disadvantaged backgrounds of high-quality early learning.

The research is complex and many areas. We have attached a copy of the report to this submission.

Two Years are Better than One

Access to a high-quality preschool program is one of the few proven strategies for lifting outcomes for all children.

Evidence shows that two years of preschool has more impact than one, especially for the children most likely to be developmentally vulnerable. In 2015, we argued that it was time for Australia to pursue a national commitment to ensuring all 3 year olds have access to high-quality early childhood education by offering a second year of preschool.

If Australia is to remain globally competitive into the future, it is vital that we invest in programs that promote opportunity, boost our human capital and close the disadvantage gap.

Currently, nearly a quarter of Australian children arrive at school without the skills they need to learn.

And we are not doing all we can to ensure all children have the best possible opportunity to develop the early cognitive and social emotional skills that set them up for life.

Australia has laid the groundwork for delivering two years of high-quality, universal preschool programs.

The children missing out are the ones who would benefit most from access to a preschool program, and not all children are receiving the amount of high quality early education needed to maximise their potential.

There is a clear opportunity here. Moving to universal access to two years of preschool can be an affordable, achievable and effective way for us to achieve greater and more equitable outcomes for Australian children.

Cost

The reality of family and work life has changed substantially over the past three decades, and many argue that despite significant reform, our ECEC system is not adequately supporting children and parents to thrive and fully engage in life.

Since the 1980s, women's employment rates in Australia have increased dramatically – from around 50 to nearly 70 per cent. Since 2000, the proportion of children aged 0 to 5 years attending childcare has increased from around 30 to 45 per cent, with participation rates up to 64 per cent for three-year-olds.

Despite government subsidies that meet up to 95 per cent of childcare costs, depending on a family's economic circumstances, childcare is still a significant cost for many families.

While means-tested subsidies have reduced costs for the most disadvantaged families, they can be crippling for many. In many cases, this results in parents – often women – deciding not to work, or working fewer hours than they would like to. In some cases, it results in parents deciding not to use early childhood education and care services, meaning children are not benefitting from the developmental benefits of early learning.

But exactly how much parents spend, how this compares with other major household expenditure, and how much is too much, are all open questions. Too often, these questions are being answered with anecdotal evidence and inadequate data that does not cover the breadth of family circumstances, is outdated, or provides limited insight into the problem.

The Mitchell Institute undertook an analysis of the cost of ECEC in the paper *Counting the Cost to Families*. The paper reviewed available data on expenditure and affordability, and presented new analysis of household expenditure data to understand how much Australian families are spending on early childhood education and care, as a proportion of their disposable income.

In the US, affordability of childcare for low-middle income households is determined by a benchmark of no more than seven per cent of family disposable weekly income. Our analysis found that around 40 per cent of Australian families are spending more than the seven per cent threshold of their disposable weekly income on early education and care expenses. Our analysis suggested that for about 386,000 Australian families, childcare is unaffordable. While low and medium income families receive the greatest subsidies, these families can afford the cost of ECEC the least because of their lower household disposable incomes.

Recent changes to subsidy rates may alter the number of families who exceed the affordability benchmark. But the problem remains the same.

Other issues

Australia's demand-side subsidy model that characterises services covered by the Child Care Subsidy brings with it many strengths and weaknesses. It is this model that is the subject of conjecture, and lies at the heart of many of the challenges faced in the ECEC system. Access, cost, workforce and quality are all impacted by this approach.

There are no easy answers to how Australia should structure its ECEC system. However, we believe now is the time to reform the sector so that we can ensure it is meeting its manifold aims.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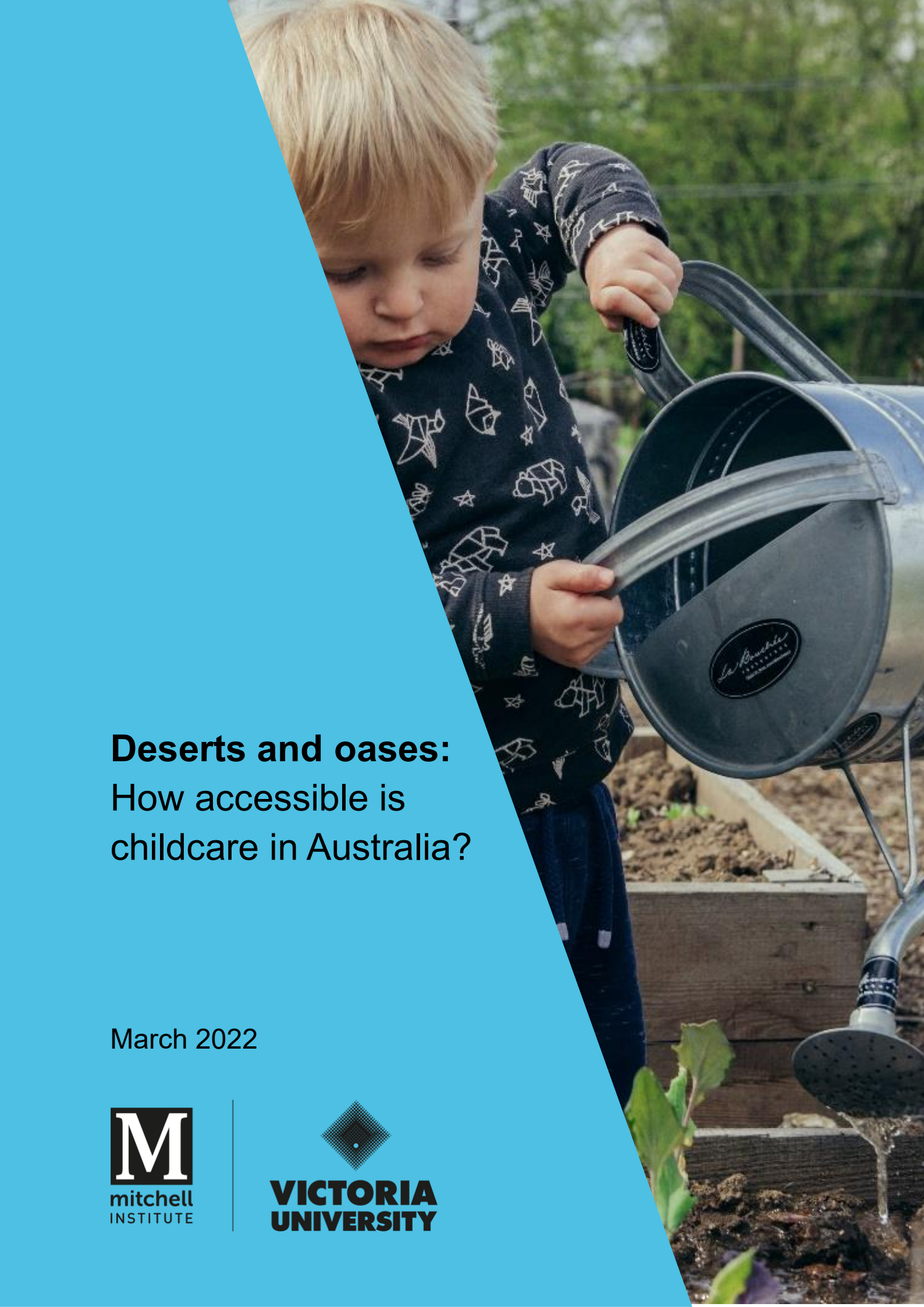

Deserts and oases: How accessible is childcare in Australia?

March 2022

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About us

The Mitchell Institute for Education and Health Policy at Victoria University is one of the country's leading education and health policy think tanks and trusted thought leaders. Our focus is on improving our education and health systems so more Australians can engage with and benefit from these services, supporting a healthier, fairer and more productive society.

Acknowledgements

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Cover image

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Foreword

No Australian child should be left stranded in a childcare desert

The evidence is overwhelming on the impact of good quality early learning in fuelling children's development and giving them a great start in life.

The size of a child's brain reaches 90 per cent of an adult's by the age of five. These early years are critical for lifelong learning and well-being. Talking, reading, playing and singing with babies and toddlers is vital in shaping thinking and emotional patterns for life and influencing learning, relationships and resilience.

That's why this Australian-first analysis of childcare accessibility mapped against children aged 0 to 4 years is so critical – and its findings are stark.

This new research reveals where in Australia the demand for space in early childhood education and care (ECEC) outpaces local capacity to provide services, where 'childcare deserts' are found.

It shows us childcare deserts are disproportionately located in rural and regional areas and where there are higher proportions of children and families on lower income or below the poverty line.

Early learning can be a great equaliser for children, helping them start formal learning on an equal par with other children.

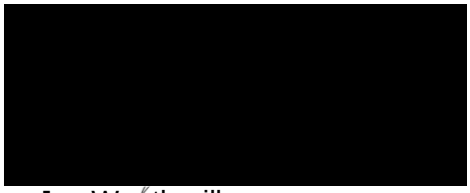
High quality early learning has a big impact on children from disadvantaged backgrounds as the education they receive provides the stimulation and development trigger that may not be readily available at home or surrounds.

Children and families in these areas are among the most likely to benefit from early learning, yet structural problems in the system have abandoned them without the access they need.

This is not just a report, it is a call to action for political leaders and our community.

We should insist on policies that will make Australia the greatest place in the world to grow up, and the greatest place in the world to be a parent.

Australia needs universally accessible high-quality and affordable early learning for every child, regardless of their postcode or family circumstances.



Jay Weatherill
CEO- Thrive by Five

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Part I: Executive Summary

Access to quality childcare is increasingly critical to Australian children, families and the economy. There are many anecdotal reports of families having difficulty finding appropriate childcare services, especially in regional Australia and some parts of our major cities. However, there is a lack of evidence exploring the nature and extent of the problem.

This report aims to help to fill this evidence gap by examining access to childcare in Australia. In this report, we are focussing on one type of childcare - centre-based day care, which is subsidised by the Commonwealth Child Care Subsidy (CCS) and is the service most used by children and families.

We measured the supply of childcare in almost every part of the country and compared this to the potential demand – the number of children who living in each neighbourhoods. We used spatial measurement techniques that enabled us to determine the relative accessibility of childcare in Australia and to determine where there are childcare deserts and oases.

Our analysis shows that where you live matters. Families in regional areas are the most at risk of suffering from poor access. There are also concerning correlations between access to childcare and socio-economic status.

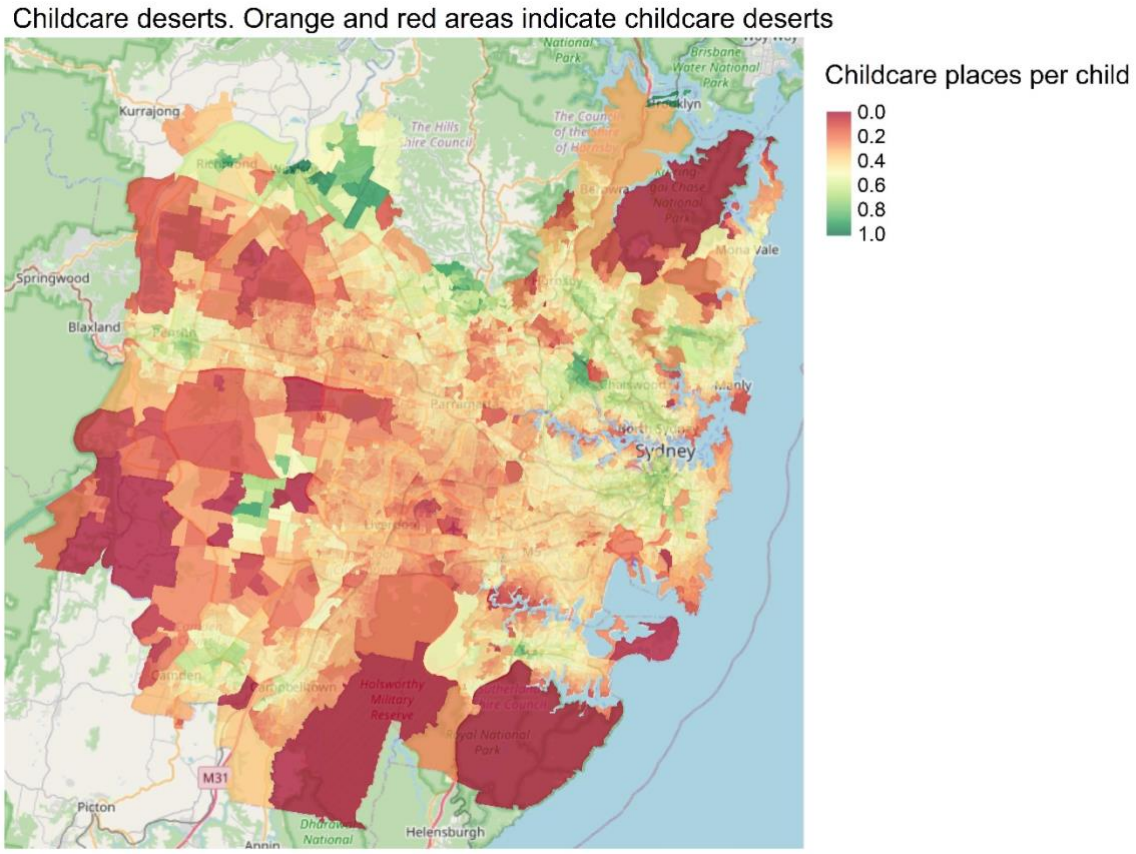
Our analysis highlights that Australia needs new policy approaches to ensure that all Australian families can access the benefits of high quality childcare.

What did we find?

Our analysis shows that when it comes to childcare access, where you live matters. We found that about 9 million Australians, or 35.2% of the population, live in neighbourhoods we classify as a 'childcare desert'. A childcare desert is a term that comes from the early learning research literature and refers to areas where childcare is most scarce. The definition of a childcare desert is a populated area where there are less than 0.333 childcare places per child, or more than three children per one childcare place. About 568,700 children aged 0 to 4 years, or 36.5% of children in this age group, live in neighbourhoods we classify as a childcare desert.

Figure 1 below shows childcare accessibility for Sydney. Areas in yellow and green indicate higher levels of childcare accessibility. The areas in green we describe as 'childcare oases'. These are located in the centre of Sydney and in the more affluent areas in Sydney's east, inner west and north. There are also patches of green in suburban areas. These areas can be similar to neighbouring regions in terms of socio-economic status but have lower levels of culturally and linguistically diverse populations.

Figure 1: Childcare accessibility for selected areas of Sydney



Areas of orange and red on this map indicate childcare deserts – where there are less than 0.333 childcare places per child, or more than three children per place. These are often in suburban and outer suburban regions. Compared to childcare 'oases' they generally have a greater relative disadvantage or a higher proportion of culturally and linguistically diverse populations.

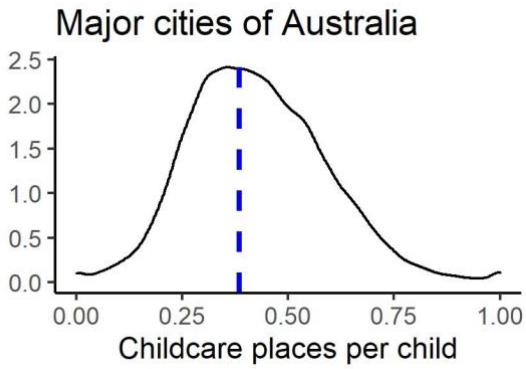
Childcare accessibility varies by region

The pattern for Sydney shown in the above map is typical for Australia's major cities. Families in regional and remote areas, however, are the most at risk of suffering from poor access to childcare.

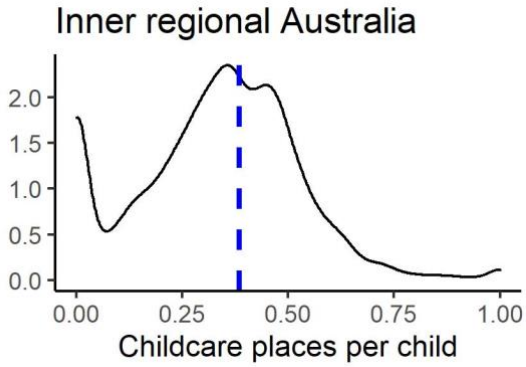
Figure 2 below shows several smoothed density estimates (which is a smoothed version of a histogram) of the ratio of available childcare places per child. The figure displays neighbourhoods in different areas of Australia, from major cities to very remote areas. The higher the line, the more regions with the number of childcare places per child. The national median of 0.38 childcare places per child also appears as a dashed blue line.

Next to each figure is an overview of what the shape of the line indicates about childcare accessibility for that region of Australia.

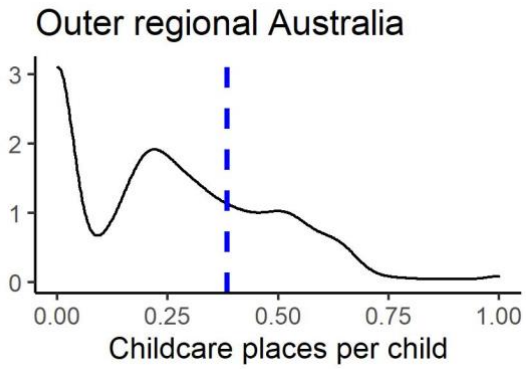
Figure 2: Smoothed density estimates of childcare places per child in Australian neighbourhoods by remoteness area



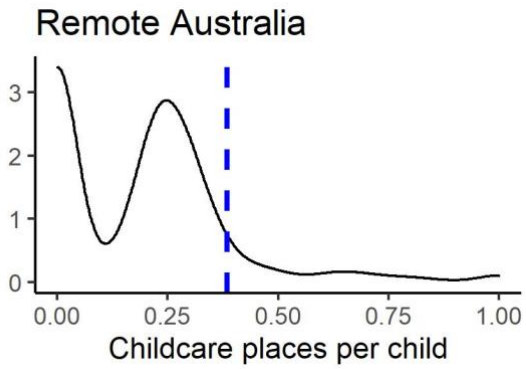
In major cities of Australia, there are very few neighbourhoods where there is no childcare supply. Accessibility gradually increases and peaks at around the national median before falling. The median for major cities of Australia is 0.42 childcare places per child. The line rises slightly at 1 childcare place per child indicating areas with very high levels of childcare supply. About 28.8% of the population live in areas classified as childcare deserts.



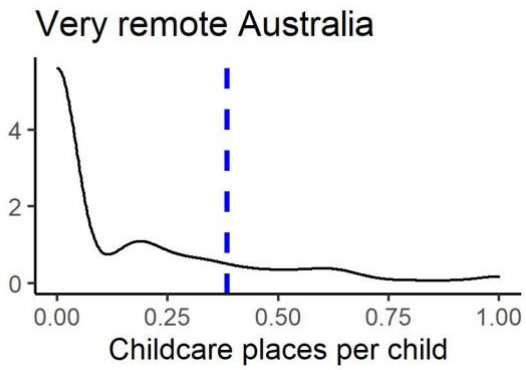
Inner regional Australia has a similar distribution of childcare accessibility to major cities with some important exceptions. First, the height of the line at the start indicates there are many areas where there is no childcare supply. Second, the median for inner regional Australia is less than major cities, at 0.35 childcare places per child. 44.6% of the population live in a childcare desert.



There are many areas where there is no childcare supply in outer regional Australia. Overall, childcare is scarcer in outer regional areas than nationally, and the median is 0.24 childcare places per child. However, outer regional areas have the highest proportion of neighbourhoods above 0.4 childcare places per child. This suggests that overall accessibility is low, but there are some parts of outer regional Australia with relatively high levels of childcare supply. 61.3% of the population live in a childcare desert.



Remote Australia has many areas with no childcare supply. Most of the line is either close to zero or below the national median, indicating there are few neighbourhoods with high levels of childcare supply. The median for remote Australia is 0.21 childcare places per child. At 85.3%, remote Australia has the highest proportion of the population living in a childcare desert

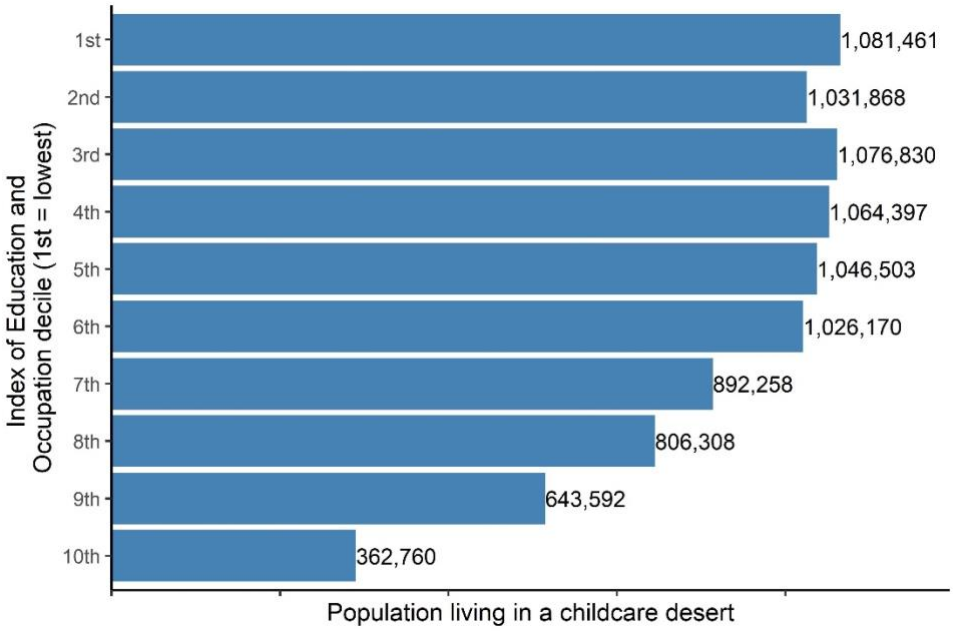


Childcare is scarce in very remote Australia. A majority of locations have no childcare supply – the median is 0 childcare places per child. 77.8% of the population live in a childcare desert.

More disadvantaged areas have lower levels of childcare accessibility

This research also shows that there are concerning correlations between access to childcare and socio-economic status. Figure 3 below shows the total population living in a childcare desert by the Index of Education and Occupation (IEO) decile. The IEO is one of the socio-economic indices used by the Australian Bureau of Statistics (ABS).

Figure 3: Population living in a childcare desert by Index of Education and Occupation decile



This figure shows that about 1 million people in each of the 1st to 6th IEO decile live in a childcare desert. This is about 40% to 47% of the total population in these deciles. The more advantaged areas have fewer people living in childcare deserts. In the 10th decile, the most advantaged parts of the country, about 363,000 or 13% of the population live in a childcare desert.

Implications of the research

Our research shows Australia's early learning system may not be fully meeting its aims. Current settings result in the low provision or an absence of provision in many areas. Regional and remote areas are especially at risk. About one million Australians have no access to childcare at all. The population centres most likely not to have any childcare accessible within a twenty-minute drive are towns with a population under 1,500.

When examining the relationship between cost and relative access, we found that areas with the highest fees also generally have the highest levels of childcare accessibility. This suggests that providers are not only establishing services where there are greater levels of demand, but where they are likely to make greater profits.

There is also an association between the accessibility of childcare and female workforce participation. Female parents with a child aged under 5 years who live in a childcare desert have lower levels of workforce participation.

While lower levels of female workforce participation in an area will affect demand for childcare, it may also be that difficulty in accessing childcare leads to parents and carers choosing not to participate in the workforce while their children are young.

One of the many functions of ECEC is to enable greater workforce participation. However, it is not clear that the current approach is fully supporting this aim.

There is an immense body of evidence highlighting the value of quality early learning. Our research suggests that in terms of access, Australia is not fully able to take advantage of this evidence base.

There is a need for new approaches to ensure all families have access to the early learning and care that they need to help children thrive.

Part II: Introduction and background

Childcare plays a major role in the lives of many children and families, so easy access to it is a critical issue. Childcare operates very differently from other parts of the education system and faces a unique set of challenges - the cost to families, availability of places, and retention of staff have been ongoing, prominent issues (Noble & Hurley, 2021). The coronavirus pandemic has meant the system has teetered on the brink of collapse – twice – requiring special government support packages.

While childcare can take different forms (such as family day care or outside school hours care), this report focuses on centre-based day care. This is because centre-based day care caters to very young children (aged 0-5) who are the focus of this report, and is by far the most accessed service type, providing education and care to almost one million children every year (DESE, 2019). In this report, we use the term childcare to refer to centre-based day care services that are covered by the Commonwealth Child Care Subsidy (CCS). When discussing the wider sector, we use the term Early Childhood Education and Care, or ECEC.

Although the usage figures demonstrate that many children benefit from centre-based day care, our research aimed to identity the extent to which this form of childcare is available locally, across the different states, cities and regions of Australia, and how availability varies by socioeconomic composition of the locality.

Early learning has a host of benefits for children, as well as for their families. Despite an established evidence base on the importance of the early years of every child's life to their ongoing development, the early learning sector faces a unique set of challenges. The cost to families, quality of provision, and retention of staff have been ongoing issues (Noble & Hurley, 2021).

Easy access to childcare services is also an important issue for many Australians, yet it is relatively under-researched.

Our research aims to help fill this gap by identifying the extent to which childcare is available locally, across different states, cities and regions of Australia, and how accessibility varies by the socio-economic composition of the locality.

Our research questions included:

- Which areas in Australia have the highest and lowest levels of access to childcare?
- Are there differences in accessibility in regional and remote Australia?
- What are the socio-economic dimensions of access to childcare?
- How does access to childcare affect workforce participation, especially female workforce participation?
- How does access to childcare compare with other parts of Australia's education system such as schools?

What do we mean by childcare?

What is most commonly thought of as childcare is centre-based day care, which provides education and care services to non-school aged children at specialised centres. Families whose children attend centre-based day care are supported by the Commonwealth Child Care

Subsidy (CCS), which is paid to childcare centres on behalf of families, who pay the difference between the subsidy and the fees charged by centres – known as the gap fee.

Services that provide education and care to young children that are funded by the CCS include:

- centre-based day care (full-day programs for children aged from birth to school age)
- family day care (full-day programs in educators' homes)
- outside school hours care (before-school, after-school and school holiday care for children aged between 5-12).

ECEC also includes preschool, which is not funded by the CCS.

In this report, we focus on one part of the ECEC sector – centre-based day care. This is because it is the largest part of the sector and the most accessed service type, providing education and care to almost one million children every year (DESE, 2019). Centre-based day care is also the largest service type covered by the Australian government's Child Care Subsidy (CCS).

What is the policy background to childcare?

While the childcare sector has grown substantially over the past three decades, services have existed in Australia for more than 100 years when not-for-profit organisations offered childcare to families in need. Unlike schooling, childcare was traditionally not viewed as a government responsibility. Government involvement in childcare has increased over time, primarily as a response to parental labour force participation.

Unlike the school sector (where schools normally cannot receive government funding if they are for-profit), private childcare providers can be for-profit and receive government support. About 50% of childcare providers are private for-profit and 35% are private not-for-profit. A further 11% are managed by state or local governments and 4% by non-government schools (ACECQA, 2022).

In terms of funding, there has been a gradual shift from the funding of the supply of childcare to the funding of demand, along with many changes to eligibility for subsidies. The most recent major reform has been to streamline two separate subsidies (the Child Care Rebate and Child Care Benefit) into a single, means-tested, and activity-tested payment. This began in 2018 and is now called the Child Care Subsidy. The means-tested element of the Child Care Subsidy means that families who earn less receive a greater subsidy.

The Australian government uses 'activity tests' to calculate the number of hours of subsidised childcare a family is entitled to each fortnight. Activities include paid work, volunteering, undertaking an approved course of education or study, an internship or training, or actively looking for work. Families must meet other requirements to be eligible for the CCS, such as caring for their child for a minimum number of hours per week, child immunisation requirements, and making a co-contribution to fees at an approved childcare service.

Who is responsible for ensuring access to childcare?

According to the Oxford Dictionary, for something to be accessible, it needs to be 'easy to obtain or use and ... easily understood.'

It is widely acknowledged that Australia's childcare system is not well understood by the public or always easy to use. Nor is it universally accessible for all families in terms of affordability, proximity, and availability of places without waiting lists or variable hours of operation.

As a recent report by the Centre for Policy Development (2021, p. 10) describes ECEC as:

> "… difficult, expensive, and confusing for everyone to navigate. The range of services available for parents to choose from often does not reflect what would best meet the needs of children and families. In fact, it's misleading to call this collection of services a "system" at all since the parts rarely connect well."

In terms of access, individual providers largely determine the availability of childcare. Providers decide where they will operate and what fees to charge. This differs from school policy where there is an obligation for governments to provide universal access and there is more central planning.

Government policy focuses on establishing the rules and governance of the system and encouraging a mixture of providers to deliver services. The Australian Children's Education and Care Quality Authority (ACECQA), is the national body, with federal, state and territory

governance arrangements, responsible for guiding the implementation and management of the national system. There are some policies directed at ensuring that there is the provision of services in regional areas, particularly in Indigenous communities, and in some instances, local governments provide childcare. But it is largely childcare operators who to select where to operate.

How has the research literature explored childcare accessibility?

Access to childcare has been the subject of some exploration within the research literature. A focus of the research has been on equitable access which is defined as all families "with reasonable effort and affordability, can enrol their child in an arrangement that supports the child's development and meets the parents' needs" (Friese et al., 2017, p. 5). Research focusing on the provision of childcare in Europe has highlighted how geographical factors affect families' decisions when it comes to finding childcare that is either close to their home or work (McLean, Naumann, & Koslowski, 2017). Factors include proximity, access to suitable transport, and the suitability of the provider in relation to the families' work patterns and budget. Other factors such as the number of places available, cost, and quality, may have a geographical component if there is a need to travel further to access appropriate facilities (Langford, Higgs, & Dallimore, 2019).

Several studies have plotted access to childcare facilities, usually through the lens of availability and equity or affordability. There are some conflicting findings about the availability of childcare services in relation to median family incomes, or socio-economic status of communities, which could possibly be attributed to targeted policies. For example, Davis, Lee, and Sojourner (2019) found that low-income families in Minnesota have greater access to early learning services than mid- and high-income families. Whereas in another American study, Sandstrom et al. (2018) predicted the amount of additional subsidised childcare places needed for low-income families in four areas in the states of New York and Illinois by using census data. Their results show that there is limited childcare provision in many communities that have a high number of families eligible for childcare subsidies.

Kawabata (2011) identified a disparity between the supply and demand of childcare in Tokyo. Where access was limited, it was because no childcare services were within the boundary, providers did not cater to the age group (finding childcare for 0-2 year-olds was particularly challenging) or there was excess demand (more children than places). Chiuri (2000) found that childcare in Italy lacks the flexibility to meet the needs of full-time working parents (specifically mothers). Findings from Compton and Pollak (2014) reflect the difficulty families face to find suitable childcare when mothers return to work and the flow-on impact on labour supply. Their analysis showed that married women whose mothers or mothers-in-law could provide childcare were more likely to be working. These results highlight the challenges families face to find childcare that is accessible and available, and is consistent with the observation that policy is usually set at a national or regional level but the experience of variation is felt at the community level (Azuma, DeBaryshe, Gauci, & Stern, 2020).

Seminal research undertaken by the Centre for American Progress mapped the availability of childcare in eight US states, finding that 42% of children under five years old live in an area classified as a childcare desert (Malik & Hamm, 2017). The authors defined a desert as more than 50 children under the age of five (and their families) residing within a postal/ZIP code where there are no childcare services, or childcare provision is so limited that there is a ratio of more than 3 children for each childcare place (Malik & Hamm, 2017; Malik, Hamm, Adamu, & Morrissey, 2016). Almost half (48%) of the postal/ZIP codes that were analysed were found to be childcare deserts, indicating a significant issue for governments, families, and workforce participation. When focusing on the quality of childcare provision, as determined by each of

the eight state's quality rating and improvement systems, only 16% of childcare services were in the top tier of quality. This finding alludes to the complexity of childcare accessibility – not only is there a lack of childcare in many regions, finding quality services is incredibly challenging. Rural localities face the most severe childcare shortage with 54% of rural postage/ZIP codes classified as childcare deserts. Of these, around two-thirds have a total absence of childcare providers. Interestingly, this is in spite of rural and non-rural postage/ZIP codes having approximately the same number of children under the age of five within their boundaries, showing that population alone may not determine access. In a more recent publication, researchers have been able to account for arbitrary administrative limitations, such as postal/ZIP codes and allow weighting to preference childcare that is closer.

Part III: How did we undertake the research?

To measure the spatial accessibility of childcare services across Australia, we used an extended two-step floating catchment area method (E2SFCA).

Floating catchment areas essentially measure the supply and demand of services based on the number and capacity of a service (supply or potential supply) and the population using these services (demand or potential demand).

Researchers have used floating catchment area approaches to measure spatial accessibility of a range of services, such as healthcare provision, access to parks, and access to childcare (Davis et al., 2019; Gao, Jaffrelot, & Deguen, 2021; Hu, Song, Li, & Lu, 2020). Floating catchment areas have strengths compared to other area-based measures, which can be limited to analysing data using arbitrary boundaries, such as suburbs or local government areas.

For instance, a popular area-based measure of spatial access to childcare typically measures access using the ratio of the total capacity of providers in an area divided by the estimated number of children in that area. These boundaries may not accurately affect accessibility as experienced by a family. An example would be a household where there is a childcare centre on the opposite side of the road that is also in a different local government region. Measures based on local government areas would exclude the facility across the road when measuring the number of childcare places available to the household, potentially misrepresenting the level of accessibility.

Instead, the approach taken in this report establishes a 'floating catchment area' based on a set of parameters, such as distance or driving time. This means the definition of accessibility more accurately reflects household access to childcare and overcomes limits caused by using artificial boundaries.

In our study, we adapt the approach taken by Davis et al. (2019) who use the parameter of 20 minutes of travel time between households and childcare locations to determine accessibility.

For regional areas, we use the measure of 20 minutes travel time to determine accessibility. For metropolitan areas, however, we use the measure of 10 minutes driving time to more accurately account for traffic conditions, which are not reflected in the calculations by the software we used[1].

In order to undertake the analysis, we needed to determine the location and capacity of childcare centres (potential supply) and the location and population of children aged under five (potential demand) who would use childcare.

Table 1 below outlines the steps used to calculate the supply and demand parameters.

[1] The software used calculates travel time when there is no traffic. This may lead to inaccurate measures of accessibility in metropolitan areas as normal traffic conditions significantly increase travel times.

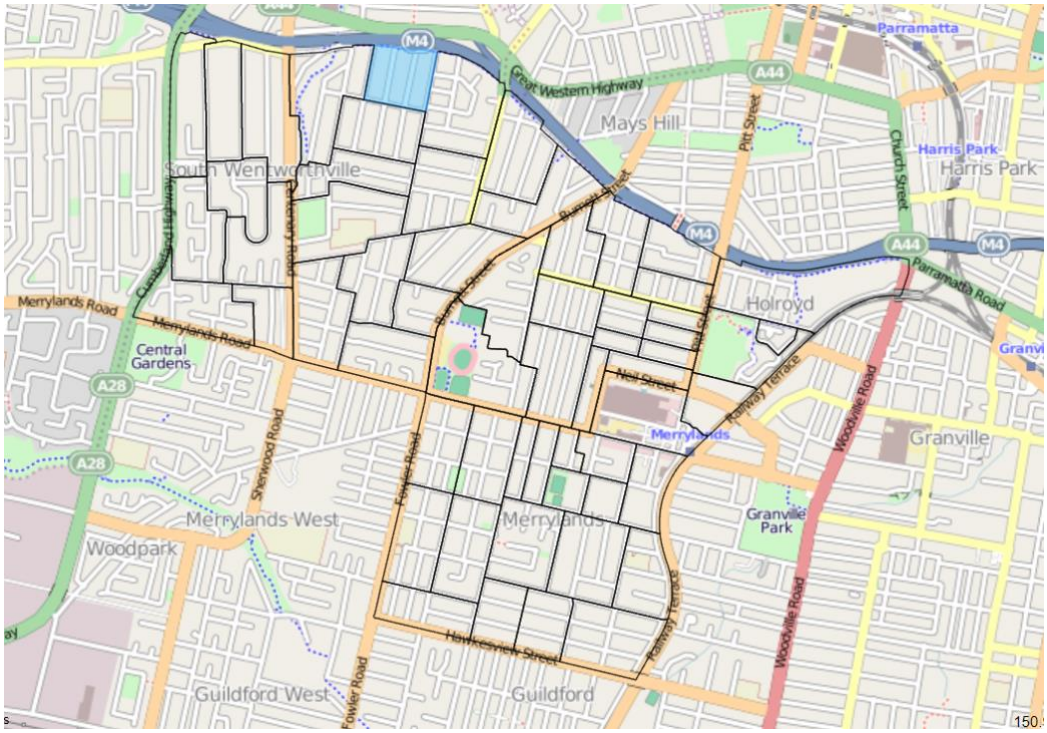
Table 1: Overview of process to determine potential supply and potential demand for two-step floating catchment area

Calculating supply (number of available childcare places)	Calculating potential demand (number of children)
1. Use ACECQA register to determine the number and capacity of approved ECEC facilities. 2. Select ECEC services that offer centre-based day care. 3. Determine services that are open less than 8 hours a day and 5 days a week and adjust the number of approved places (for instance, services open 4 hours a day five times a week would have their capacity multiplied by 0.5). 5. Use registered address to determine longitude and latitude of service.	1. Use ABS census data to determine the number of children aged 0 to 4 years living in a neighbourhood (SA1 regions). 2. Calculate the proportion of SA2 population living in each neighbourhood. 3. Adjust for preschool enrolments by determining the number of 3 and 4-year-olds in each SA2 enrolled in non-centre-based day care services, then subtracting these enrolments pro-rata. 4. Apportion 2020 SA2 0 to 4-year-old population to neighbourhood. 5. Use SA1 centroids to determine the longitude and latitude of neighbourhoods.

All locations were geocoded to determine their longitude and latitude. We then calculated the travel time between the neighbourhood and centre-based day care locations.

For neighbourhoods, we used the centroid of the SA1 region as the origin point. For instance, the figure below shows the suburb of Merrylands in Sydney. This suburb consists of 60 SA1 regions as outlined in black. The centre point of each of these SA1 regions formed the origin points and the location of the childcare service in Greater Sydney were the destination points.

Figure 4: Neighbourhoods (SA1) of Merrylands, NSW



We then constructed a matrix of travel time using the osrm package in r.

There are about 57,000 SA1 regions in Australia and more than 8,700 childcare centres, which would result in a matrix of almost 500 million possible results. To make the calculations more efficient, we calculated states and territories individually. We also calculated Greater Sydney as a separate area from New South Wales because of the larger number of neighbourhoods and childcare centres. Border communities were included in the calculations for NSW, the ACT, Queensland and Victoria.

Once travel times were obtained, we then used the SpatialAcc package in r to calculate the overall accessibility of each neighbourhood.

There were about 603,000 total approved childcare places across Australia and 1.55 million children aged 0 to 4 years old. When this is adjusted to account for centres that are open less than forty hours per week and for children who attend preschool, the potential supply of childcare is about 602,000 and the potential demand is 1.52 million children. This results in a ratio of about 0.396 childcare places per child. The extended two-step floating catchment area method essentially apportions this ratio across neighbourhoods.

The first step of the two-step floating catchment process involved calculating a weighted capacity to population ratio for every childcare service. For every service, all neighbourhoods within a ten-minute drive for metropolitan areas and a twenty-minute drive for regional areas were identified. We used an exponential decay function so that neighbourhoods closer to the service received more weighting. For instance, in regional areas, a neighbourhood within a five-minute drive of a service had a 50% greater weighting than neighbourhoods that were twenty minutes away. The number of approved places for each service was divided by the sum of the weighted total number of children to obtain a capacity-to-nearby child population ratio for every provider.

The second step of the two-step floating catchment process involves determining the quantity of supply for each neighbourhood. This is done by identifying all services within the catchment area around the neighbourhood. The same weighting was applied so that a childcare service within a five-minute drive of a neighbourhood had a 50% greater weighting than services that were twenty minutes away in regional areas, and in metropolitan areas, a childcare service 2.5 minutes away received 50% more weighting than a childcare service 10 minutes away.

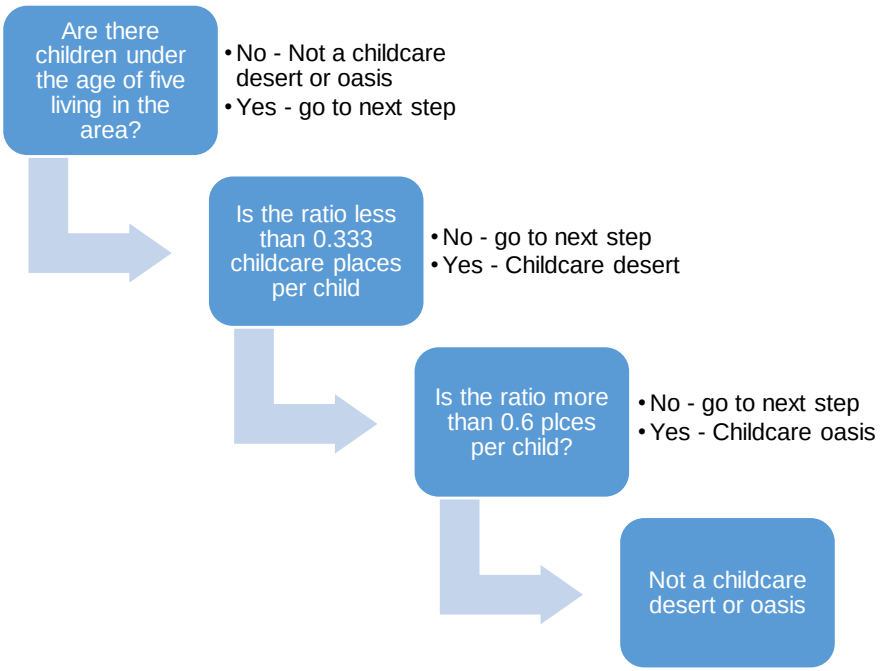
The result of the analysis is a score for each neighbourhood that is a ratio of available childcare places per child. For instance, a score of 0.5 suggests that for that neighbourhood there were 0.5 childcare places available per child, or two children per available childcare place.

We used this figure to determine whether a region was a childcare desert or a childcare oasis. The working definition for a childcare desert is where there are fewer than 0.333 childcare places per child. This follows established definitions used elsewhere in the literature for a childcare desert (Davis et al., 2019).

The working definition for a childcare oasis is where there are more than 0.6 childcare places per child. We chose this definition because 0.6 places per child would enable three full days of childcare per child (where each full place of childcare is the equivalent of five days, 0.6 is the equivalent of three full days). Three full days of childcare appears elsewhere in policy proposals that support universal access to childcare (Centre for Policy Development, 2021).

A flow chart outlining the process used to determine whether a region was desert or oasis is below.

Figure 5: Flow chart to determine childcare deserts and oases of neighbourhoods



Accounting for preschool

A complicating factor in calculating childcare accessibility is that most children will be attending preschool in either the year or two years before school. This can have an impact on the potential supply of childcare (as some services may offer childcare and preschool) and potential demand for childcare services (as some children may require less childcare as they will be attending preschool).

Our approach can account for children attending preschool in a centre-based day care provider because these services appear on the national register and, consequently, the calculation of potential supply includes these approved places. However, many children may attend a stand-alone preschool or a preschool at a school.

To account for children attending preschool in non-centre-based day care services, we used information from the national collection on preschool enrolments. We identified the number and location of children aged three and four years enrolled in a stand-alone preschool. We then adjusted the potential demand to account for the time where children would be attending a stand-alone preschool.

For instance, if a region had 100 three and four year olds enrolled in a stand-alone preschool, this would equate to approximately 30 full-time equivalents (100 children x 0.3 of the week enrolled in preschool = 30 full-time equivalents) and the potential demand is adjusted to 70.

Limitations

All research has limitations that may affect the interpretation of results.

To determine accessibility, the methodology uses driving time distance and not time by walking or public transport. Driving time relies on the accuracy of information from OpenStreetMap, which is a free editable geographic database. We calculate supply based on data from ACECQA and services not listed on the national register are not included. The data we used is from December 2021 and our findings will not reflect changes after this date. We exclude family day care and in-home care from our analysis, which may affect calculations of supply. We also exclude informal care, which includes unpaid care usually provided by relatives, such as grandparents, or friends and neighbours. We exclude five year olds from calculations of demand, although some five year olds will not yet be at school and may be using centre-based childcare services. Our methodology calculates accessibility based on where a family lives and not where they work, although some families may choose childcare services closer to work. ABS data shows that about 16% of families chose a childcare service because it was close to our on the way to work (ABS, 2018).

Despite these limitations, we believe the approach provides a strong methodological grounding to illustrate the relative scarcity of childcare by neighbourhood and to make valid comparisons across Australia.

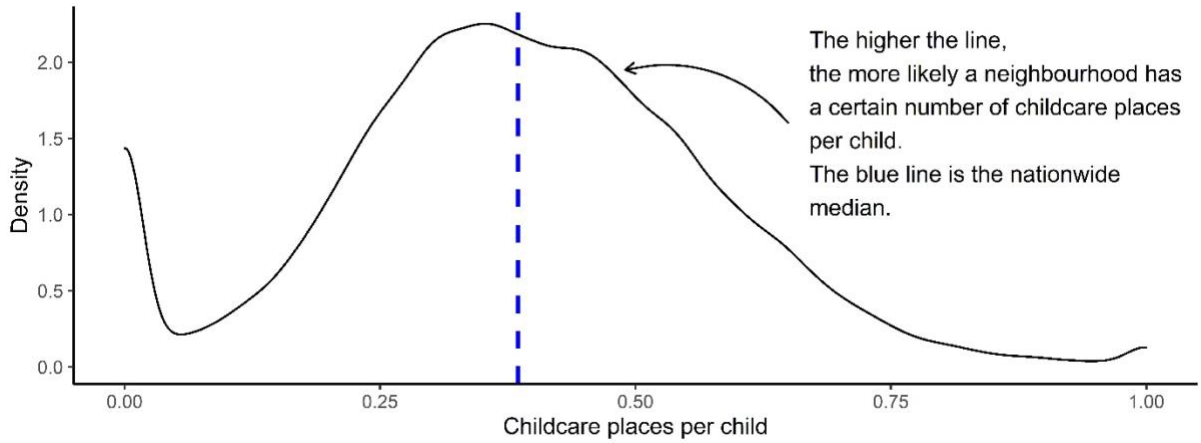
Part IV: Results and findings

How accessible is childcare in Australia?

Our findings show that where Australian families live plays a major role in access to childcare.

Figure 6 below shows a density estimate, which is a smoothed version of a histogram, of the ratio of available childcare places per child for more than 57,000 neighbourhoods in Australia. The higher the line, the more regions with the number of childcare places per child. This figure also highlights the median, which appears as a dashed blue line.

Figure 6: Smoothed density estimate of childcare places per child in Australian neighbourhoods



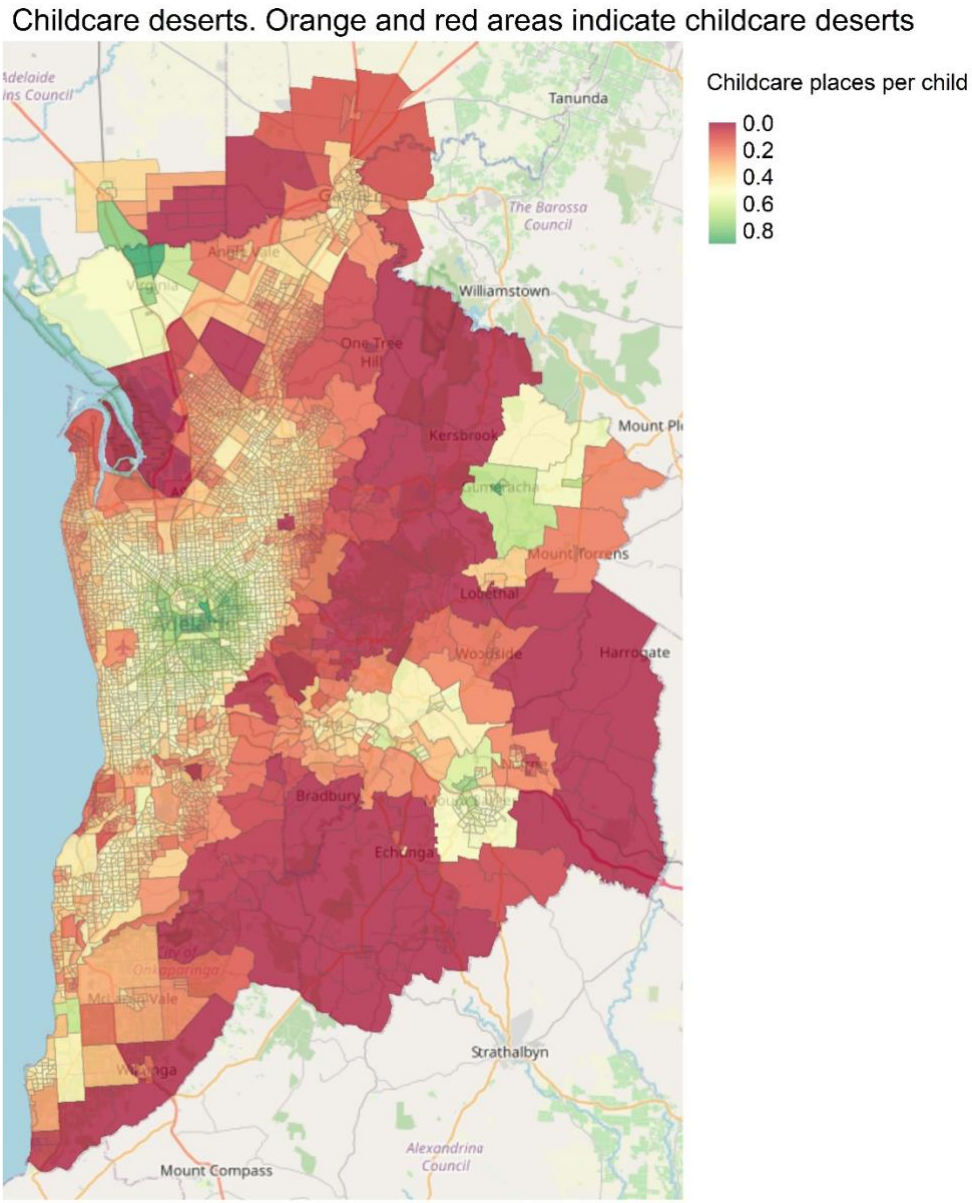
There are a large number of regions, about 3,600, that have no childcare places available per child. Many of these regions are located in regional and remote Australia.

The figure shows that the accessibility score peaks at about 0.37 childcare places per child before gradually falling. The median score is 0.385 childcare places per child.

Our method means every neighbourhood in Australia receives an accessibility score of childcare places per child and this makes it possible to represent these scores on a map.

Figure 7 below shows the results of mapping the neighbourhoods of Greater Adelaide. The areas highlighted in red and darker orange are areas of lower childcare accessibility - regions we classify as deserts. The areas of green have the greatest childcare accessibility scores and are neighbourhoods we classify as childcare oases.

Figure 7: Childcare accessibility of Greater Adelaide

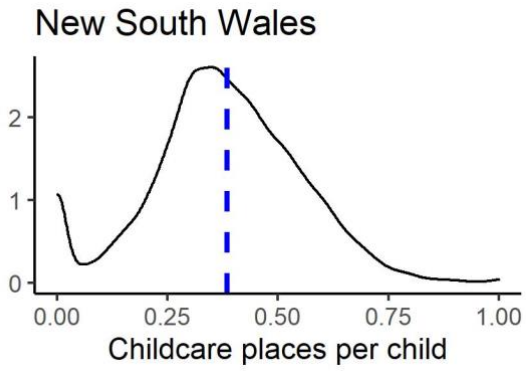


The pattern shown in the above figure of Greater Adelaide is typical of childcare accessibility in Australia's major cities. The centre of cities, close to central business districts, have the greatest accessibility, indicated on the map in green. There are pockets of green elsewhere in the city indicating neighbourhoods with relatively high childcare access. The orange and red areas indicate childcare deserts and are located throughout the city. Some outer regions appear as dark red and are areas where there is very little or no childcare available. These areas also often have fewer people living in them.

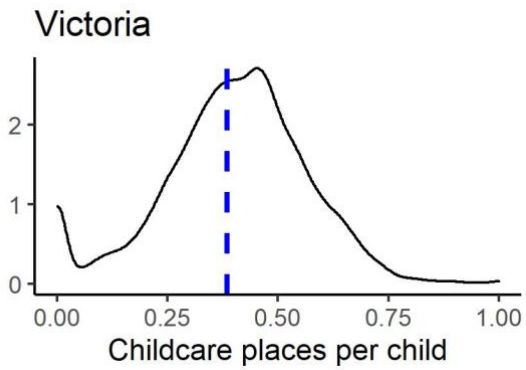
How does childcare accessibility compare between states and territories?

Our analysis shows that states and territories have a different profile of childcare accessibility. To explore these differences, the figures below show a density estimate of childcare places per child for each state and territory, similar to Figure 6. The shape of the curve helps illustrate the distribution of accessibility across neighbourhoods in each state and territory and makes it possible to make comparisons. The national median appears on each plot as a dashed line to allow a better comparison. Curves that peak to the left of the blue line indicate overall accessibility lower than the national median, and curves that peak to the right of the blue line indicate overall accessibility higher than the national median.

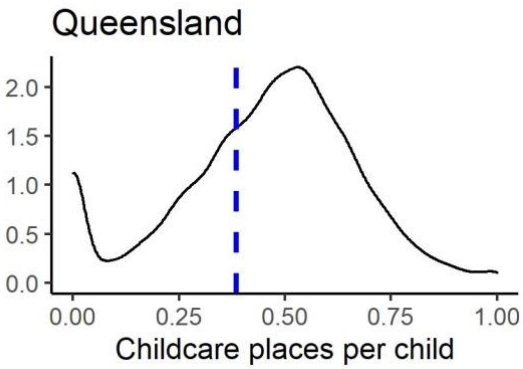
Figure 8: Smoothed density function of childcare places per child by state and territory



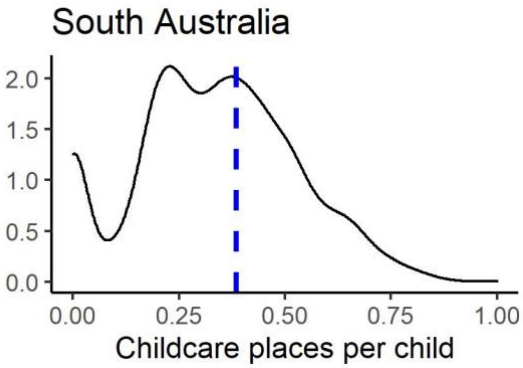
New South Wales has slightly lower childcare accessibility than the rest of Australia with a median of 0.37 childcare places per child. The shape of the density plot is similar to the Australia wide figure shown in Figure 6 suggesting a similar distribution of accessibility across neighbourhoods.



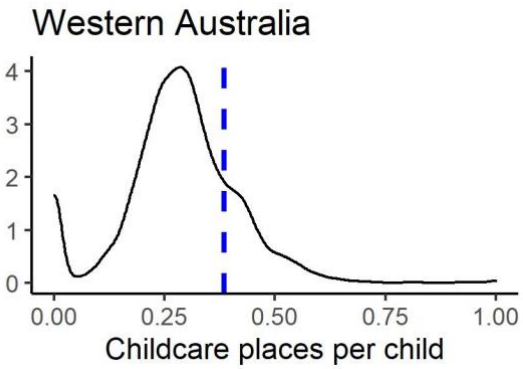
The peak above the national median shows that Victoria has a greater level of childcare accessibility. The Victorian median is 0.41 childcare places per child. The shape of the density plot is similar to the Australia wide figure suggesting a similar distribution of accessibility across neighbourhoods.



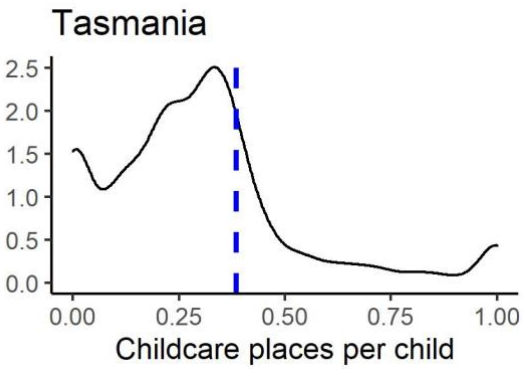
In this figure, the peak is above the national median and helps to illustrate how Queensland has some of the highest levels of childcare accessibility in the country. The Queensland median is 0.48 childcare places per child, well above the national median.



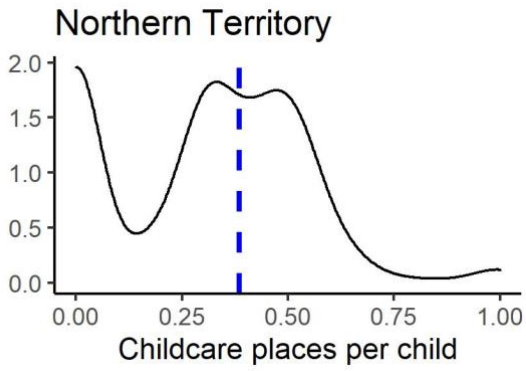
South Australia has two peaks suggesting accessibility clustering around 0.2 childcare places per child and another around the national median. The median in South Australian neighbourhoods is 0.34 childcare places per child, below the national median.



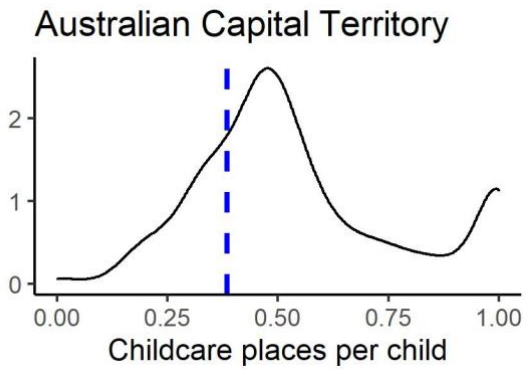
Western Australia has the lowest overall childcare accessibility, with a peak below the national median. The peak is also higher than other states and territories (indicated by the different y-axis scale) suggesting greater clustering of neighbourhoods around the Western Australian median of 0.28 children per childcare place.



Tasmania has relatively low levels of childcare accessibility with the peak occurring below the national median. The shape of the curve suggests Tasmania has a higher number of neighbourhoods compared to other states and territories in the range of 0.05 to 0.2 childcare places per child.



The peak at 0 shows that many regions in the Northern Territory do not have any childcare supply. This may be due to the high number of remote and very remote locations in the Northern Territory. The median for the Northern Territory is 0.32 childcare places per child, below the national median.



Like Queensland, the ACT has some of the highest levels of childcare accessibility in the country. There are very few neighbourhoods with no supply of childcare and the ACT has the highest proportion of neighbourhoods with 1 childcare place per child.

Where are Australia's childcare deserts?

Our analysis shows that about 9 million Australians, or 35.2% of the population, live in neighbourhoods we classify as a childcare desert. About 568,700 children aged 0 to 4 years, or 36.5% of children in this age group, live in neighbourhoods we classify as a childcare desert. These are populated areas where there are less than 0.333 childcare places per child or more than one childcare place per three children. There are deserts in all states and territories, and in all capital cities.

Table 2 below shows the composition of the population living in childcare deserts by their remoteness area. There are five remoteness areas: major cities, inner regional, outer regional, remote, and very remote. About 59.0% of people living in childcare deserts, or 5.36 million, are located in major Australian cities. Inner regional areas comprise 22.4% of people, or 2.03 million, living in childcare deserts and outer regional areas comprise 14.0% of people, or 1.26 million. The remaining proportion of the population living in childcare deserts are in remote and very remote areas of Australia as outlined in the table below.

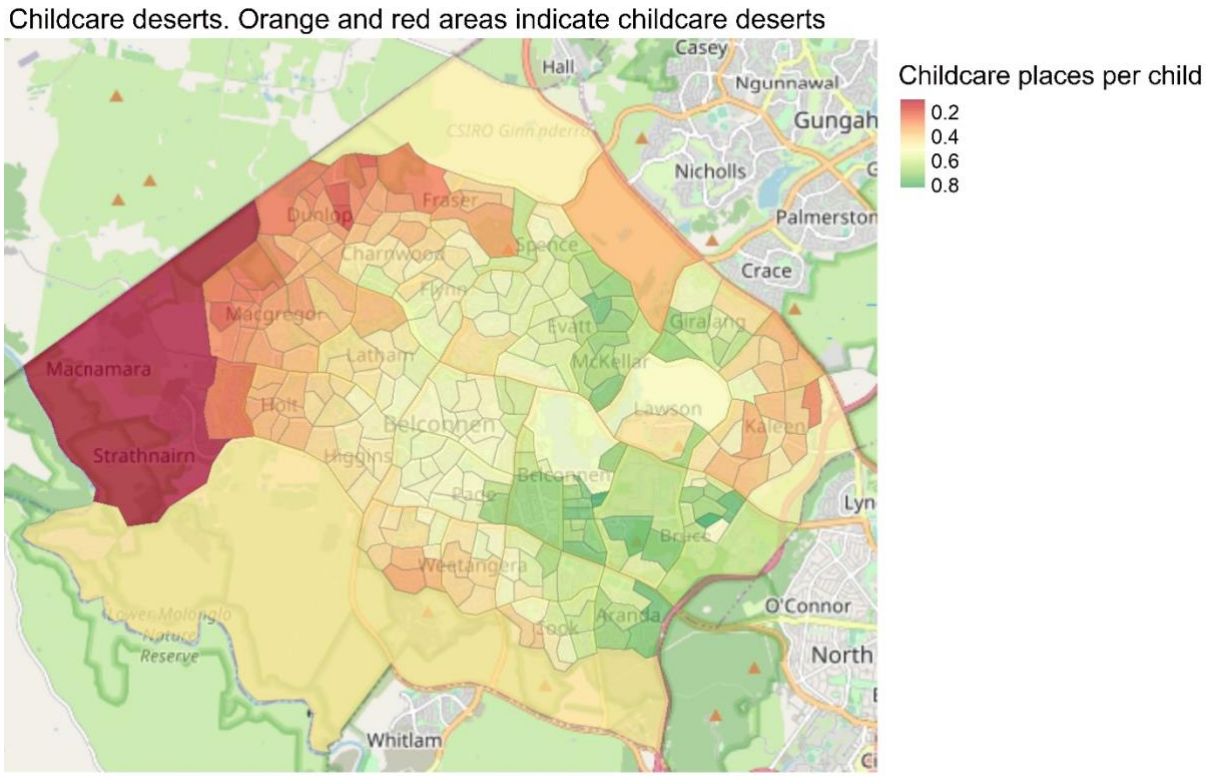
Table 2: Composition of the population living in a childcare desert by remoteness area

Regional area	Population	Proportion of deserts	Proportion of regional area as desert
Major cities	5,360,547	59.0%	28.8%
Inner regional	2,028,944	22.4%	44.6%
Outer regional	1,264,269	14.0%	61.3%
Remote	248,451	2.7%	85.3%
Very Remote	152,738	1.7%	77.8%
Total	9,054,949	100.00%	35.3%

As most Australians live in major cities, it is also important to explore the proportion of the population in different regions who live in childcare deserts. While regional and remote areas make up less than 50% of childcare deserts, people in regional and remote areas are more likely to live in a childcare desert, with 44.6% and 61.3% of people living in inner regional and outer regional areas respectively located in childcare deserts. Australians living in remote and very remote regions are highly likely to be living in a childcare desert. This table helps highlight the regional disparities in access to childcare. Comparatively, major cities in Australia have greater access to childcare than other parts of Australia.

It is also important to highlight the different meanings of a desert in metropolitan areas versus regional areas. The figure below shows the results of the analysis for the Belconnen region (SA3) in Canberra. The ACT has some of the highest average levels of childcare accessibility in Australia.

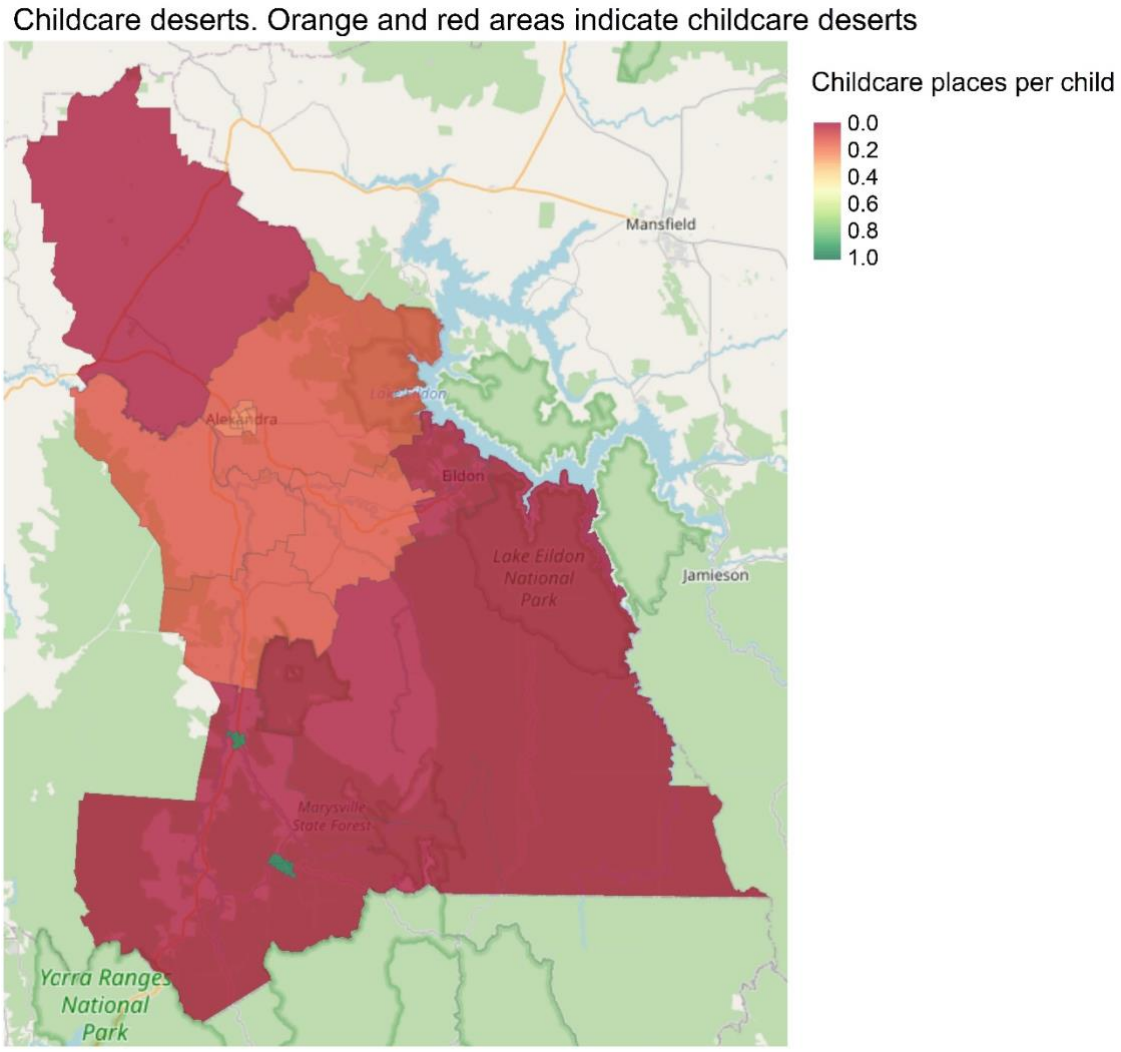
Figure 9: Childcare accessibility in Belconnen, ACT (SA3)



Some parts of the suburbs of Fraser, Dunlop and McGregor, on the left of the map, meet our definition of a childcare desert. Families living in these suburbs can still access childcare, but they may have to travel further or may face more competition for available places than families living closer to the centre of Canberra.

In rural and regional areas, however, a childcare desert can have a different meaning. The figure below shows the childcare accessibility for the region (SA2) of Alexandra in Victoria. This region also includes the townships of Buxton and Marysville, which appear in green at the bottom of the figure and are about a 30-minute drive from Alexandra.

Figure 10: Childcare accessibility in Alexandra, Victoria (SA2)



This figure shows that the town of Alexandra meets the definition of a childcare desert. There is one childcare centre located in Alexandra, with 29 approved places. Families are highly reliant on this service and if there are no available places at the childcare centre, families do not have the option of selecting another local provider. The next nearest provider is located in Marysville or Yea, which are about a half-hour drive from Alexandra.

While metropolitan and regional neighbourhoods can have similar accessibility scores, the lack of childcare can have different consequences. In major cities, childcare deserts indicate relatively low levels of spatial accessibility to childcare, but there are more possibilities to access childcare. In regional Australia, childcare deserts also indicate relatively low levels of spatial accessibility to childcare, but with fewer options if there are no vacancies at local providers.

Where are Australia's childcare oases?

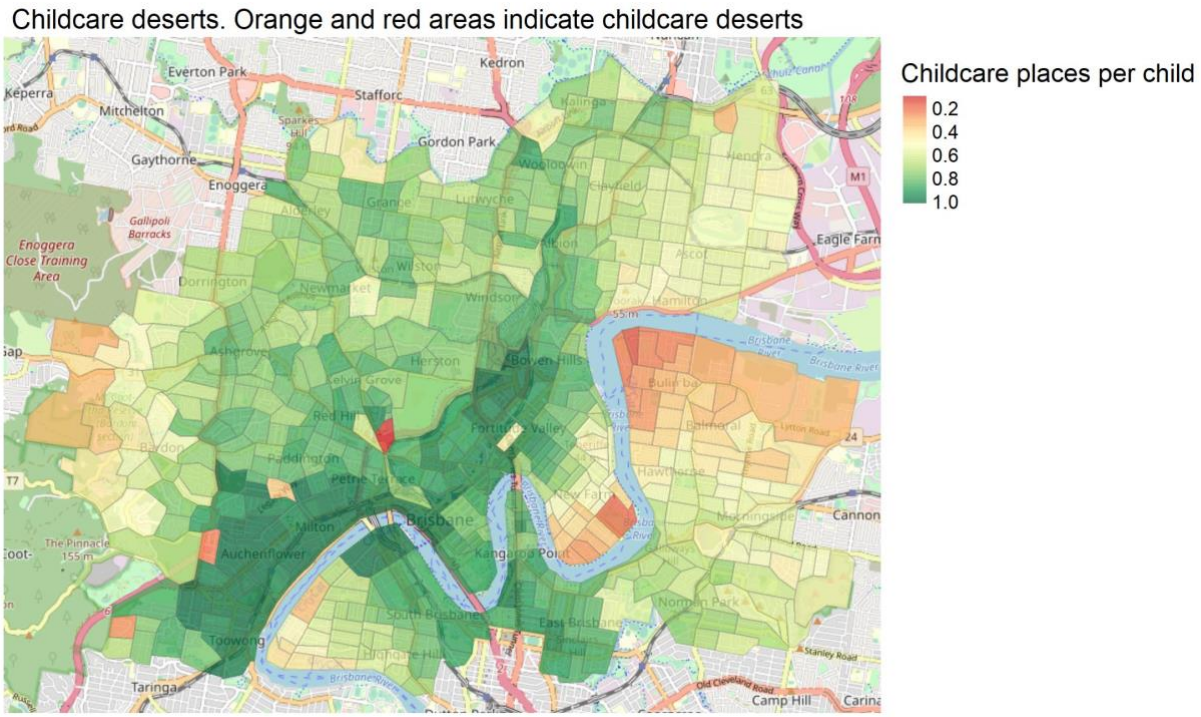
As shown in Table 3, our analysis shows about 3.3 million Australians, or 12.7%, live in an area we classify as a childcare oasis. About 174,000 children aged 0 to 4 years, or 11% of children in this age group, live in areas we classify as childcare oases.

Table 3: Composition of the population living in a childcare oasis by remoteness area

Regional area	Population	Proportion of oases	Proportion of region as oasis
Major cities	2,799,055	85.5%	15.1%
Inner regional	293,898	9.0%	6.5%
Outer regional	156,277	4.8%	7.6%
Remote	13,560	0.4%	4.7%
Very Remote	12,325	0.4%	6.3%
Total	3,275,115	100.0%	12.7%

A childcare oasis is somewhere where there is a relatively high level of access to childcare (we use the definition of 0.6 childcare places per child). Our methodology calculates accessibility based on where families live and not where they work. However, many families may choose to use child care close to their employer. Consequently, a childcare oasis is often located in regions with a large number of jobs. For instance, the figure below shows the childcare accessibility for the region (SA4) of Brisbane – Inner City. The areas of green indicate a childcare oasis.

Figure 11: Accessibility of childcare for Brisbane – Inner City



As this map shows, the centre of the city around the Brisbane CBD has relatively high childcare accessibility. The pockets of orange in the east of the city, in New Farm and Bulimba, are areas where there are relatively lower levels of access to childcare. These areas can have lower childcare accessibility than nearby areas because there are fewer centre-based day care providers they can reach within a ten-minute drive.

The centres of major cities are not the only locations of childcare oases. As Table 3 above shows, many regional areas are in a childcare oasis. These regional locations can be major service and employment hubs for regional and remote communities. The existence of a childcare oasis in some of these locations illustrates the variability of services available in regional areas. While some small towns may have a plentiful supply, others can be lacking.

What are the socio-economic dimensions of childcare accessibility?

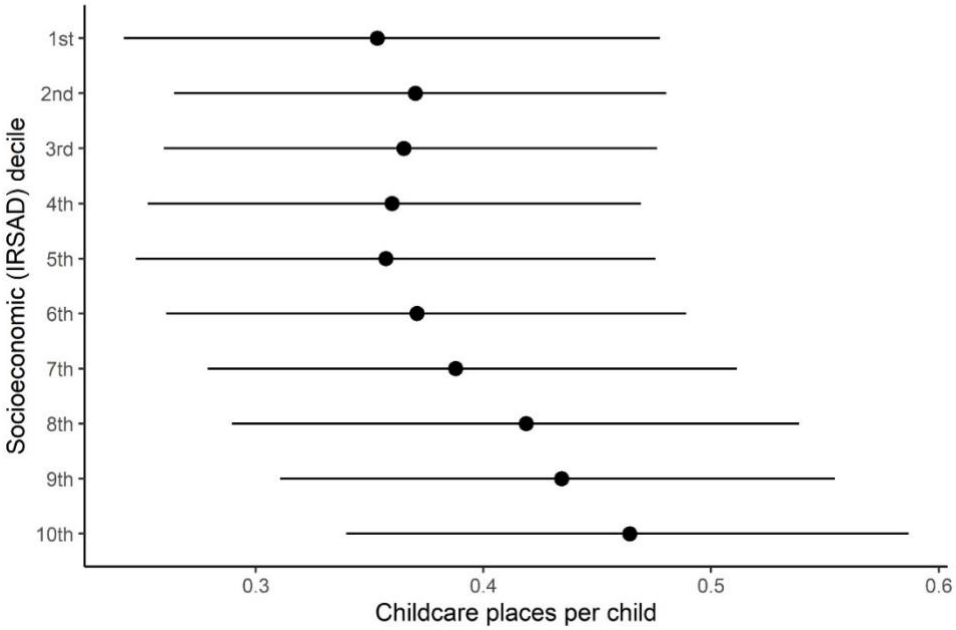
Childcare access by socio-economic status is an important area of exploration. Researchers in other countries have noted a correlation between lower socio-economic areas and lower childcare availability (Davis et al., 2019). Areas of higher socio-economic advantage also often have higher levels of access to employment, transport, and other services such as healthcare.

To explore this issue, we examined the relationship between childcare access, neighbourhoods and the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD). IRSAD is a measure created by the Australian Bureau of Statistics (ABS) that summarises information about the economic and social conditions of people and households within an area, including both relative advantage and disadvantage measures. Measures used in the compilation of the scores include variables relating to level of education, income, labour force status, disability, home ownership and the number of bedrooms in a house.

We matched neighbourhoods to their IRSAD decile, where 1 indicates the decile with the highest disadvantage and lowest advantage, and 10 indicates the decile with the lowest disadvantage and the highest advantage. We then calculated the median for each IRSAD decile.

The results of the analysis appear in Figure 12 below. In this figure, the median for each decile appears as a dot and the lines represent a range from the 25th to 75th percentile of childcare places per child for each decile group.

Figure 12: Childcare places per child by socio-economic (IRSAD) decile



This figure shows that for neighbourhoods in the first to the sixth decile, there are relatively lower levels of childcare accessibility, with the median childcare accessibility at around 0.35 places per child for IRSAD deciles 1 through to 6.

But from the seventh decile upwards, the top 40%, as the IRSAD deciles increase so does the median number of childcare places available per child. In the 10th decile, the average number of childcare places per child is 0.46. This suggests that it is the most advantaged neighbourhoods in Australia that have the greatest childcare access.

This is an important finding, especially in the context of Australia's ECEC policy. The main subsidy families receive, the CCS, is weighted so that families who earn less receive the greatest level of subsidies.[2]

This figure shows that access to childcare works the other way – it is the more advantaged areas that have the best access.

This could be due to many factors. For instance, there may be lower levels of parental and carer employment in lower socio-economic areas that lead to lower demand for childcare services. Nonetheless, it does suggest that families in lower socio-economic neighbourhoods have lower access to childcare than those living in more advantaged neighbourhoods.

This is particularly concerning because there is a huge body of evidence that shows positive early childhood experiences lead to positive outcomes. High-quality early childhood education and care at an early age enables children, particularly form disadvantaged backgrounds, to succeed later in life. Figure 12 suggests that, overall, it is the children and families who would benefit most from high-quality childcare who have the least access.

[2] As previous Mitchell Institute research has shown though, while there are greater subsidies to those families who earn less, those families often can afford childcare the least (Noble & Hurley, 2021).

What is regional access to childcare like and how does this compare to schools?

This next section compares the overall impact on accessibility in regional areas due to different policy approaches, with a focus on comparing accessibility to schools and childcare in regional settings.

To do this, we calculated the driving time between all Australian schools and childcare facilities. We identified those schools where there are no childcare services within a twenty-minute drive.

This helps identify where there are communities that may be large enough to support a school but do not have a childcare service.

We found there were 976 schools where there was childcare within a twenty-minute drive. There were eight childcare centres where there was no school in a twenty-minute drive.

Many regional schools have very low enrolment numbers, and the existence of a school may not suggest possible demand for childcare services. For further analysis, we excluded non-government schools, primary schools with an enrolment below 50 students, and combined schools (schools that provide both primary and secondary education) with an enrolment below 100 students.

We identified 247 schools (131 primary schools and 116 combined schools) that met this definition.

For many regional towns, Australia's policy approach results in a complete absence of provision. These are not thin markets but rather an absence of a market as the current policy settings mean it is not economically feasible for providers to operate in these areas.

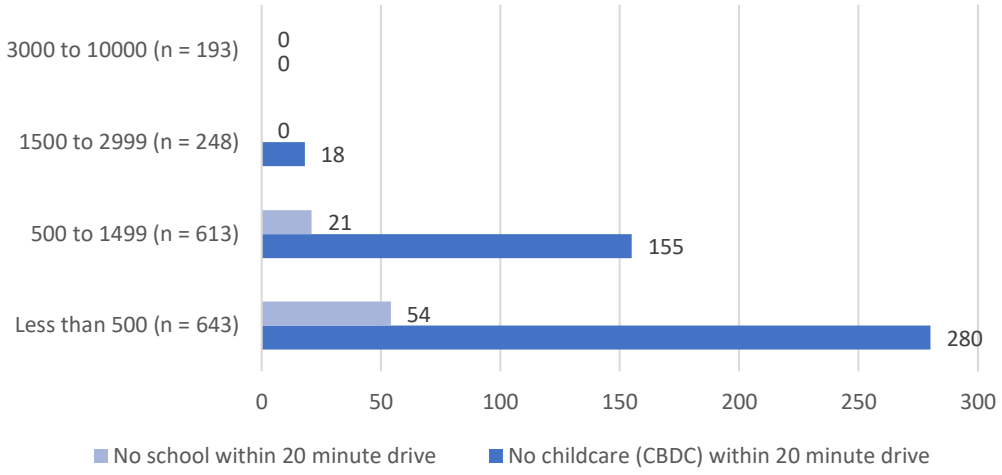
To identify these towns, we used data from the ABS that listed about 1,700 small towns in Australia with populations ranging from 30 to 10,000 people. We broke these towns into four groups as shown in Table 4.

Table 4: Number of towns by population in Australia

Group	Population of township (residents)	Number of Australian towns within the group
1	Less than 500	643
2	500 - 1,499	613
3	1,500 - 2,999	248
4	3,000 - 10,000.	193

We then identified the number of towns in each category that did not have a childcare centre or school within a 20-minute drive. Figure 13 below shows the results.

Figure 13: Number of towns by population with no childcare and schools within twenty-minute drive



Our analysis finds that smaller towns are much more likely to have a school than a childcare centre. About 360 towns with a population under 1,500 do not have centre-based day care but do have a school. The large majority of towns with a population above 1,500 have centre-based day care and all of these towns have a school within a twenty-minute drive.

Figure 13 helps highlight the level of the population where the current childcare policy results in variable access. Whereas schools benefit from central planning to ensure universal access, the current policy settings means that many towns with a population under 1,500 lack childcare services. Further research may be required to understand the need in these small towns, and the policies that would assist in providing appropriate access to ECEC services.

Part V: Discussion and conclusion

What are the policy implications?

The findings in this report highlight that the provision of childcare in Australia is unequal. Regional and remote areas are most likely to be childcare deserts and there are significant pockets of childcare deserts in all our major cities. Our most disadvantaged communities have the least access to childcare.

These findings present governments with serious policy challenges, some of which are discussed below.

Current childcare policy settings result in thin markets and an absence of provision in regional areas

Thin markets is a term used in a variety of ways to describe situations where there are deficiencies in a service, which is largely delivered by non-government providers, such as not enough providers or a lack of a diversity of providers to meet demand. For instance, there is research showing how parts of the NDIS suffer from thin markets (Reeders et al., 2019).

Our research shows there are many parts of Australia that suffer from a lack of access to childcare due to thin markets. Regional and remote areas suffer the most. A population of less than 1,500 seems to be the threshold for when smaller towns are most at risk of suffering from an absence of childcare provision.

In a recent report, the Centre for Policy Development outlined a possible route for reimagining an ECEC system that is support families and children from birth through to the early years of schooling (Centre for Policy Development, 2021). Central to its call for policy reform is a guarantee for young children in Australia, as exists in the public health and education systems. A well-defined guarantee would determine roles and lines of responsibility for state and federal governments and should reorient ECEC to centre on children. The report proposes that families be able to access three days of free (or low cost) ECEC, with more days available at a minimal cost for all children between birth and school age, complementing pre-school and proposed measures for increased and shared paternity leave (Centre for Policy Development, 2021). Modelling an early childhood guarantee would enable governments to predict the need for services where they are currently lacking and respond accordingly, with the potential to respond to areas most in need initially.

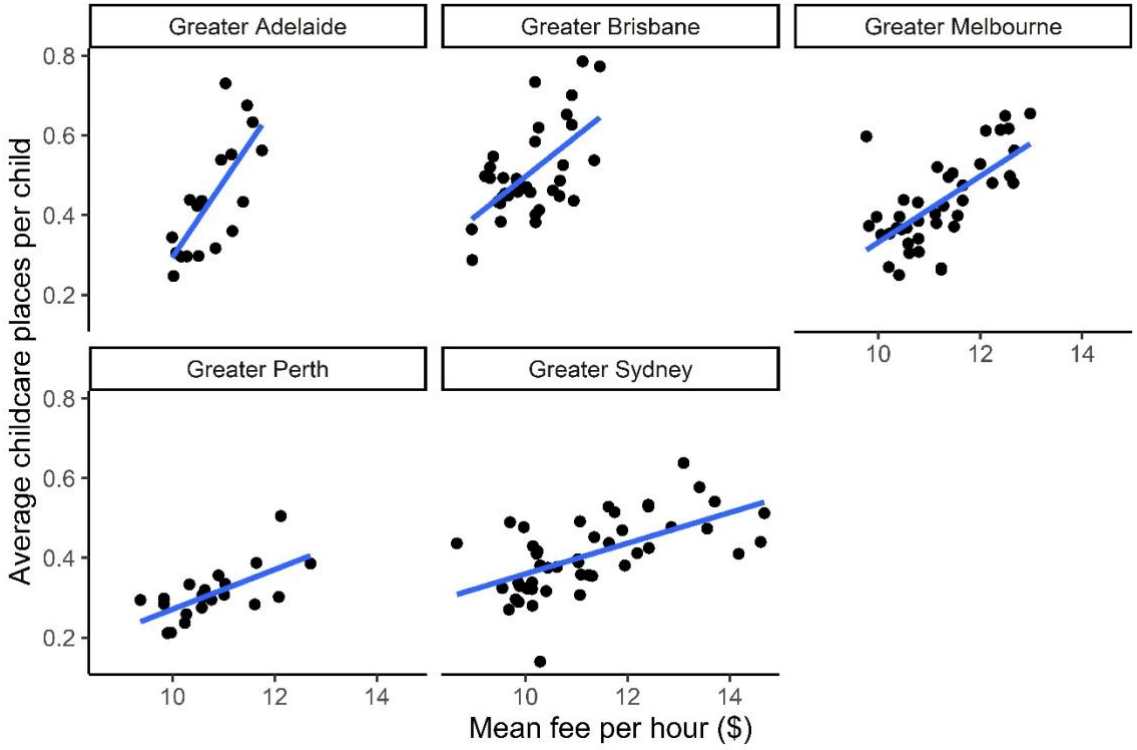
Disproportionate access for lower socio-economic groups

There is strong evidence that families from more disadvantaged backgrounds benefit the most from high-quality early childhood education and care. Heckman (2021), the US Nobel Prize winning economist, writes that the "…highest rate of return in early childhood development comes from investing as early as possible, from birth through age five, in disadvantaged families". In an American study focusing on disadvantaged children, Heckman (2008) found that the rate of return (the return per dollar of cost) on high-quality early childhood education and care to be 7 to 10 %.

Yet our research shows that it is the most disadvantaged that have the lowest accessibility to childcare. Part of the reason for this may be the underlying principles of the childcare system that encourage providers to establish services where there is the lower risk and the greater reward. One way of illustrating this is to explore the correlation between price and accessibility.

Figure 14 shows the relationship between the median cost per hour of childcare and the average childcare places per child in the five major capital cities with a population over 1 million people. Each dot is an SA3 region and represents a population of between 30,000 to 180,000 people. The horizontal axis shows the mean fee per hour and the vertical axis shows the average childcare places per child in each SA3 region. The blue line shows the trend.

Figure 14: Average childcare places per child and mean fee per hour ($) by SA3 in the five largest cities in Australia



This figure highlights how areas, where there is greater supply of childcare, are also areas where providers charge higher fees. Often these areas of higher supply and higher fees are also areas of greater advantage. For instance, in Greater Melbourne, the area with both the highest fees per hour and the highest average number of childcare places per child is Stonnington – West. This area includes some of Melbourne's most affluent suburbs such as Toorak, South Yarra and Armadale.

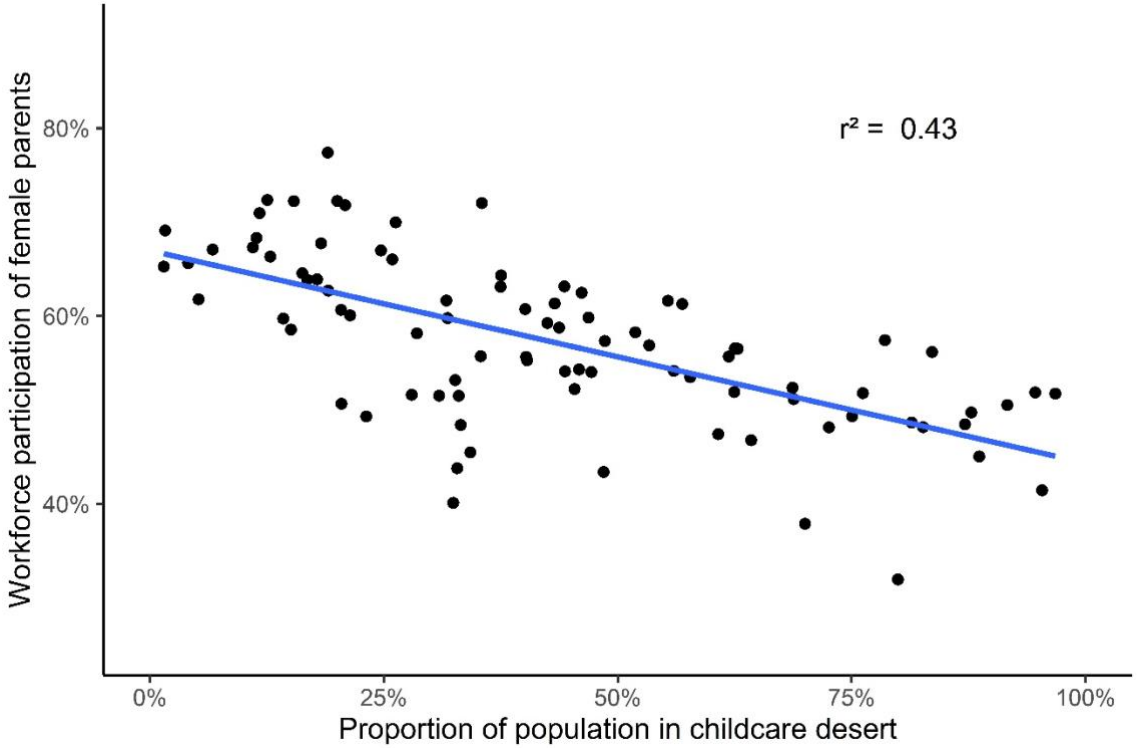
This figure suggests that there is an incentive for providers to operate in advantaged areas where they can charge higher fees, even if there is greater competition. This leaves more disadvantaged areas with lower levels of childcare accessibility. As a consequence, Australia is not fully capitalising on the long-term benefits to children from more disadvantaged backgrounds of high-quality early learning.

There is further research needed on the link between access and female workforce participation

One of the many functions of ECEC is to enable greater workforce participation. However, it is not clear that the current approach is fully supporting this aim.

The figure below explores the relationship between childcare deserts and levels of workforce participation. This figure shows the proportion of the population living in childcare deserts in 88 regions (SA4) across Australia. Also shown is the workforce participation of female parents who have at least one child aged under five in the household.

Figure 15: Percentage of SA4 region population living in a childcare desert and workforce participation of female parents with a child in the household aged under five



This figure shows there is a correlation between the accessibility of childcare and female workforce participation. Regions where more people live in a childcare desert also have lower levels of workforce participation for females who have a child aged under five in the household.

The reasons for this association are complex. Lower levels of female workforce participation in an area will affect demand for childcare. It may also be that difficulty in accessing childcare can lead to parents and carers choosing not to participate in the workforce while their children are young.

The interaction between demand and supply of childcare will affect families and carers differently. There is a need for further research to understand how access to childcare is influencing workforce participation and the decisions parents and carers are making, especially females, regarding employment. This is particularly important in terms of understanding barriers that some may experience based on location and lower access to childcare.

Conclusion

Access to quality childcare has enormous impacts on the current and future lives of Australians. Yet our research shows that current policy settings mean that where Australians live still plays a significant role in whether they can access this crucial service.

While there are neighbourhoods that may have enough supply to meet demand, many Australians will have difficulty finding the childcare service that is right for them. In many regional areas, there is no access at all.

It does not have to be like this. More than a hundred years ago, Australia built a school system that still operates today. In regional areas, these schools are crucial parts of communities. The policy settings for the school and preschool sectors show that universal access to childcare does not have to be an unattainable dream.

There is a large body of research showing the huge returns to investment in ECEC. For instance, recent research from Victoria University showed that investment in the ECEC sector can largely pay for itself through increased tax receipts from greater female workforce participation (Dixon, 2020).

Australians deserve an ECEC system that includes universal access to childcare and supports families in whatever decision they make that they see is best for them. Most importantly, children need a system that meets their needs so that they can have the best start in life, regardless of where they live or the income of their parents.

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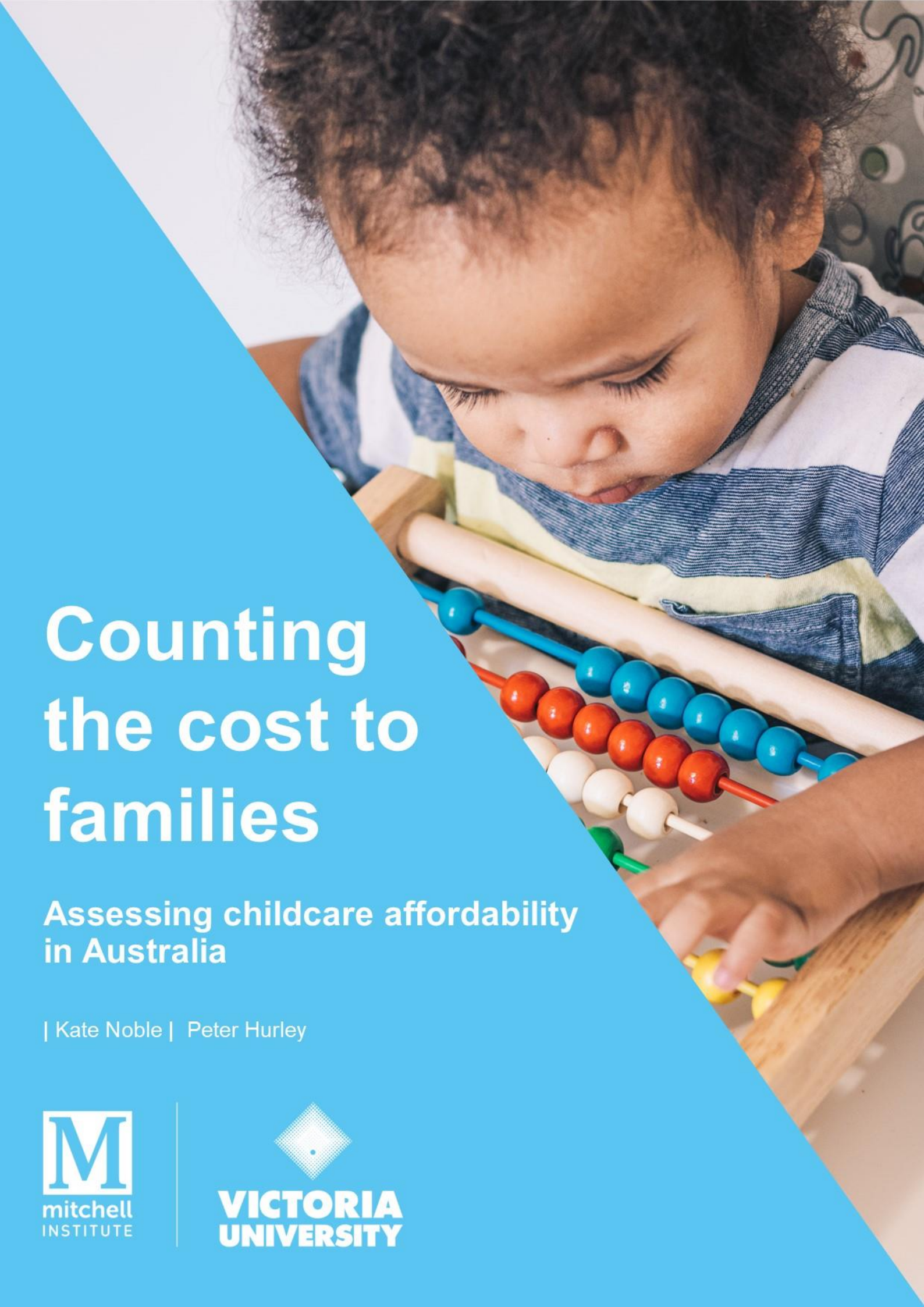

Counting the cost to families

Assessing childcare affordability in Australia

| Kate Noble | Peter Hurley

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About us

The Mitchell Institute for Education and Health Policy at Victoria University is one of the country's leading education and health policy think tanks and trusted thought leaders. Our focus is on improving our education and health systems so more Australians can benefit from these services, supporting a healthier, fairer and more productive society.

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Cover image

Cover image by Luis Arias via Unsplash.

Introduction

The reality of family and work life has changed substantially over the past three decades, and many argue that despite significant reform, our early childhood education and care (ECEC) system is not adequately supporting children and parents to thrive and fully engage in life.

Since the 1980s, women's employment rates in Australia have increased dramatically – from around 50 to nearly 70 per cent (Australian Bureau of Statistics, 2001 & 2020). Since 2000, the proportion of children aged 0 to 5 years attending childcare has increased from around 30 to 45 per cent, with participation rates up to 64 per cent for three-year-olds (Productivity Commission, 2001 & 2021).

Despite government subsidies that meet up to 85 per cent of childcare costs, depending on a family's economic circumstances, childcare is still a significant cost for many families. While means-tested subsidies have reduced costs for the most disadvantaged families, they can be crippling for many.

In many cases, this results in parents – often women – deciding not to work, or working fewer hours than they would like to (Woods, Griffiths & Crowley, 2021). In some cases, it results in parents deciding not to use early childhood education and care services, meaning children are not benefitting from the developmental benefits of early learning.

But exactly how much parents spend, how this compares with other major household expenditure, and how much is too much, are all open questions. Too often, these questions are being answered with anecdotal evidence and inadequate data that does not cover the breadth of family circumstances, is outdated, or provides limited insight into the problem.

This paper reviews available data on expenditure and affordability, and presents new analysis of household expenditure data to understand how much Australian families are spending on early childhood education and care, as a proportion of their disposable income.

In the US, affordability of childcare for low-middle income households is determined by a benchmark of no more than seven per cent of family disposable weekly income. Our analysis finds that around 40 per cent of Australian families are spending more than the seven per cent threshold of their disposable weekly income on early education and care expenses. Our analysis suggests that for about 386,000 Australian families, childcare is unaffordable.

While low and medium income families receive the greatest subsidies, these families can afford the costs the least because of their lower household disposable incomes.

The evidence is overwhelming that good quality early childhood education and care delivers huge benefits to families, to society and to the economy. However, with childcare remaining unaffordable to so many, Australia is unable to fully capitalise on the benefits that good quality childcare brings.

Key Points

- When measuring affordability of early childhood education and care, it is important to consider expenses in relation to total household disposable income.
- When using an international affordability benchmark of no more than 7% of household disposable income spent on childcare, early childhood education and care is unaffordable for about 386,000 families, or 39% of all families who use the childcare system.
- While the Australian Government provides greater support to families who earn less, these are the families who can afford childcare the least because of their lower household disposable incomes.
- Modelling of the impact of changes to subsidy rates announced by the Australian Government in May 2021 shows that childcare affordability will improve for many families with two or more children who are not yet at school. However, when using an international affordability benchmark of no more than 7% of household disposable income spent on childcare, early childhood education and care would still be unaffordable for about 336,000 families, or 34% of all families with childcare expenses.
- Australia should establish ways to measure childcare affordability that take into account the cost of childcare as part of household budgets.

How is ‘affordable’ defined and measured?

In Australia, there is no standard measure of childcare affordability. However, it is possible to explore metrics of affordability for other types of household expenditure and stress. Looking at other areas of expenditure is useful for two reasons. Firstly, it can set a benchmark for what expenditure items might be considered significant to merit substantial research on affordability. The second benefit relates to the methodologies themselves, which are readily available and could be assessed and potentially adapted to better understand childcare affordability.

One area of expenditure that has been thoroughly examined is energy affordability. The Australian Energy Regulator (AER) examines income, electricity usage and retailer offers to provide an overall picture of changes to electricity affordability for households. It looks at prices and household usage, compared with concessions, retailer offers and household income. AER found that in 2019, low-income households spent between 4.8 per cent and 7.6 per cent of disposable income on electricity. By comparison, average income households spent between 2.6 per cent and 3.9 per cent (AER, 2019).

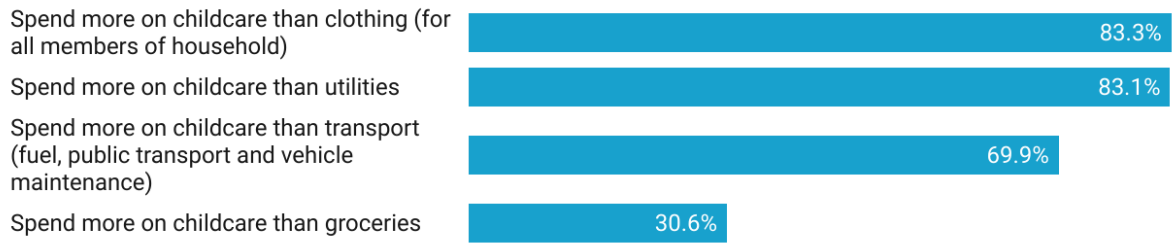
Another well-examined area is rent and mortgage stress. Housing affordability is expressed as the ratio of housing costs to gross household income (AIHW, 2020). Housing costs include rent payments, rate payments, and mortgage payments. Lower-income households (in the bottom 40 per cent of Australia’s income distribution) are likely to experience housing stress if they spend more than 30 per cent of their gross income on housing costs. This is referred to as the 30/40 indicator and can be measured against gross or equivalised disposable household income (Australian Housing and Urban Research Institute, 2019).

Compared with housing and energy costs, childcare affordability has been less well explored in Australia, despite childcare being a significant household cost for many families. No affordability threshold or range is currently used as it has been for other categories of household expenditure. As a result, discussion on what is affordable and what is not lacks clear parameters and so it tends to be defined very differently, or not at all.

It is possible to explore the relative impact of childcare costs on the household budget using information from the Household, Income and Labour Dynamics in Australia (HILDA) survey. The HILDA survey is completed each year and surveys about 17,000 individuals and over 7,600 households (Summerfield et al., 2020). The HILDA survey contains detailed data on household income and expenses, such as childcare. Of the more than 7,600 households surveyed, approximately 1,000 have recorded childcare expenses.

Figure **1** below compares early childhood education and care expenses with two important areas of the household budget. These two areas are annual household expenses on utilities such as electricity and gas bills, and groceries.

Figure 1: Percentage of families with annual ECEC expenses above household expenditure on clothing, utilities, transport and groceries



Source: DSS, 2020. Note: percentage of families with recorded childcare expenses in HILDA survey. Childcare expenses include formal and informal childcare and preschool.

This figure shows that, of all families with recorded household expenditure on childcare, about 83% are spending more on early childhood education and care than they are on utilities or clothing, 70% are spending more on early childhood education and care than transport, and about 31% are spending more on early childhood education and care than they are on groceries.

Using the population weights contained in the HILDA survey, this suggests that about 815,000 families are spending more on early childhood education and care than they are on utilities or clothing, 685,000 families are spending more on early childhood education and care than transport, and about 300,000 Australian families spend more on early childhood education and care than on groceries.

This figure helps demonstrate the significant impact of childcare expenses on household budgets. However, despite this significance, commonly accepted benchmarks for childcare affordability are missing in Australia.

Internationally, there are examples of benchmarks and measures to measure childcare affordability. Once such example is the US, which has established an affordability benchmark for childcare, originally set at ten per cent of a family's income, and subsequently revised to seven per cent. This benchmark is not included in legislation but is in the preamble to the rules, thereby carrying substantial weight (US Department of Health and Human Services, 2016). Organisations advocating for children, women and families have undertaken community- and state-level analysis on childcare costs against this benchmark, including using methods recognising that affordability is highly contingent on family income (Azuma et al, 2020).

The benchmark of no more than 7 per cent of disposable income spent on childcare provides a useful measure to explore affordability in Australia. Further analysis in this paper will use available data sources to determine how expenditure on childcare by Australian families compares with this 7 per cent benchmark.

How much do Australian families spend on childcare?

Understanding how much Australian families spend on childcare is complicated by several factors. One important factor is that childcare usage varies by family. Families who use childcare more regularly will generally have higher expenses than those who use childcare less frequently. Another factor is income. Those families who earn less generally receive more in government subsidies. Childcare providers also set their own fees, which means that costs to families often vary by location.

The most up-to-date data on childcare expenses is published quarterly by the Australian Government. This data is useful, but somewhat limited when it comes to assessing spending on childcare by families. One limitation is the focus on average use, which obscures higher levels of usage by many families. For instance, in December 2020 the average weekly hours for one child in childcare was 24.8 hours (DESE, 2021). However, many families use childcare much more than the average.

For instance, a standard full time week is 50 hours at childcare and most centres charge families for 50 weeks per year. The annual cost for families who use childcare in such a manner is high. For instance, for a family on a combined income of $170,000 with two children in childcare 50 hours per week, the annual out of pocket expenses would be up to $26,000 (Hurley et al, 2020). These costs as a proportion of household disposable income are likely to be a source of economic stress to many families.

One final factor in assessing costs to families is variation in costs over time. Childcare costs have fluctuated over the past decade, particularly in response to the introduction of the Child Care Subsidy (CCS) in 2018. Median hourly expenditure on formal child care for children not yet at school rose in real terms fairly consistently between 2002 and 2017, but declined in 2018 (Wilkins et al, 2020). The decline between 2017 and 2018 was considerably larger for single parents, falling by 18.2%, compared with 4.1% for couple parents.

However, there are indications that improvements in affordability following introduction of the CCS may be short-lived. Since the 1990s, we have seen a pattern of reform resulting in reduced costs to families, followed by a steady increase in costs, and further reform to address affordability and fairness (Baxter et al, 2019: 13).

To explore this change, Table 1 shows changes in the consumer price index (CPI) for childcare expenses published by the ABS. This table shows data from March 2015 to March 2021 and helps understanding of changes to the price of childcare over the past five years.

Table 1: Consumer Price Index (CPI) for childcare across capital cities and Australia, March 2015 to March 2021

Quarter	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Australia
Mar-2015	125.6	135.1	128.9	125.2	128.3	128.2	**128.6**
Jun-2015	126.9	135.9	129.2	125.5	129.3	128.5	**129.5**
Sep-2015	130.2	141.4	135.9	135.3	137.7	131.6	**134.7**
Dec-2015	130.5	141.7	136.3	135.7	138.0	132.0	**135.0**
Mar-2016	135.0	146.6	138.8	144.0	140.6	133.6	**139.3**
Jun-2016	135.4	147.9	141.5	145.9	141.0	134.0	**140.4**
Sep-2016	140.2	150.9	147.5	150.2	149.2	136.1	**145.4**
Dec-2016	140.5	152.2	148.2	151.6	149.6	136.7	**146.0**
Mar-2017	141.1	156.0	149.8	152.9	150.4	139.4	**147.7**
Jun-2017	143.4	156.4	150.3	155.0	150.7	141.1	**149.0**
Sep-2017	145.8	159.8	156.9	155.3	155.6	144.5	**152.3**
Dec-2017	147.8	160.9	157.6	160.2	156.9	144.1	**153.9**
Mar-2018	149.8	165.5	158.4	160.6	159.8	147.6	**156.4**
Jun-2018	151.7	166.2	160.1	161.3	161.1	148.4	**157.9**
Sep-2018	140.1	134.4	144.6	140.7	142.5	131.5	**139.3**
Dec-2018	140.8	135.5	151.0	142.5	145.0	132.5	**141.2**
Mar-2019	142.0	140.7	153.6	144.6	147.3	133.3	**143.9**
Jun-2019	142.9	144.4	154.2	146.6	148.4	133.8	**145.4**
Sep-2019	145.3	149.4	158.2	148.3	153.0	136.5	**149.0**
Dec-2019	148.3	151.1	160.6	150.1	154.4	138.5	**151.3**
Mar-2020	149.3	153.3	161.7	151.5	156.3	140.5	**152.8**
Jun-2020	7.5	7.7	8.1	7.6	7.8	7.0	**7.6**
Sep-2020	129.0	49.7	138.5	133.1	137.4	123.4	**112.6**
Dec-2020	152.3	153.4	165.3	153.4	157.9	142.1	**155.0**
Mar-2021	157.6	154.5	168.4	154.5	159.4	143.6	**158.4**

Source: (ABS, 2021)

This table shows that the price of childcare fell after the introduction of the CCS in 2018. It also fell dramatically in June 2020 when the Australian Government introduced free childcare in response to the coronavirus pandemic. However, outside of these important changes, this table suggests that childcare care costs have continued to rise steadily.

What proportion of families' income is spent on childcare?

The following analysis looks at three key sources to assist in understanding how much families spend on childcare as a proportion of their household income. The first source is Productivity Commission reports on annual out of pocket costs on childcare, with the most recent data referring to 2020. The second source is OECD reports on net childcare costs for all OECD countries. The third source is data from the HILDA survey, published in 2020.

The Productivity Commission reports on average out of pocket costs as a proportion of household disposable income for families with selected incomes based on the use of part-time childcare (30 hours - typically three days - per week) for one child. This percentage would double for a family with two children in part time care. Table 2 below shows the results based on the Productivity Commissions analysis.

Table 2: Out of pocket costs for families with one child in 30 hours child care, as a proportion of weekly disposable income, 2020

Gross annual family income	**$35,000**		**$95,000**		**$155,000**		**$215,000**	
Number of children	One	Two	One	Two	One	Two	One	Two
2020	4.7	9.4	4.6	9.2	5.9	11.8	5.2	10.4
2019	4.5	9.0	4.6	9.2	5.7	11.4	4.9	9.8
2018	7.9	15.8	6.8	13.6	6.2	12.4	4.7	9.4
2017	7.5	15.1	6.6	13.2	6.0	12.0	4.6	9.1

Source: Productivity Commission, 2020. Note that family income brackets are for gross family income, while proportions are calculated as a proportion of disposable income.

Table 2 above shows that average out of pocket costs fell as a proportion of family disposable income for many income groups, especially from 2018 and 2019. This was when the Australian Government introduced the CCS, and suggests that the CCS has resulted in improved affordability for families on lower incomes over the past four years, with costs remaining steady or increasing for middle-high income families.

OECD data provides more data on family expenditure, looking at the proportion of household disposable income low-middle income families spend to have two children in full time childcare. The main drawback of OECD data is that it lags behind the release of national data and indicators can be based on data that is several years old. It is useful, however, to compare with other data points, and because it focuses on higher level costs for lower income families, rather than averages.

The OECD data shows that following a peak of household expenditure in 2018, which included six months each of pre- and post-CCS, the proportion of household income spent on childcare has dropped from a high of 20-25 per cent to 14-18 per cent for families on low

and middle incomes. Table 3 displays net childcare costs for working parents with children in full time childcare, as a proportion of family income.

Table 3: Net childcare costs for working parents with children in full-time childcare, as a proportion of household income

	2008	2012	2015	2018	2019	2020
Couple with two children, both earning average wage	17%	16%	20%	25%	18%	19%
Couple with two children, earning 67% of average wage	15%	14%	16%	22%	16%	17%
Couple with two children, earning minimum wage	15%	14%	16%	20%	14%	15%
Single parent earning 67% of average wage with two children	14%	15%	18%	22%	12%	12%

Source: OECD, 2021.

Table 3 shows a similar trend for low-middle income families that appears in the Productivity Commission data. This data suggests that the means-tested element of the CCS seem to be working relatively well when it comes to the policy objective of increasing affordability for the most disadvantaged families.[1] Nonetheless, many average income families with two children are spending up to 19 per cent of their household income on childcare.

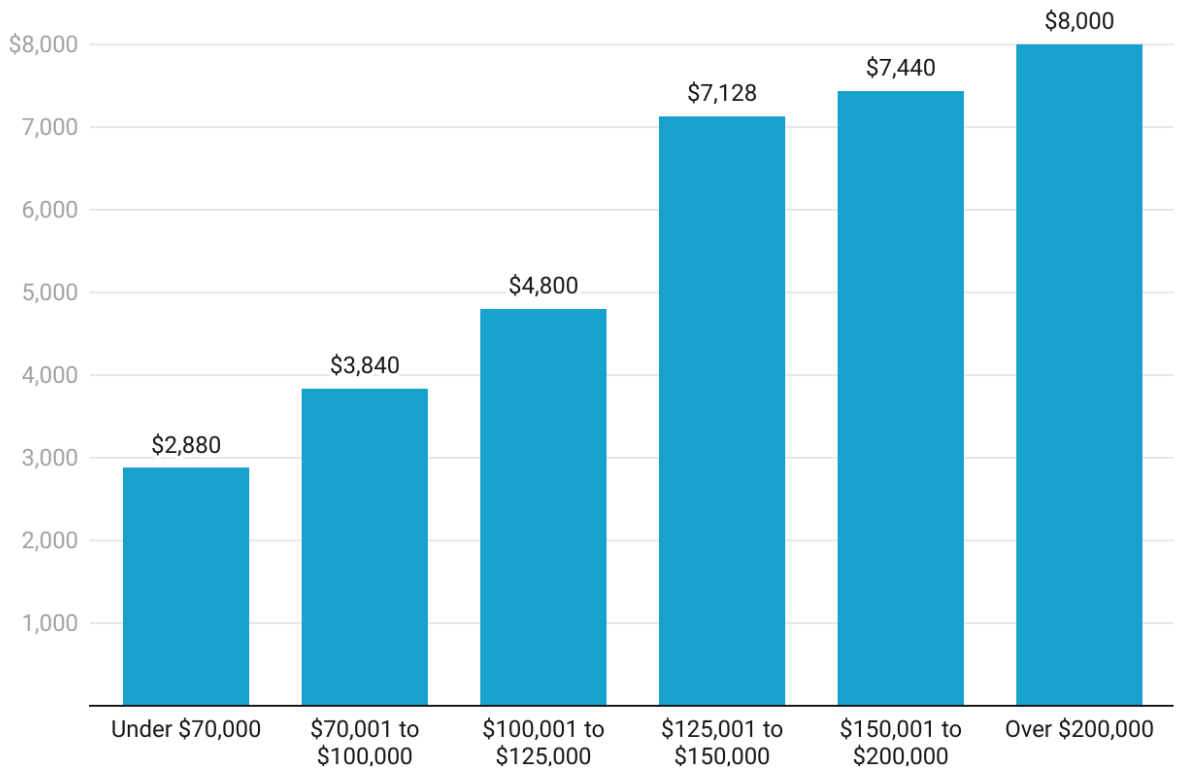
HILDA data also shows that the means-tested element of the CCS results in families who earn less having lower out of pocket expenses.

Figure 2 uses HILDA data to examine the median annual out of pocket expenses on early childhood education and care by gross annual household income.[2]

[1] While this appears to be the case, the impact of the CCS has not been sufficiently evaluated to conclusively demonstrate this. The Australian Institute for Family Studies (AIFS) was contracted to evaluate this reform, but data collection in 2020 was ceased due to COVID-19 related restrictions and AIFS was asked to conclude the evaluation without 2020 data.

[2] Variables used in this analysis are: *hifditp DV: Household financial year disposable total income ($) [imputed] Positive values [weighted topcode]*, *ccactci DV: Annual child care total cost ($) [estimated]*, *hhwth DV: Household population weight, hifeftp DV: Household financial year gross total income ($) [imputed] Positive values [weighted topcode]*

Figure 2: Median annual out of pocket early childhood education and care expenses by gross annual household income



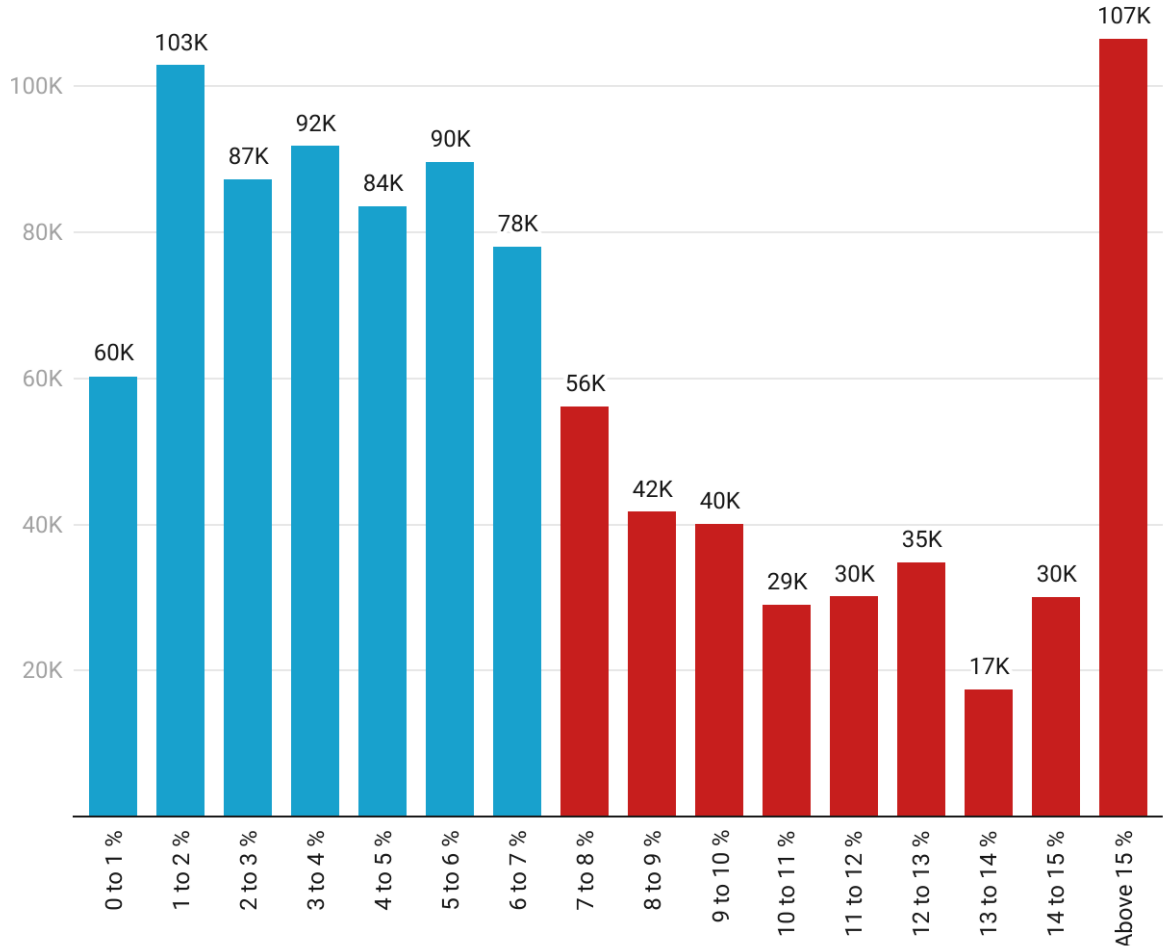
Source: DSS, 2020. Note: Childcare expenses include household expenses for formal and informal childcare and preschool.

This figure shows that the lower the household income, the lower the median out of pocket childcare costs. For instance, families in households with a gross income of less than $70,000 per year pay a median of $2,880 each year in childcare costs.

By contrast, families with a gross household income over $200,000 per year pay a median of $8,000 in childcare costs.

However, as discussed previously, it is important to contextualise out of pocket costs in terms of its impact on the household budget. To do this, Figure 3 uses HILDA data to show out of pocket expenses on childcare as a proportion of household annual disposable income. This figure displays the number of households, using the population weights provided in HILDA. This enables a better understanding of the number of families with different out of pocket childcare costs. This figure also highlights the number of households exceeding the international affordability benchmark of 7% of household disposable income on childcare in red.

Figure 3: Number of Australian households by proportion of household disposable income spent on early childhood education and care



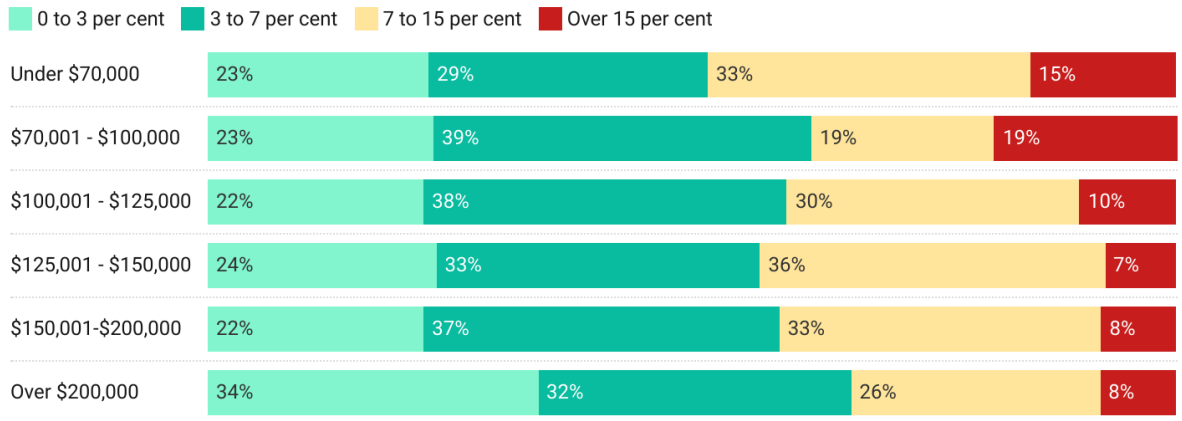
Source: DSS, 2020. Note: Childcare expenses include household expenses for formal and informal childcare and preschool.

This figure shows there are approximately 386,000 Australian households who currently have expenses above the 7% affordability threshold, or 39.4% of families who use childcare. For many families these costs are significant, with 107,000 households, or 10.9% of households who use childcare, estimated to have childcare expenses that exceed 15% of total household disposable income.

As the childcare subsidy varies by how much a family earns, it is also important to explore childcare affordability by different income groups. Figure 2 shows that lower income families have lower median costs. However, while families who earn less have lower childcare costs, they are also the families who can afford such costs the least.

Figure 4 shows childcare costs as a proportion of annual household disposable income. The figure also highlights the proportion of families exceeding the 7% affordability threshold, which are coloured yellow and red.

Figure 4: Childcare costs as proportion of annual household disposable income, by household annual gross income



Source: DSS, 2020. Childcare expenses include formal and informal childcare and preschool.

This figure shows lower and middle income families spend a higher proportion of their household income on childcare compared to higher income families. For instance, about 48% of families with an annual gross household income of less than $70,000 pay more than 7% of their household disposable income on childcare costs. About 43% of families with an annual gross household income between $125,001 and $150,000 pay more than 7% of their disposable income on childcare costs.

By contrast, for families with annual gross total household income of over $200,000, 34% pay more than 7% of their household income on childcare costs.

Our analysis substantiates ongoing analysis by the OECD, and demonstrates that a significant proportion of families on low-middle incomes are spending more than seven per cent of their household income on ECEC, after subsidies are applied.

What is the impact of recent policy announcement on childcare affordability?

In May 2021, the Australian Government announced reforms to the childcare subsidy rates. Starting on 1 July 2022, these reforms will:

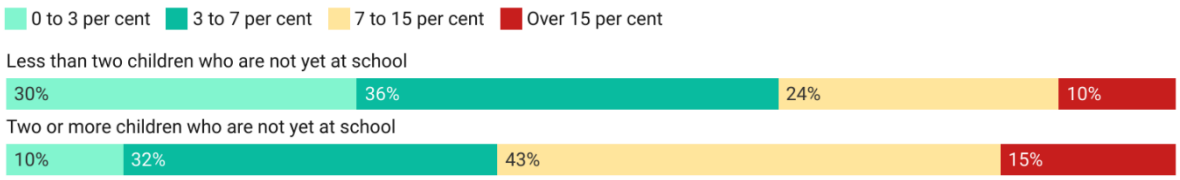
- increase the subsidy available to families with more than one child aged five and under in childcare, and
- remove the $10,560 cap on the Child Care Subsidy, for those families with an annual income above $189,930 per year.

The Australian Government states that these reforms will provide more support to approximately 250,000 families. Nearly 1 million families use childcare every year in Australia, which suggests that about 700,000 families will not benefit from these changes.

The main component of these changes is the increase in subsidy rates for families with more than two children in childcare. Under the reforms, for the second and subsequent child in care the subsidy increases by up to 30 percentage points, capped at 95%. Older children using after school care are not eligible for any extra subsidy.

To understand how the number of children in a family affects childcare affordability, Figure 5 uses HILDA data and breaks down the proportion of household disposable income spent on early childhood education and care by the number of children who are not yet at school.

Figure 5: Proportion of household disposable income spent on early childhood education and care by number of children who are not yet at school



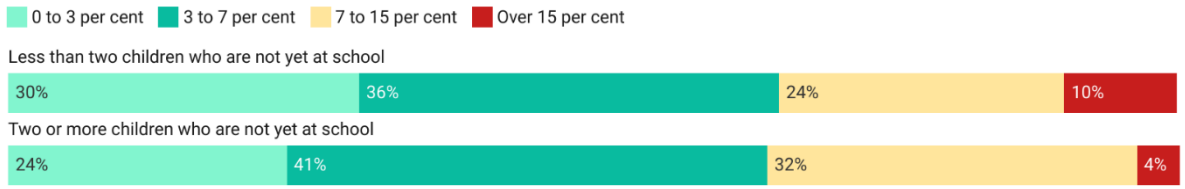
Source: DSS, 2020. . Note: Childcare expenses include household expenses for formal and informal childcare and preschool.

Figure 5 shows that 58% of families with two or more children who are not yet at school spend above 7% of their household income on childcare. This compares to 34% of families with fewer than two children who are not yet at school.

Using HILDA data, it is possible to estimate the impact of this policy announcement on childcare affordability for families with more than two children who are not yet at school. To do this, the new subsidy rates were applied to families who were using formal childcare with two or more children who are not yet at school. This analysis involved using household annual gross income to determine the per child cost of childcare before subsidies, and then applying new subsidy rates as outlined by the Australian Government. This analysis does not take into account changes in usage of childcare caused by increased subsidies.

The results of this analysis are shown in Figure 6 below.

Figure 6: Proportion of household disposable income spent on childcare by number of children who are not yet at school using the new subsidy rates announced in May 2021



Source: DSS, 2020. Childcare expenses include formal and informal childcare and preschool.

This figure shows that the new subsidy rates will improve the affordability of childcare for many families with two or more children under the age of five. However, for 36% of families with two or more children who are not yet at school childcare will remain unaffordable.

In terms of the overall impact of the changes on affordability, the analysis of the HILDA data suggests that the number of families exceeding the 7% affordability threshold will decrease by approximately 50,000. However, this suggests that for about 336,000 Australian families, or about 34% of families who use childcare, it will continue to be unaffordable.

What is the impact of COVID-19 on affordability?

COVID-19 saw huge fluctuations in early childhood education and care attendance rates not only due to lock-downs, but also due to the temporary introduction of free childcare, the re-introduction of fees, and the economic shock experienced within families. In addition to demonstrating the vulnerability of the sector, this experience raised red flags around the issue of affordability for families.

Several data points are helpful in assessing the extent to which financial shocks have affected the ability of families to afford and remain engaged with childcare during this period. The first is Productivity Commission figures on the number of parents and carers in Australia who are not in the workforce and cite childcare service-related reasons as the main factor. In 2020, 98,800 parents were in this position, up slightly from 2019, but lower compared with the previous three years (Productivity Commission, 2021).

Another indicator is usage of the Additional Child Care Subsidy (ACCS), which is available to families experiencing disadvantage for a number of reasons, including transition to work and temporary financial hardship. It demonstrates impact on a small number of families rather than the general population, but is indicative of the number of families struggling to remain engaged in early childhood education and care, and experiencing serious difficulty with affordability.

Table 4 shows the number of children and families accessing the Additional Child Care Subsidy from December 2019 to December 2020.

Table 4: Number of children and families accessing Additional Child Care Subsidy, December quarter 2019 to December quarter 2020

	Dec. 2019	**Mar. 2020**	**Jun. 2020**	**Sep. 2020**	**Dec. 2020**
Number of children accessing ACCS due to Temporary Financial Hardship	1,430	5,340	N/A	7,770	9,070
Number of families accessing ACCS due to Temporary Financial Hardship	970	3,920	N/A	5,500	6,410

Source: DESE, 2021. Note: Due to the temporary measures implemented as part of the Australian Government's ECEC COVID-19 relief package, data for June quarter 2020 is not available.

This table shows a substantial increase in children and families accessing the ACCS due to financial stress. In the December quarter 2020, 9,070 children from 6,410 families accessed ACCS for temporary financial hardship. This was up from 1,430 children from 970 families in the December quarter 2019 (DESE, 2020). This represents a large increase in families experiencing serious financial hardship impacting on their ability to access childcare.

High quality and affordable childcare could be a driver of post-COVID economic recovery, if Australia gets the policy settings right (Wood et. al., 2021). It would also provide support and stability to young children as they transition from early learning into school, after a period of intense disruption and difficulty (Noble et al, 2020). Additionally, it would provide women – who have been disproportionately impacted by the negative effects of COVID – with essential support to recover from the setbacks of 2020.

The bottom line

Debate on childcare affordability to date has been bogged down in anecdotal evidence and statistics that focus primarily on the level of subsidies, rather than affordability for families. In the absence of an Australian affordability threshold, we undertook analysis of modelled and actual family expenditure, and examined this in relation to the US affordability threshold, taking into consideration approaches used to measure the affordability of other household costs in Australia.

Our analysis finds that low-middle income families, despite attracting the greatest subsidies, remain the ones who can afford childcare the least. Indeed, childcare remains unaffordable for about 39% of all families and 48% of low-income families. This suggests that early childhood education and care is unaffordable for about 386,000 Australian families.

Childcare in Australia is unaffordable. As a result, children are missing out on early learning and development opportunities. Parents – most often mothers – are constrained in their ability to achieve the work and parenting balance they need, and that works best for their families. And the Australian economy is failing to leverage the full potential and capacity of working parents, which could support an estimated $11 billion boost annually to GDP (Wood et al, 2021).

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MITCHELL REPORT NO. 03/2016

Preschool – Two Years are Better Than One

Developing a universal preschool program for Australian 3 year olds – evidence, policy and implementation

OCTOBER 2016

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mitchell INSTITUTE

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Dr Stacey Fox has worked in research and policy across child, youth and family sectors for a number of years. Stacey has co-authored significant reports on policy priorities for quality early education, parent engagement in learning, and systems design to support prevention and early intervention. As a Policy Fellow at the Mitchell Institute, Stacey has a particular focus on research and policy in the early years and schools.

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About the Mitchell Institute

The Mitchell Institute at Victoria University is an independent think tank that works to improve the connection between evidence and policy reform. The Mitchell Institute promotes the principle that high-quality education, from the early years through to early adulthood, is fundamental to individual wellbeing and to a prosperous and successful society. We believe in an education system that is oriented towards the future, creates pathways for individual success, and meets the needs of a globalised economy. The Mitchell Institute was established in 2013 by Victoria University, Melbourne with foundational investment from the Harold Mitchell Foundation.

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Executive Summary

Access to a high-quality preschool program is one of the few proven strategies for lifting outcomes for all children. Evidence shows that two years of preschool has more impact than one, especially for the children most likely to be developmentally vulnerable. It is time for Australia to pursue a national commitment to ensuring all 3 year olds have access to high-quality early education by offering a second year of preschool.

Every child in Australia deserves the opportunity to reach their potential.

If Australia is to remain globally competitive into the future, it is vital that we invest in programs that promote opportunity, boost our human capital and close the disadvantage gap.

Currently, nearly a quarter of Australian children arrive at school without the foundational skills they need.

And we are not doing all that we can to ensure all children have the best possible opportunity to develop the early cognitive and social emotional skills that set them up for life.

In Australia, a child's risk of being developmentally vulnerable is closely correlated with their socio-economic status, meaning that before they have even started school, some children's chances are more influenced by where they were born than by their own innate abilities.

These inequalities often increase as children progress through school and if Australia wants to maximise its human capital, these inequalities need to be addressed.

Australia has laid the groundwork for delivering two years of high-quality, universal preschool programs.

Currently, two thirds of 3 year olds are already attending early education and care and we have achieved near-universal enrolment in preschool for 4 year olds.

But the children missing out are the ones who would benefit most from access to a preschool program, and not all children are receiving the amount of high quality early education needed to maximise their potential.

There is a clear opportunity here. Moving to two years' access to a universal preschool program can be an affordable, achievable and effective way for us to achieve greater and more equitable outcomes for Australian children.

Why do we need it?

In Australia, children do not start school on an equal footing and it is clear we can do more to ensure all children meet their potential.

International academic tests show that educational inequalities are growing in Australia, while our overall performance is slipping and our high-performers are flat-lining.

Nearly a quarter of children are arriving at school with significant vulnerabilities – in their knowledge and communication, their social skills and emotional wellbeing, or in their physical health.

Many more children would benefit from additional opportunities to develop and master the range of skills that matter for their learning and development.

All children have different talents and strengths. But a child's risk of experiencing the kinds of developmental difficulties that impact their educational achievement is directly linked to their socio-economic status.

These challenges can last a lifetime. But responding to them effectively can benefit all of us.

The more students who thrive at school, who learn to build good relationships with others and who graduate with the right skills and capabilities to do well in the workforce, the more prosperous, productive and cohesive our society will be.

Australia is rightly concerned about both its population-wide educational outcomes and the long-term future of children born into intergenerational disadvantage.

Evidence from here and overseas shows that providing access to high-quality 3-year-old preschool programs lays the foundation for enduring success at school and in a range of outcomes that matter for future prosperity, including literacy, numeracy and social and emotional wellbeing.

Australia has more work to do to make sure all children have the opportunity to learn and develop to their full potential.

Preschool programs that are accessible to all children are one of the best strategies we have to support children to develop the foundational skills they need to meet their potential and pursue their talents.

International evidence shows that two years of preschool has more impact than the one year currently provided in Australia.

Research also points to the importance of high quality early education, delivered by highly skilled and well supported educators, in order to significantly improve children's development, and therefore achieve a return on investment.

What is a preschool program for 3 year olds?

A preschool program (also known as kindergarten) provides an environment in which each child is guided and supported to develop their skills, capabilities, interests and talents.

Preschool programs are as much about helping children learn to get along with others, to be creative and collaborative problem solvers, and to understand and talk about their emotions as they are about supporting the foundations of literacy, numeracy and science.

Skilled educators use teaching strategies that are appropriate for the age of the child.

They extend children's thinking, encourage them to ask questions, engage them in conversations about things that excite them, and integrate learning into play and exploration.

A key difference between a dedicated preschool program and other early learning opportunities for 3-year-old children is that preschool programs are designed to ensure that all children have the opportunity to access the amount of early education, at a consistently high level of quality, that is needed for it to have a large and ongoing impact on their learning and development.

Like antibiotics, if children do not receive an adequate dose of the preschool program they are not likely to gain the intended benefits.

Families are always children's first and most important teachers. Preschool programs provide an additional opportunity to amplify and extend children's learning in ways that complement children's learning at home and in the community.

What are the key issues?

Providing access to two years of preschool programs is one of the best investments governments can make at a time of economic uncertainty and budget constraint.

Providing access to two years of preschool is an investment in the future.

Two thirds of 3 year olds already access early education and care.

Many of these programs are of a high quality, but overall, the quality of these programs varies. Children's attendance patterns also vary significantly. Some children attend for just one day per week, and others attend full time.

Critically, the third of children who do not have access are likely to be the most vulnerable and disadvantaged children who would benefit most from the high-quality early learning opportunities a preschool program provides.

Because two thirds of 3 year olds are already attending early education and care, making sure all 3 year olds have access to a high-quality preschool program is affordable and achievable.

The key issues are making sure:

- All children access the right amount and the right level of quality in their preschool programs, so that they deliver the desired learning and development outcomes; and
- We minimise barriers for the children who will benefit most from access to a preschool program.

How can we do it?

In the past 5 years, Australia introduced and achieved near-universal enrolment in preschool programs for 4 year olds.

We have the knowledge and capacity we need to extend preschool to 3 year olds, working within the existing early education and care system and in ways that are both affordable and meet the needs of families.

Federal, state and territory governments can work together to develop an effective 3-year-old preschool program and to make sure all children have the best start to a lifetime of learning.

What next?

The Mitchell Institute recommends that as an immediate and low-cost first step, the Council of Australian Governments (COAG) agree to commission a scoping study into 3 year preschool programs.

Key recommendation

COAG should commission a scoping study into universal 3-year-old preschool programs for Australia. The study should be completed by the end of 2017 and should identify:

- Delivery gaps and opportunities
- Core process and structural quality elements
- Strategies to address barriers to access for priority cohorts
- Jurisdiction-specific implementation options
- Improvements in data collection needed to track impact

Introduction

It is time for Australia to pursue a national commitment to ensuring all 3 year olds have access to high-quality early education by offering a second year of preschool. High-quality preschool is one of the few proven strategies for lifting outcomes for all children, and evidence shows that two years of preschool have more impact than one, especially for the children most likely to be developmentally vulnerable.

Australia is not seeing significant decreases in developmental vulnerability (Australian Early Development Census 2016), and the school system is not working effectively to narrow the achievement gaps that are evident in and before the first year of school (Goss & Sonnermann 2016).

Nearly a quarter of Australian children arrive at school without the foundational skills they need to thrive. A child's risk of being developmentally vulnerable is closely correlated with their socio-economic status, meaning that before they have even started school, children's life chances are more influenced by where they were born than by their own innate abilities. These inequalities can increase as children progress through school.

There is increasingly strong evidence that access to two years of high-quality preschool programs is better than one, with the greatest benefits accruing to the children with the greatest need. Internationally, many OECD countries are prioritising the provision of two years of high-quality preschool, and are framing this as a necessary investment in human capital and future productivity.

This report considers the appropriateness and feasibility of designing and delivering a preschool program for all 3 year olds within Australia's existing early education and care system.

Currently, around two thirds of Australian 3 year olds are regularly attending early education and care settings, a proportion that grows every year, with a small number of 3 year olds already participating in a preschool program.

This high and growing proportion of 3 year olds already attending early education and care indicates that establishing a universal 3-year-old preschool program is both affordable and achievable.

Establishing a universal preschool program for 3 year olds would involve agreeing on a clearly defined and nationally consistent model for the preschool program. This model would need to provide a sufficiently high-quality learning environment to ensure improvements in children's developmental outcomes and to achieve a shift in outcomes at a population-level. It would also need to be embedded within the existing early education and care landscape within each state and territory.

In the past five years, Australia has achieved near-universal enrolment in preschool in the year before school (see Appendix A). This significant achievement provides a template for how to extend access to preschool programs for 3 year olds, to ensure that all 3 year olds receive the minimum dosage of high-quality early education that will set them up for positive and productive futures.

The evidence shows the benefits of two years of preschool

The weight of evidence supports the benefits of two years of high-quality preschool programs for disadvantaged children, with consistent evidence of at least moderate improvements in cognitive and social and emotional outcomes, with some studies showing sustained impact. The benefits for children not experiencing disadvantage are less pronounced, but still evident.

Key findings from the evidence base are that:

- **Starting early and staying in for longer is beneficial for many children** – studies from Europe, the US and UK show consistent benefits from two rather than one year of preschool.
- **Disadvantaged children benefit the most** – a range of studies highlight substantially greater impacts on cognitive and social and emotional outcomes for more disadvantaged children.
- **The quality of programs matters** – low and medium quality programs deliver very little short or long-term impacts, but the impact of high quality persists over time.
- **Preschool programs improve cognitive and social and emotional outcomes** – research on the long-term impacts of preschool highlights the interaction of academic and social and emotional skills on lifetime education and employment.

International evidence shows that two years of preschool is a key contributor to lifting academic performance at a national level. Data from international benchmarking assessments show that, in the countries with near-universal participation in preschool, there is a strong correlation between more years of pre-primary education and Grade 4 Test Scores.

Underpinning any positive impact for preschool programs is the critical issue of quality thresholds. Investment in preschool does not yield positive and sustained impacts if quality is low. This is particularly the case if critical indicators of process quality – responsive interactions between children and educators that scaffold children's learning in developmentally appropriate ways – are not evident.

Australia should provide a preschool program for 3 year olds

Key policy priorities for Australia are reducing the proportion of children who are developmentally vulnerable in their first year of school; and increasing the proportion of children who progress well throughout school, and go on to become productive and positive members of their community.

Implementation of a preschool program for 3 year olds is an efficient and effective strategy for achieving these policy objectives. Investment in early childhood education and care also has added benefits of supporting workforce participation by parents (although these benefits are not considered in detail in this paper).

This report suggests that providing access to a universal 3-year-old preschool program is an efficient and appropriate investment because:

- Working towards a more level playing field in the first year of school, and ensuring all children have the foundational skills they need to thrive at school, is a critical strategy for improving academic and eventually workforce participation outcomes.

- Even modest population-level improvements in foundational cognitive and social and emotional skills are significant, and are a worthy policy objective.
- Universal platforms, combined with targeted strategies for priority cohorts, are the most effective strategy for ensuring all children can access a high-quality preschool program and for shifting outcomes at a population level.
- With nearly two thirds of 3 year olds already in early education and care, and an existing service delivery platform able to be leveraged, universal 3-year-old preschool programs are achievable and can be an efficient way of achieving the social and economic outcomes Australia needs.

Investing in two years of preschool is not a silver bullet, but is an additional key lever for strengthening the foundational cognitive and social and emotional skills of young children, especially those most at risk of developmental vulnerability.

The introduction of a universal 3-year-old preschool program in Australia would (provided quality thresholds are met) contribute to children's readiness for school and capacity for academic achievement, with the potential for flow-on impacts on graduation rates, workforce participation, and physical and mental health. It would also align with international policy directions and help secure Australia's global competitiveness (see Appendix B).

Although there is still work to be done to fully embed the existing 4-year-old preschool program and boost attendance rates, particularly for priority cohorts, there is a clear rationale for moving towards providing access to two years of a preschool program.

A preschool program for 3 year olds

Preschool is a coherent learning and development-focused program that uses intentional teaching strategies, appropriate for young children, to guide and enhance each child's skills and capacities.

Preschool is also known as kindergarten in some jurisdictions. This report uses the terminology of '3-year-old preschool' and '4-year-old preschool' as shorthand for programs attended one year before school and two years before school, noting that jurisdictions have different school starting ages and attendance patterns for preschool and school.

Thanks to the National Quality Agenda (COAG 2009c) and the Early Years Learning Framework (COAG 2009a), early education and care settings in Australia are underpinned by minimum quality standards and provide a positive learning environment for children.

A preschool program differs from other forms of early education and care in its focus and structure. Preschool programs reflect the contemporary evidence about the types of environments, activities and relationships that support children to learn and develop. They have a clearly defined minimum number of hours per week and per year (based on the 'dose' needed for impact), particular features of delivery quality that support learning and development, and a learning program developed and led by child development experts.

"Crucial brain development occurs in the first 5 years of life that lays the foundation for school readiness.

Essential life skills, competencies, and behaviours are dependent upon the brain's executive function, which controls working memory, inhibitory control, and mental flexibility. These competencies make it possible for children to make plans, ask questions, predict outcomes, control their own behaviour, take turns, form friendships, learn new information, and consider many different viewpoints.

High-quality early childhood programs enhance these skills through developmentally appropriate practices"

Early Childhood Institute (2013)

In Australia, preschool programs are:

- Delivered by skilled and highly qualified early childhood teachers and qualified assistant educators;
- Attended for 15 hours per week, 40 weeks per year or 600 hours per year, the minimum 'dosage' for effectiveness;
- Delivered in a group setting at a dedicated centre;
- A learning-focused program, based on the objectives and approaches outlined in the Early Years Learning Framework, and tailored to the developmental needs, interests and priorities of the children and their community; and
- Universally available in the year before children start school.

Preschool programs for 4 year olds are subsidised in Australia, but in most cases are not free. The cost of preschool varies between states; fees are generally charged according to family income and circumstances.

Introducing a preschool program for 3 year olds (two years before children start school) will involve defining specific aspects of the delivery necessary to improve children's learning and development objectives.

Specifically, this will involve identifying what children 'receive' as part of the program (i.e. hours of attendance or qualifications of the educators) as well as what they 'do' while they attend the program (i.e. the features of the learning program delivered by the educators).

Governments developing a preschool program for 3 year olds will need to consider and determine these features, including how they differ from preschool programs for 4 year olds, in order to support children to reach the desired objectives and maximise their outcomes over two years of preschool program before school.

Design principles for 3-year-old preschool

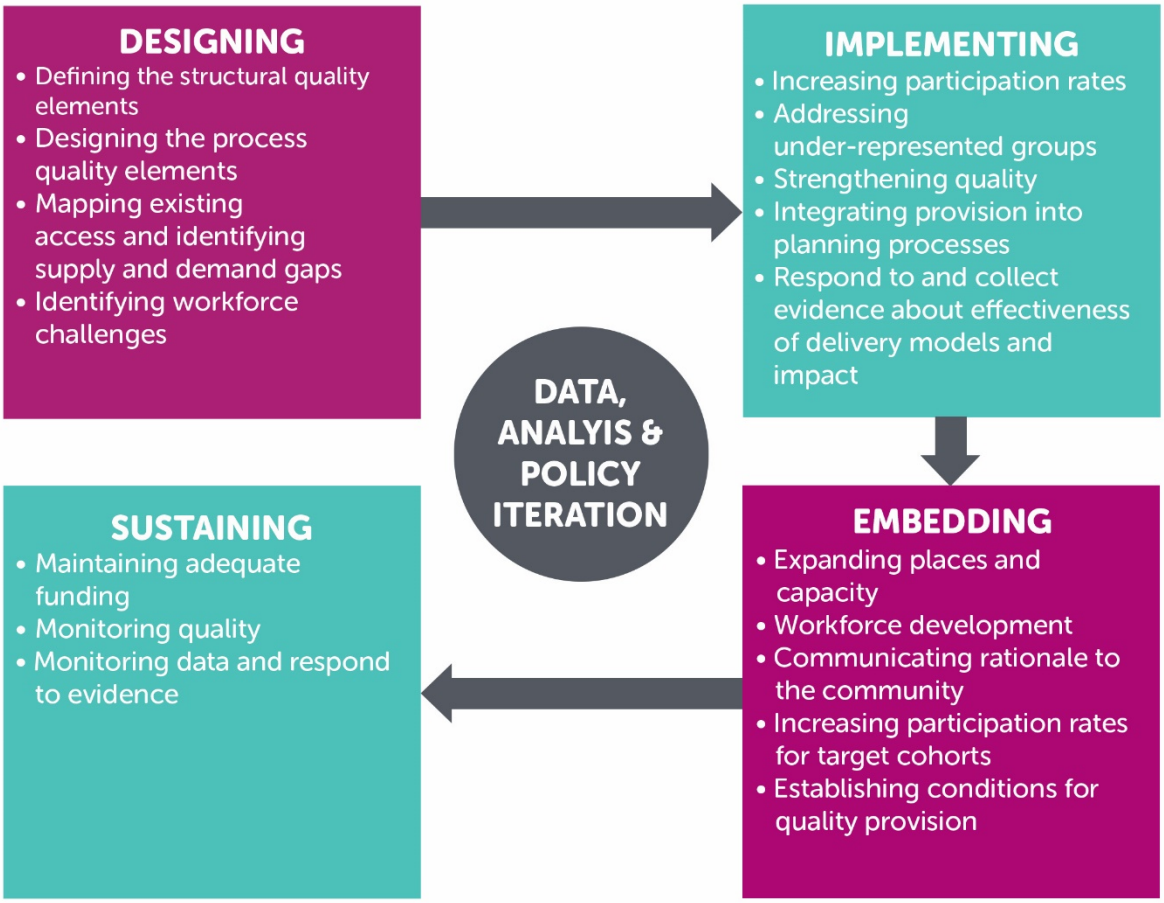
- **Efficient**: An efficient use of limited resources and a clear rationale for public investment.
- **Universal**: Consolidating early education and care as a universal platform for all Australian children, with delivery and investment targeted to those experiencing barriers to access.
- **Evidenced**: An evidence-informed approach to strengthening children's developmental outcomes, including a life-course lens that takes into account the long-term impacts of investment in the early years.
- **Practical**: Delivery approaches that meet the needs of families and the dual objectives of strengthening child development outcomes and enabling parental workforce participation.
- **National**: Harnessing the benefits of agreed national goals and a consistent approach, combined with implementation strategies that reflect the unique circumstances of each jurisdiction.

How would a preschool program for 3 year olds be implemented?

It is possible to deliver a universal 3-year-old preschool program by leveraging existing systems and infrastructure.

Reflecting on the lessons learnt through the National Partnership Agreement on Universal Access for children in the year before school, we suggest that identifying common goals, agreeing to a clearly defined delivery model, and flexible implementation that works with the diverse early education and care landscape in each jurisdiction provides a strong template for providing preschool programs for 3 year olds (Figure 1).

Figure 1: Design and planning considerations for 3-year-old preschool programs



Key to the design of the model is establishing the core features and minimum quality elements for impact. Evidence on the critical elements of process and structural quality suggests how existing structures – like the National Quality Standard and Early Years Learning Framework – provide an appropriate basis to work from.

The report suggests that it is appropriate for the Australian Government, states and territory governments and families, to share funding responsibility for 3-year-old preschool programs. Investment priorities include ensuring minimum quality standards and supporting access for children in families where cost is a barrier. The report outlines a range of potential funding mechanisms and identifies some of the trade-offs involved in different funding approaches.

A commitment to delivering 3-year-old preschool provides an opportunity to outline a 10-year plan for designing, implementing, embedding and sustaining universal access to two years of high-quality preschool for all children.

Consultation and input from key stakeholders will be critical, particularly for the development of the workforce strategy and effective initiatives to engage vulnerable cohorts. In addition, it will be critical to be mindful of the potential for flow-on effects for the broader early education and care sector. The introduction of a dedicated preschool program for 3 year olds should be designed in a way that strengthens the early education sector, particularly for Long Day Care and community based sessional preschool services.

Structure of the report

This report sets out key considerations for the design and delivery of 3-year-old preschool programs in Australia. Given a large and growing proportion of 3 year olds are already in early education and care and Australia's track record in delivering 4-year-old preschool, developing a national 3-year-old preschool program is both desirable and feasible.

Part 1 synthesises the evidence on the potential impact of two years of preschool, highlights research findings on the quality features that are necessary for impact, draws together data on the current participation of Australian 3 year olds in early education and care, and provides an overview of relevant national and jurisdictional policy and funding settings.

Part 2 considers the relative benefits of universal and targeted preschool provision and makes the case that universal preschool is the most appropriate delivery mechanism for Australia. It teases out the key lessons from the collaborative approach that underpinned the success of delivering universal 4-year-old preschool, highlights a range of important design considerations for 3-year-old preschool, and identifies key decisions and processes for design, implementation and funding.

Part 1: Evidence and Data

- **What do we know about preschool for 3 year olds**: A review of the international evidence on impact and dose, duration and quality thresholds
- **What we do know about 3 year olds accessing early education and care in Australia**: A synthesis of available data on the participation rates of 3 year olds, current policy and delivery of 3-year-old preschool programs nationally, and analysis of barriers to accessing preschool programs.

Part 2: Design and Delivery

- **What is the best investment – universal or targeted**: An exploration of the strengths and limitations of universal versus targeted delivery.
- **Design of a 3-year-old preschool program**: An overview of key considerations related to structural and process quality.
- **Implementation considerations**: An outline of key issues in relation to designing, planning, implementing, embedding and sustaining two years of universal preschool.
- **Funding considerations**: An overview of potential funding mechanisms, noting trade-offs around costs to government, costs to families, equity, and ease of implementation.

Next steps

The evidence suggests that providing at least two years of preschool is an additional, and currently under-utilised, lever for lifting Australia's educational performance and long-term productivity.

There is a clear opportunity to leverage high current participation rates by 3 year olds and existing investment in early childhood education and care to deliver a universal preschool program for 3-year-old children.

The Mitchell Institute recommends that as an immediate and low-cost first step, the Council of Australian Governments (COAG) agree to commission a scoping study into 3-year-old preschool programs.

The scoping study should identify:

- **Delivery gaps and opportunities**, to provide more granular data and information about the scale and focus of the implementation challenge. In particular:
  - Data on current participation rates and hours of attendance, at national, state and regional levels, including participation profiles of priority cohorts.
  - Capacity (vacancies) in the existing service systems and identifying areas where there are few or no vacancies.
  - A review of workforce capacity and development needs.
- **Necessary process and structural elements of the preschool program**, using the parameters identified in this paper as a starting point.
- **Effective strategies to improve participation in preschool** programs, particularly addressing financial and non-financial barriers to access for priority cohorts.
- **Jurisdiction-specific implementation options**, to inform decisions about optimal pathways forward and identify opportunities to leverage existing investments and costs.
- **Improvements in data collection** necessary to enable ongoing monitoring of the impact of this policy.

With the current national partnership due to expire at the end of 2017, it would be desirable for this work to be commissioned by the end of 2016 for completion and publication within 12 months.

Key recommendation

COAG should commission a scoping study into universal 3-year-old preschool programs for Australia. The study should be completed by the end of 2017 and should identify:

- Delivery gaps and opportunities
- Core process and structural quality elements
- Strategies to address barriers to access for priority cohorts
- Jurisdiction-specific implementation options
- Improvements in data collection needed to track impact

Part 1: Evidence and Data

What do we know about early education for 3 year olds?

High-quality early education is a key strategy for strengthening the cognitive and social and emotional development of young children and for reducing achievement gaps driven by socio-economic differences. Preschool is one important way that we can help ensure that children's success at school is determined by their own talents, capabilities and interests, rather than their socio-economic status.

Decisions about investment in early education should be grounded in evidence. The overarching finding of international research is that two years of quality early education yields moderate and sustained impacts on achievement, with the largest impact on the most disadvantaged children. Key findings from the evidence base are that:

- **Starting early and staying in for longer is beneficial for many children** – studies from Europe, the US and UK show modest but consistent benefits from two rather than one year of preschool.
- **Disadvantaged children benefit the most** – a range of studies highlight substantially greater impacts on cognitive, social and emotional outcomes for more disadvantaged children.
- **The quality of programs matters** – low and medium quality programs deliver very little short or long-term impacts.
- **Preschool improves cognitive, social and emotional outcomes** – research on the long-term impacts of preschool highlights the interaction of academic and social and emotional skills on lifetime education and employment.

Preschool programs are one of few proven strategies to strengthen cognitive and social competencies, and to ensure all children have the skills they need to engage effectively in learning, and with their peers, when they start school (McClelland et al. 2007). Bierman et al. (2014, p. 140) note that:

> "School readiness delays are evident in the cognitive skills that underlie emergent literacy, such as vocabulary, phonological awareness, and print knowledge; and also in the social competencies and self-regulation skills needed for school success, including the capacity to focus attention, comply with rules, inhibit aggression, and sustain positive relationships with teachers and peers."

Preschool programs give all children the opportunity to develop these foundational cognitive, social and emotional skills, and are highly effective in reducing the impact of socio-economic factors on children's outcomes in the first year of school and across the life course (Yoshikawa et al. 2013).

Research shows that "all children in a classroom tend to learn more during a given year if the average skill level in the classroom at the year's start is higher" (Bartik 2014, p. 56). Preschool can reduce the stark variability in cognitive, social and emotional skills evident in the first year of school – variability that is often due more to socio-economic status and its impact on early life experiences than to innate differences in capability.

> "Early education has substantial and sustained impacts on children's learning, development and wellbeing. It is a key strategy for mitigating the socio-economic gradient that so strongly influences children's progress at school and their trajectories over their lives"
>
> O'Connell et al. (2016)

The overall improvement in attainment in classrooms where a smaller proportion of children experience developmental vulnerabilities is likely to come both from peer effects, the influence children have on each other's learning, as well as from the enhanced capacity of the teacher to direct adequate time and resources to the students who require additional assistance (Burke & Sass 2011; Henry & Rickman 2007; Neidell & Waldfogel 2010).

Preschool also provides a dose of developmental enrichment during a critical window in children's development:

> "Pre-K services at ages three and four target an age range that is a 'sweet spot': the child's brain is still malleable enough for modest interventions to have large long-run effects, but the child is old enough [to be] ready to learn in larger groups that are cost-effective to run. From a benefit-cost perspective, ages three and four offer the largest returns for a child's development per dollar spent" (Bartik 2014, p. 50).[1]

Due to the rate at which their brains grow and the timing of key skill-development processes (like learning communication or self-regulation), children's experiences in their first five years have lifelong impacts. High-quality preschool provides developmental and learning opportunities that maximise the impact of this important window.

Preschool complements and extends children's learning at home. It has a particularly strong impact for children who have not experienced a positive home learning environment, but also provides learning opportunities that are not always readily attainable in a home context – including building relationships with educators and learning to cooperate with peers in a group environment. Preschool programs give children opportunities to practice and achieve mastery of critical skills (cognitive, physical and social), with skilled educators scaffolding their learning to stretch and extend areas of strength, and provide additional opportunities and support where it is needed, all within a play-based environment that encourages children to enjoy learning. This individualised and developmentally appropriate approach, which underpins early years' pedagogy, indicates how preschool can have positive impact for advantaged and disadvantaged children.

The intent of this strategic overview of the literature on 3-year-old preschool is to identify:

- Whether there is sufficient evidence to warrant investment in two years of preschool;

[1] Bartik argues that interventions targeted at younger children – including sustained nurse home visiting and parenting programs – also improve long-term outcomes, but because they are more effective for low-income families (and have higher per-child costs), they are most appropriate as targeted rather than universal interventions. As such, he suggests that a sensible proposal would be universal pre-K, along with income-targeted developmental programs, like nurse home visiting (Bartik 2014, pp. 49-51).

- The cohorts of children most likely to benefit from 3-year-old preschool and whether a universal or targeted implementation strategy is indicated; and
- The evidence for specific design features of a preschool program necessary for impact.

Disentangling the relative impacts of duration (one year or two), dosage (number of hours per week), and quality (specific elements of structure and process quality) is a significant research challenge. These factors must also be understood in relation to the impact of broader influences, such as family engagement in learning, socio-economic conditions, and the quality of schools that children later attend, all of which independently impact children's developmental outcomes.

As such, the evidence base does not yet provide exact answers to all of the key issues relevant to policy-makers (see Appendix C for a discussion of the state of the evidence base). However, this report considers the collective weight of the evidence to draw conclusions about specific policy parameters important for the design of preschool programs.

It is also important to note that the evidence for preschool is stronger than for most social or educational interventions. As Bartik (2014) notes, there is more evidence for the impact for preschool than there is for specific years of school education. For example, there is no research that shows children do better by attending third grade over staying home because there is no 'control group' available to compare outcomes. There is a much more comprehensive and high-quality evidence base for preschool, and as such, we are better able to isolate the specific impact of each year of preschool on a range of long-term outcomes.

This review highlights key studies and research findings on the critical issues related to the introduction of 3-year-old preschool programs. These are the impact of:

- Starting age and program duration;
- Dose (hours per week);
- High-quality programs;
- Educator skills and qualifications; and
- Curriculum and pedagogy.

The literature review focuses on the impact of two rather than one year of preschool. There are a number of comprehensive reviews of the impact of early childhood education and care and preschool programs more broadly (Camilli et al. 2010; Kay & Pennucci 2014a, 2014b; Melhuish et al. 2015; van Huizen & Plantenga 2012).

The impact of starting age and program duration

Starting preschool at age 3 and attending for two years appears to have the greatest impact on child outcomes. For disadvantaged children in particular, one year of preschool does not appear to be adequate for closing achievement gaps that are already present at age 4, although starting before age 3 does not appear to yield significant additional benefits for all children.

Jenkins, JM et al. (2016) note that the effect of the first year of preschool is generally greater in magnitude than the second year, suggesting that while two years has greater impact than one year, the impact is not simply doubled.

The most recent review of US data on the impact of starting age and duration of preschool programs (on mostly low-income children) concluded:

> "Perhaps the most striking pattern of findings that we have identified in this review of the research on dosage of young children's exposure to early care and education is the increase in positive outcomes (and in some studies, decrease in negative

outcomes) **when children attend high-quality early care and education program for more time**. The pattern of findings is identified in studies focusing on concurrent participation as well as cumulative participation, in both large national studies and in studies with smaller local samples, and is noted for both cognitive and social-emotional outcomes. In recent research, **more sustained exposure to high-quality care has been found to narrow the gap on measures of achievement between low income and higher income children**" (Zaslow et al. 2010, p. 18).

Studies on the long-term impacts of preschool highlight both the importance and the interaction between the cognitive and social-emotional elements of preschool programs, both of which serve as mechanisms through which high-quality preschool produces better life outcomes (Broekhuizen et al. 2016; Heckman, Stixrud & Urzua 2006; Kautz et al. 2014).

The landmark Perry Preschool project, for instance, had only moderate impacts on cognitive outcomes, but significantly higher general educational and life outcomes, including higher high school graduation rates and employment status and less criminal history (Broekhuizen et al. 2016)

One of the most relevant sources of evidence about universal preschool programs for 3 year olds is the largest and most reported longitudinal study of pre-schoolers - the UK's Effective Provision of Pre-School Education (EPPE) project. This landmark study followed nearly 3000 children from a range of socio-economic backgrounds from 1997 until 2013, and included a comparison control group of non-preschool participants. The findings have shown positive short and long-term impacts of preschool, including academic and social and emotional competencies, with the greatest impacts seen for children who attended high-quality early education for at least two years. Key findings of the longitudinal follow up, examining outcomes at age 16, are that:

- Students who had attended between 2 and 3 years of preschool (either part-time or full-time) obtained higher total final exam scores (effect size 0.38), better grades in English (effect size 0.28) and in maths (effect size 0.30), and were entered for exams in more subjects (effect size 0.24) than those who had not attended any pre-school (Sammons, Sylva, Melhuish, Siraj, Taggart, Toth, et al. 2014).
- Students of low qualified parents who had attended a high-quality preschool obtained significantly better grades in English (effect size 0.35) and in maths (effect size 0.25) than students of low qualified parents who had not attended any pre-school (Sammons, Sylva, Melhuish, Siraj, Taggart, Toth, et al. 2014).

Consistent with other research, the EPPE study found that all children benefited from two years of attendance at preschool, with children from low socio-economic status families benefiting the most. The box below provides more details of the study and the relevant key findings.

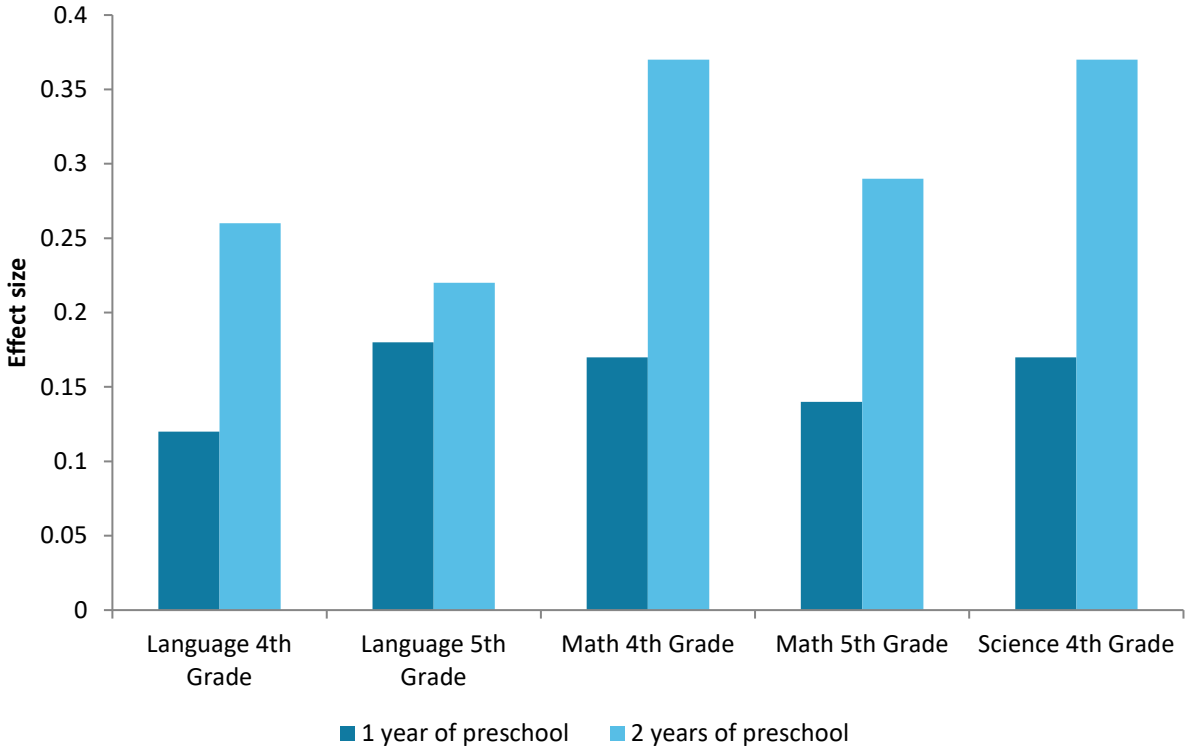
Key findings from the Effective Provision of Pre-school Education (EPPE) Study on starting age and duration

- Duration of attendance is important - an earlier start (under age 3 years) is related to better intellectual development and being more sociable with other children.
- At the start of school, duration of attendance at preschool was related to better development for language, pre-reading, early number concepts and non-verbal reasoning. Longer duration also improved independence, concentration and sociability.
- At age 14 there was no effect detected for the duration of attendance, but attending any preschool had positive impacts on pro-social behaviours.
- At age 16, students who spent longer in preschool (between two or three years) obtained:
    - higher total scores in secondary exams (effect size=0.38),
    - better grades in English (ES=0.28) and in maths (effect size =0.30), and
    - participating in more subjects/exams in secondary (effect size =0.24).
- High-quality preschool was a predictor of social and emotional outcomes at age 16, with small but consistent effects on for self-regulation (effect size =-0.14), pro-social behaviour (effect size =0.16) and hyperactivity (effect size =-0.20).
- Upper-secondary pathways were also predicted by longer duration in preschool:
    - Students who had attended between two and three years of preschool were three times more likely to take a higher academic route than students who had not attended a preschool.
    - Attending a preschool for longer time also reduced the likelihood of following a lower academic or vocational route by half.
- Higher-quality early education had a more significant impact on all key measures, with educational aspects of quality having the most consistent impact on academic attainment.

Sammons, Sylva, Melhuish, Siraj, Taggart, Smees, et al. (2014); Sammons, Sylva, Melhuish, Siraj, Taggart, Toth, et al. (2014); Sylva et al. (2004a); Taggart et al. (2015)

The Abbott Pre-K preschool program, a high-quality program delivered to around a quarter of children in New Jersey, also found that two years of preschool, starting at age 3, had larger persistent effects on achievement than one year (Figure 2) The program is targeted at districts with high levels of poverty but is delivered universally, with around 80 per cent of all children within those districts enrolled. The longitudinal evaluation found “effects on achievement and school success are larger than has been found for less well-funded programs with weaker standards,” with the strong impacts attributed to the provision of support for professional learning and continuous quality improvement mechanisms (Barnett et al. 2013, p. 19).

Figure 2: Abbott Pre-K Effects by years of attendance (Barnett et al. 2013)



A recent and rigorous longitudinal evaluation of 5000 children participating in Educare, a high-quality early education program that targets low-income families in the US and runs from birth to age 5, found that more time in the program was associated with improved language outcomes in particular.

The impact of socio-economic disadvantage on children's development starts early. Educare found that children entering the program at age 3 were already measuring below the national average on language scores and exhibiting more behavioural problems. However, the program had the greatest impact on children who entered at age 3 and received two years of preschool, with effect sizes of 0.47 and 0.26 (for bilingual and English-speaking children) for children receiving preschool at age 3 and age 4 (Yazejian et al. 2015).

The study also found that very early entry into the program (at age 1-2) was associated with higher behavioural issues, although these diminished the longer children spent in the program, and "by the time children left Educare for kindergarten, initiative and self-control ratings were somewhat above average" (Yazejian et al. 2015). The authors conclude:

> "The findings from the current study add to the growing body of literature that suggests that **one year of programming at age 4 may not be sufficient for many children** from low-income families. In the current study, while these children entered scoring at much lower levels and made gains during their single year in EEC, they remained on average at least a fifth of standard deviation below children who experienced greater program duration" (Yazejian et al. 2015).

Individual studies are supported by meta-analyses that confirm consistent small to medium positive impacts on children's development (Magnuson, KA et al. 2016; Melhuish et al. 2015). A 2003 meta-analysis of 34 studies with at least one longer-term follow up found that "effect sizes

varied according to number of years of intervention and when the intervention started, with larger effects for programs that started earlier and involved more years of intervention" (Zaslow et al. 2010).

The meta-analysis found that these effects persisted at least into secondary school:

- For cognitive outcomes, moderate effect sizes during preschool (0.52) were still observed at grade 8 (0.30).
- While effect sizes for social-emotional outcomes were smaller during the preschool period (0.27), effects were still detected at the end of high school (0.33) (Zaslow et al. 2010).

A 2009 meta-analysis and secondary data analysis of five major US datasets (focused specifically on effects for mostly low-income children) also found significantly stronger effects when children entered a preschool program at younger ages (Burchinal et al. 2009; Zaslow et al. 2010). Similarly, Nores and Barnett (2010) found that programs lasting one to three years had average effect sizes of 0.3, compared with 0.2 for programs lasting less than one year.

These findings are borne out by analysis of the impact of preschool education on international benchmarking assessments, the Trends in International Mathematics and Science Study (TIMSS), Progress in International Reading Literacy Study (PIRLS), and the Programme of International Student Assessment (PISA). These results show that in the countries with near-universal participation in early education and care (>70 per cent) there is a strong correlation between pre-primary education and test scores (Figure 3, 4 and 5) (Mostafa & Green 2012; Mullis, Martin, Foy & Arora 2012; Mullis, Martin, Foy & Drucker 2012; OECD 2010, 2011).

Mullis, Martin, Foy and Arora (2012, p. 12) explain that in TIMSS, for example:

> "Although attendance in preprimary education differed dramatically from country to country, on average, the fourth grade students with at least three years of preprimary education (43%), or even more than one year (33%), had higher average achievement than their counterparts with only one year or less of preprimary education. Most notably, the 13 percent of students, on average, that did not attend preschool had much lower average mathematics achievement."

Similarly, analysis of PISA results shows that "after controlling for social background, attending more than one year of [preschool] was associated, on average across the OECD, with a 33 point gain in test scores at 15 years. In all countries, children who participated for more than a year in [preschool] got, on average, higher scores at 15 than those who did not" (Mostafa & Green 2012, p. 4).

There also appears to be a connection between universal access to preschool and the scale of the impact of preschool on average scores. In countries with a higher proportion of their population enrolled in preschool (i.e. those closest to universal participation, and thus with the smaller proportion of disadvantaged children missing out), there is a bigger gap in scores between those who attended preschool and those who didn't (Figures 4 and 5). The biggest impacts are seen in the countries with the highest proportion of students attending preschool. Although Australia's average scores are higher than some of the countries where near-universal participation in two to three years of preschool is the norm, this data indicates that at least two years of preschool is an

Universal access to at least two years of preschool is an additional and under-utilised lever for lifting Australia's performance.

additional and currently under-utilised lever for lifting Australia's performance.

Modelling of the impact of preschool on PISA scores also shows that all social groups benefit from universalising preschool access. Mostafa and Green (2012) find that children from lower-income families get the highest additional benefits from access to preschool, but the international rankings of both Sweden and the UK would improve with universal preschool participation. They find that "inequalities in test scores drop until reaching a minimum when the lower seven [socio-economic] deciles are attending [preschool]" and conclude that "universalising [preschool] would be an effective policy instrument that boosts educational performances while reducing inequalities in their distribution" (Mostafa & Green 2012, p. 2). Accordingly, Melhuish et al. (2015, p. 2) argue that "for provision for [age] three years onwards, the evidence is consistent that pre-school provision is beneficial to educational and social development for the whole population".

Figure 3: International average of students attending pre-primary education and achievement in mathematics, TIMSS 2011 (Mullis, Martin, Foy & Arora 2012, p. 12)

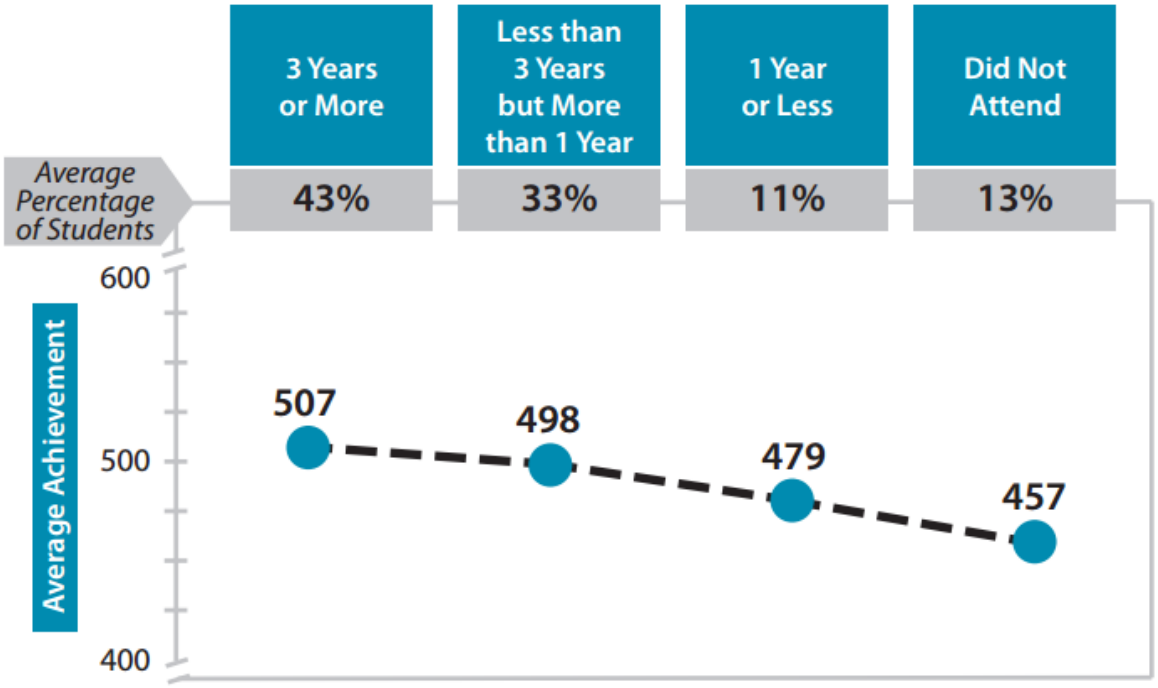


Figure 4: PIRLS 2011: Grade 4 Test Scores for countries with highest levels of 3+ years of ECEC (Mullis, Martin, Foy & Drucker 2012, p. 128)

Country	% of students with 1+ years of preschool;	Average score 3+ years of preschool	Average Score 1-3 years of preschool	Average Overall
Hong Kong	100	573	572	571
Hungary	99	548	505	539
Denmark	98	558	544	554
Italy	98	549	530	541
Singapore	98	580	554	567
Germany	97	551	540	541
Australia	70	550	547	527

Figure 5: TIMMS 2011: Grade 4 Test Scores for countries with highest levels of 3+ years of ECEC (Mullis, Martin, Foy & Arora 2012, p. 198)

Country	% students with 1+ years of preschool	Average score 3+ years of preschool	Average Score 1-3 years of preschool	Average Overall
Hong Kong	99	609	604	602
Hungary	98	526	473	515
Denmark	98	n.a.	n.a.	537
Italy	97	515	497	508
Singapore	98	618	591	606
Germany	97	536	528	528
Australia	69	546	535	516

While there is a larger body of research on the impact of two years of preschool for disadvantaged cohorts, studies that examine population-level impacts from preschool – like the PIRLS and TIMSS research, EPPE and several US studies of universal pre-k programs – find benefits for the whole population. For instance, the Tulsa pre-k study examined impacts for poor, near-poor and middle class children. They found that positive effects on children's language, literacy, and mathematics skills were higher for the poorest students, but statistically and substantively significant for both:

> "Children from poor families entering kindergarten were 11 months ahead, children from near-poor families entering kindergarten were 10 months ahead, and children from middle-class families entering kindergarten were 7 months ahead of the control group" (Gormley, Phillips & Gayer 2008; Yoshikawa et al. 2013, p. 21).

The key conclusion from this research is that:

- Two years of high-quality preschool has more impact than one.
- Most children benefit from two years of preschool, but the children who benefit most are those with the greatest risk of developmental vulnerability.
- For these children in particular, one year of preschool is not enough to substantially change their trajectories.

Dose (hours per week)

The evidence around hours of attendance or the benefit of extra hours is less conclusive, in part because of methodological issues (including inaccurate measures of the number of hours children attend for and the challenge of disentangling dose, quality and duration).[2]

The Effective Provision of Pre-School Education Study found children who attended a higher number of sessions per week achieved statistically significant progress in language development, as well as small effects on pre-reading and spatial awareness and reasoning skills. Those who

[2] Gilley et al. (2015, p. 4) explain that "a minimum threshold of attendance and participation is yet to be firmly established in research—probably because of the complexity of the interactions between ECEC quality, attendance, dosage and degree of child vulnerability. Reasons for a lack of consistency in studies on the effects of different dosages of attendance include: varying degrees of program quality, a split focus on current participation and cumulative participation, different measures of attendance (hours per week, full and part day, attendance at particular types of program, cumulative hours over a number of years and age of entry) and reliance on enrolment of the child in a program as the proxy for attendance, rather than their actual attendance."

What do we mean by dose?

Dose refers to the amount of treatment needed to have an impact.

For example, you need to take a full course of antibiotics to properly fight an infection. If you only take half the tablets, you might start to feel better but you haven't really gotten rid of the underlying infection and it will probably reoccur. You need to take your full dose for the treatment to work.

It's harder to measure the exact dose of early education that children need, but the principle is the same. Only a few hours a week, or only attending for a few months of the year, is unlikely to be enough of a dose to make a real difference.

attended a higher total number of sessions during the study period made greater cognitive gains (Sammons et al. 2002, p. vi).

However, they found no additional benefits to attending full days rather than part days and conclude that "that an extended period of pre-school experience on a part-time basis is likely to be more advantageous than a shorter time period of full-time provision" (Sammons et al. 2002, p. vi; Sylva et al. 2004a; Taggart et al. 2015).

In an in-depth analysis of the impact of hours of attendance in centre-based services, based on the US Early Childhood Longitudinal Study, Loeb et al. (2007) found that a minimum dosage of 15 hours per week was necessary for substantial impacts on cognitive outcomes, and that outcomes were optimised when children started before age 4. They also found that:

> "For the low-income group, only children who attend a center program for more than 30 hours experience significant gains in pre-reading skills. This same group experiences no negative social-behavioral effects from additional hours in a center" (Loeb et al. 2007, p. 64).

A review by the Australian Institute of Health and Welfare (2015, p. 25) concluded that the "the optimum period in the preschool environment (aged 3) would be part time, spread across two years, rather than full time in a single year".

However, while a minimum dosage of 15 hours per week appears adequate for many children, more disadvantaged children appear to benefit from a much higher dose, closer to 30 hours per week. Programs like Abecedarian and High/Scope, which generally involved full-time participation for at-risk children and, achieved significant positive outcomes (Campbell et al. 2012; Campbell et al. 2008). In studies targeted at vulnerable cohorts, longer attendance produced higher outcomes:

> "in the evaluation of model programs with vulnerable children only, part-time attendance has been shown to be less effective than full-time attendance; for example the evaluation of the Abecedarian approach found 350+ hours per annum (an average of 3.3+ days per week) had a lower impact on children's cognitive development than 400+ hours per annum (an average of 3.8+ days per week)" (Gilley et al. 2015, p. 4).

Similarly, a recent Canadian study found that children from low socio-economic backgrounds who received high-intensity early childhood education (35 hours) had significantly better reading, writing and mathematics scores (effect sizes 0.37-to 0.46), even after controlling for the impact of a range of child and family variables. Laurin et al. (2015, p. 1) conclude that "early participation in center-based [early childhood education] eliminated the differences between children of low and adequate SES on all 3 examinations for reading, writing, and mathematics".

This research indicates that there is a strong rationale for a higher dose/number of hours per week for more disadvantaged children (Melhuish et al. 2015). Yet in Australia, disadvantaged children attend fewer hours of early education, and tend to start later, than more advantaged children (Gilley et al. 2015).

A recent analysis Xue et al. (2016) reviewed multiple datasets and found no replicated evidence of precise dosage thresholds, and did not identify any conclusive findings about the optimum number of hours per week across all cohorts. They did, however, find a consistent association between time spent on instruction and domain-specific outcomes. For example, time spent in mathematics instruction was a consistent predictor of mathematics skills (showing effect sizes of between 0.4 and 0.7) (Xue et al. 2016, p. 71).

Recent studies suggest positive impacts on behaviour and social and emotional competence for two to three days of high-quality early education (Melhuish et al. 2015). Poor-quality, centre-based care can be highly detrimental for children (Jenkins, JM et al. 2016; Xue et al. 2016; Zaslow, Anderson, et al. 2016), especially if children experience very long hours in low-quality environments and without positive and consistent relationships between children and educators. There appears to be an association between very long hours of care and poorer behavioural and social and emotional outcomes. The impact of very long hours are either much smaller or non-existent in high-quality programs, suggesting an interaction between warm and responsive caregiving and children's attachment relationships (Broekhuizen et al. 2016; Broekhuizen et al. 2014; McCartney et al. 2010).

Consistency of attendance and cumulative attendance both appear to matter significantly – consistency supports children's relationships with educators and peers and both social and emotional and academic outcomes are enhanced by cumulative attendance.

The benchmark of 15 hours per week reflects the general consensus of the literature, and should be considered a minimum dosage (Bennett 2008). Internationally, countries are offering closer to 20 and 30 hours per week (see Appendix B).

High-quality programs

A significant mediator identified across the body of research supporting preschool participation is that for preschool to have an impact, in either the short or long term, it needs to be high quality. Zaslow et al. (2010, p. 7) found the greatest effects were for those children with "sustained exposure to programs of consistently high quality with specific quality features such as a focus on instruction".

The strongest preschool impacts come from the high-quality and high-dose programs such as Perry Preschool and Abecedarian. These programs show moderate to strong positive outcomes and demonstrate long lasting impacts into later adult life (Emerson, Fox & Smith 2015; Stevens & English 2016). In a recent Canadian study, Côté et al. (2013) found that experiencing two to three years of consistently or increasingly high-quality preschool was associated with numeracy, receptive vocabulary, and school readiness scores at age 4, with effect sizes of between 0.32 and 0.41. They conclude that "the strongest and most consistent predictors of overall childcare quality involves the language stimulation provided by teachers and caregivers (e.g., responding to vocalizations, asking questions, praising, teaching, and talking to children in other positive ways)" (Côté et al. 2013, p. 761).

A powerful illustration of the significance of quality in combination with duration is seen in the UK EPPSE findings (Figure 6), where those who were in high-quality preschool for two to three years were nearly eight months ahead in their literacy development (Taggart et al. 2015, p. 9). The EPPSE study also found a significant association between high-quality early education and pro-social behaviours at age 14 – an effect that was not evident for low or medium quality (Figure 7).

Figure 6: Development advantage (in months) for duration and quality of preschool on literacy at school entry (home as comparison) (Taggart et al. 2015, p. 9).

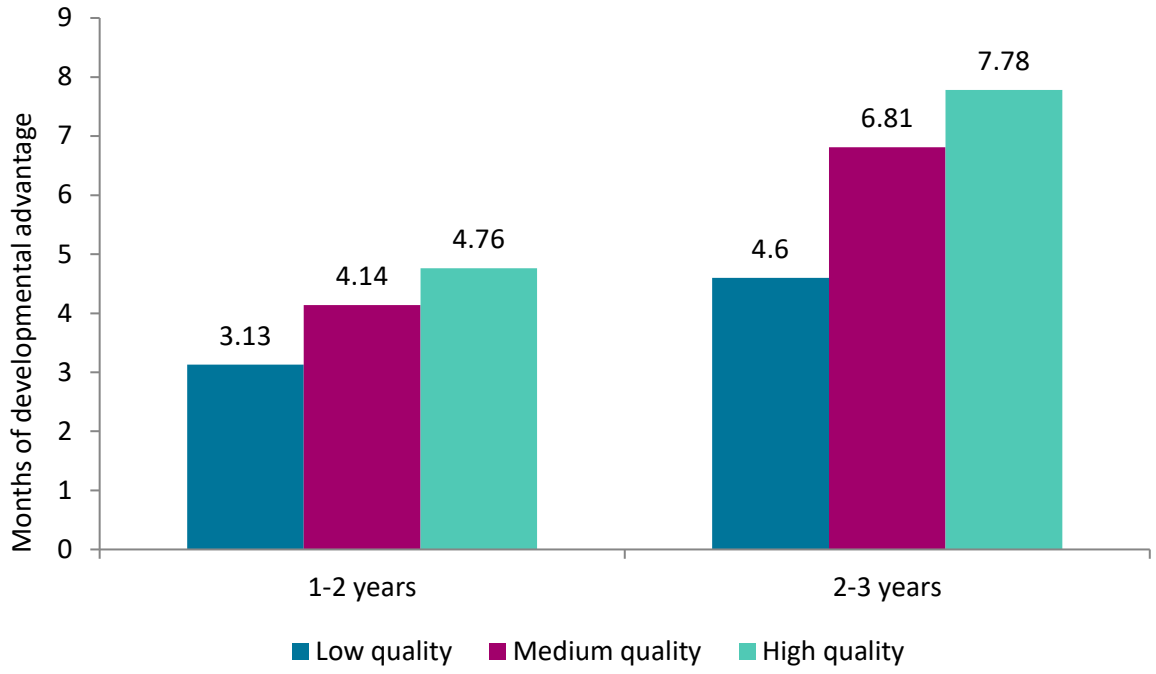
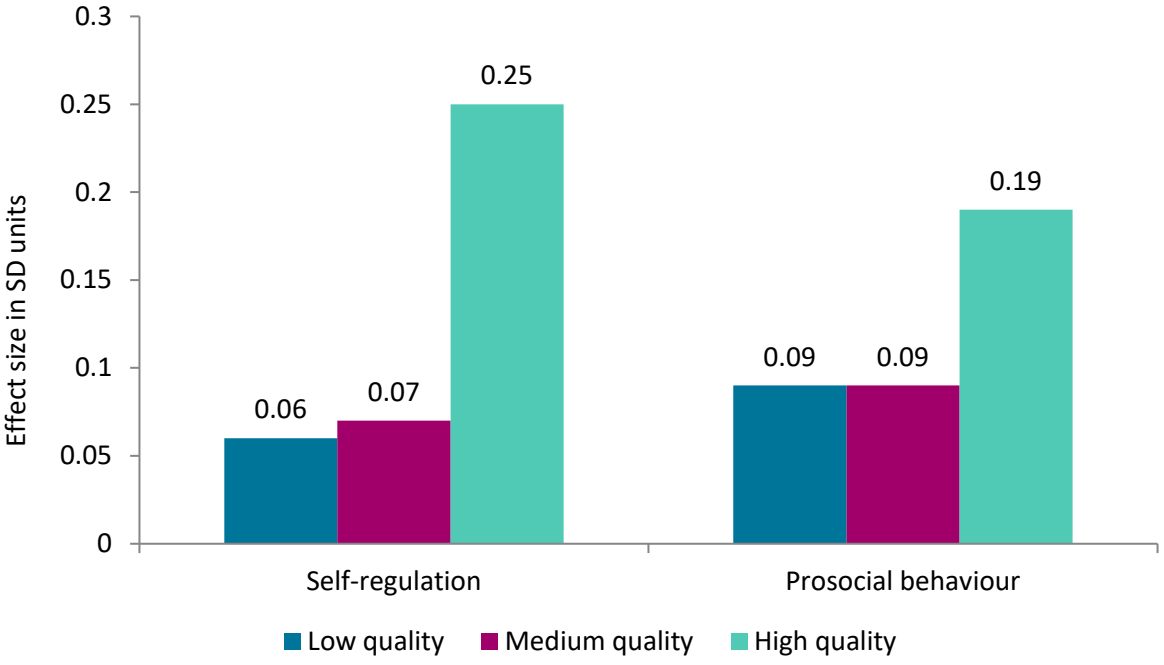


Figure 7: Influence of the quality of preschool on positive social behaviours at age 14 (home as comparison) (Taggart et al. 2015, p. 12)



Conversely, poor-quality programs have been reported to be detrimental to child behavioural outcomes (Vandell, DL et al. 2010). Quality was observed to be a mitigating factor for long hours in care, with the effects of long hours of care lowest in high-quality programs and greatest in low quality programs. High program quality can therefore be viewed as a protective factor in instances of long hours of care (Zaslow et al. 2010).

The quality of the program is achieved through a combination of elements including:

- the structural parameters of the program (physical environment, educator to child ratios, hours of care); and
- program processes (educator-child interactions, learning activities, curriculum and pedagogies).

It is difficult to disentangle the precise impact of particular elements of quality, although research shows that specific elements of process quality are more strongly predictive when they are closely aligned with the outcomes being measured (Burchinal, Kainz & Cai 2011; Magnuson, K & Waldfogel 2014; Martinez-Beck 2011). For instance, measures of language-rich educator-child interactions is more strongly predictive of children's language outcomes than other more general outcomes (Magnuson, K & Waldfogel 2014). Time spent on explicit teaching and the effectiveness of teaching methods are important for maths and literacy skills development.

In general, global quality measures are only modestly predictive (Burchinal, Kainz & Cai 2011; Burchinal et al. 2016; Xue et al. 2016; Zaslow, Burchinal, et al. 2016). As such, greater attention should be given to improving the instructional approaches of educators, including addressing barriers to increasing instruction time on maths and literacy for young children.

Another important conclusion drawn from their research is that the relationship between quality and outcomes is not a linear one (where, for example, a 10 per cent increase in quality would generate an equivalent improvement in outcomes). Rather, there appears to be a threshold relationship, where a certain level of quality needs to be obtained before preschool has a positive impact on children's development. There may also be an upper range, where increases in quality deliver limited marginal returns. The research of Burchinal et al. (2016) supports the existence of quality thresholds, but they were not able to accurately identify the quality 'cut-off' points with available data (in part because of the lack of domain-specific quality measures and dosage data).

Educator skills and qualifications

The quality of the learning environment in early education settings has a direct impact on children's early skill development and longer-term academic outcomes (Siraj-Blatchford et al. 2011; Taggart et al. 2015). Highly skilled and supported educators are essential for high-quality learning environments.

The quality of a learning environment in early education settings is, to a large extent, determined by the capacity of educators to provide responsive interactions and to construct a learning program that engages and extends children in developmentally appropriate ways (Cascio & Whitmore Schanzenbach 2013a; Yoshikawa et al. 2013).

On the whole, however, "there is still important disagreement about what kind of post-secondary credentials best promote positive classroom interactions and about the role of recent professional development training relative to higher levels of pre-service training" (E4Kids 2012). While some studies clearly show higher qualified educators are associated with better outcomes, the relationships between structural factors such as class size and educator ratios, other teacher qualities, curriculum, pedagogy and the level and type of educator qualification is not easily untangled (Early, 2006).

Researchers note that is it not the qualifications per se, but the benefits of the quality interactions that educators create, the pedagogy, which has the impact on child outcomes. It is reported, however, that qualified educators are more likely to be able to create this rich environment (Elliot 2006; Sheridan et al. 2009; Sylva et al. 2004a; Wall, Litjens & Taguma 2015). Pianta et al. (2005) found teachers' education/credentials, teaching experience, and teachers' beliefs were associated with overall classroom quality.

EPPE found that having qualified teachers working directly with children had a significant impact on children's outcomes, including their literacy and social and emotional skills at age 5 (Sylva et al. 2004a). In general, the EPPSE study found consistent correlation between the proportion of highly trained educators in a service, the overall quality of the service, and children's long-term outcomes (Taggart et al. 2015, p. 8).

EPPE reports that teacher quality had a greater influence on maths and reading than that of gender and family background, and that higher educator qualifications specifically were associated with better child outcomes (Sylva et al. 2004b). Similarly, the Growing up in Scotland study concludes outcomes were better from "teachers with a background in early years methodology or staff with specific early childhood qualifications" (Scottish Government 2009, p. 67), a finding borne out in Australia (Warren & Haisken-DeNew 2013).

In one of the few large-scale Australian studies conducted to date, data from the Longitudinal Study of Australian Children (LSAC) was used to analyse the impact of preschool teacher qualification on children's Year 3 NAPLAN results (Warren & Haisken-DeNew 2013).[3]

Consistent with international research, Warren and Haisken-DeNew (2013) found a substantial gap in raw scores between children who did not attend preschool and those who did (Figure 8). They also found that children who experienced preschool programs delivered by both diploma-qualified and degree-qualified teachers scored higher in numeracy and literacy (children with diploma qualified teachers scored slightly higher, although the difference was not statistically significant). The weight of evidence is clear in indicating that a Diploma is the minimum suitable qualification for the delivery of a 3-year-old preschool program.[4]

Figure 8: Mean NAPLAN score by preschool teacher qualification (Warren & Haisken-DeNew 2013, p. 29)

	No preschool	Certificate qualified teacher	Diploma qualified teacher	Degree qualified teacher
Numeracy	396	410	429	422
Reading	398	402	436	429
Writing	408	416	431	431

[3] It is important to note that the LSAC cohort of children used in this analysis were attending preschool in 2004, before the introduction of the National Quality Standard.

[4] Importantly, Warren and Haisken-DeNew note that "the benefits of pre-school are most significant among children whose teacher specialized in child care or early childhood education … A possible explanation for this result is that, compared to primary school teachers, teachers with specialist training in early childhood education are likely to have a greater awareness of developmentally appropriate teaching practices for young children, resulting in better outcomes. It may also be the case that, as suggested by Early et al. (2007), teachers who are trained to teach older children may focus more on academic instruction and less on forming individual teacher-child relationships that provide the foundation for academic learning (2013, p. 32).

Features of a quality learning environment

Sustained adult-child verbal interactions
More 'sustained shared thinking' was observed in settings where children made the most progress. 'Sustained shared thinking' occurs when two or more individuals 'work together' in an intellectual way to solve a problem, clarify a concept, evaluate an activity, extend a narrative etc.

Shared initiation of activities
In effective settings, the balance of who initiated the activities (educator or child) was about equal.

Educators with strong understanding of curriculum
Effective settings provide children with more curriculum-related activities (especially language and mathematics) and they encourage children to engage in challenging play.

Educators with strong knowledge about how young children learn
Educators need a good grasp of the appropriate pedagogy for children's understanding and interests to develop fully.

Parent engagement in their children's learning.
The most effective settings shared child-related information between parents and educators, and parents were often involved in decision making about their child's learning program.

Educators support children in rationalising and talking through their conflicts.
In settings that were less effective in this respect, our observations showed that there was often no follow up on children's misbehaviour and, on many occasions, children were 'distracted' or simply told to stop (Sylva et al. 2004a).

Ongoing professional development and evidence-based models of teacher coaching have also been shown to deliver better outcomes, specifically for improving instructional approaches (Yoshikawa et al. 2013; Zaslow, Burchinal, et al. 2016). Early et al. (2006) also advocate for broader teacher preparation and ensuring that all teachers are supported to develop and enhance their skills.

Yoshikawa et al. (2013) suggest that professional learning models that provide ongoing reflective coaching for educators, combined with assessments of child progress that are used to inform and individualise instruction, best allow educators to monitor the progress of each child in the classroom and modify their content and approach accordingly.

Curriculum and pedagogy

Child development and neuroscience research has identified the significance of self regulation and the development of social and emotional skills in the very early years. The early years lay the foundation for later learning in life and predict maths and reading competence throughout all school years (Queensland Department of Education and Training 2015). Central to developing critical cognitive and social and emotional skills early on is the supportive relationships children have with adults, including skilled educators engaged with the children in preschool and the co-construction of the learning experiences.

Effective pedagogy in the early years is learner-centred, engages children actively in learning and includes both instructional elements and 'playful learning' (Duncan et al. 2016; Hirsh-Pasek & Michnick Golinkoff nd; Wall, Litjens & Taguma 2015). It supports children's social and emotional development alongside emerging cognitive skills. Curriculum (what is taught) and pedagogy (how it is taught) are both critical.

Research indicates that a combination of more 'directional' instruction and child-led, play-based approaches is important.[5] These approaches need to draw on both teacher-initiated and child-initiated learning opportunities (Sheridan et al. 2009; Siraj-Blatchford et al. 2002; Siraj-Blatchford et al. 2008). Educator skills and the quality of interactions co-created by educators and children are important drivers of outcomes.

The quality of interactions between adults and children and, in particular, extending thinking through scaffolding (guiding, modelling and questioning) has impacts on development through stimulating early learning for 3 year olds (OECD 2006, 2014b; Queensland Department of Education and Training 2015; Siraj-Blatchford et al. 2002; Siraj-Blatchford et al. 2003; Siraj-Blatchford et al. 2008; Taguma, Litjens & Makowiecki 2012; Wall, Litjens & Taguma 2015).

There is international debate about the 'schoolification' of early years' education, particularly the greater emphasis being placed on school readiness skills at younger ages (Taguma, Litjens & Makowiecki 2012, p. 12). There is concern about exposing children to curricula that is not developmentally appropriate, or which focuses narrowly on specific forms of academic knowledge at the expense of broader learning and development opportunities.

Intensive instructional approaches that do not provide space for play-based, inquiry focused and child-led learning, and which do not provide equally for the development of critical social and emotional competencies, may produce short-term outcomes, but not long-term and sustained improvements across the range of critical cognitive and social and emotional skills (OECD 2012). This is particularly important in the context of 3 year olds, who may be more likely to still be developing the elements of executive functioning (like self-regulation and working memory) that allow them to begin engaging with key literacy and numeracy concepts (Weiland, Christina, Barata & Yoshikawa 2014; Weiland, C. & Yoshikawa 2013).

Yet, preschool programs that are not intentional and clear about a learning program, and which do not devote adequate time to learning opportunities, do not have a significant impact on children's early learning and development. Studies from the US highlights the impact of content-specific instructional time on 4 year old children's academic skills (mathematics and literacy) with scores higher at the start of kindergarten when children were in pre-kindergarten classrooms where more time was spent in instruction (Xue et al. 2016). Zaslow, Anderson, et al. (2016) identify instructional quality as a key predictor of child outcomes (although they focus mainly on literacy and numeracy skills).

Similarly, Broekhuizen et al. (2016) note that "comprehensive social–emotional curricula and professional development that focuses on teachers' responsive interactions can enhance children's social skills, behaviour regulation, and emotion understanding." Intentional (and high quality) instruction around social and emotional learning delivers improved outcomes. For instance, Landry et al. (2014) found that explicit social-emotional classroom activities were associated with improved competencies in infants and toddlers.

Figure 9 compares the specific outcomes of 'academic' and 'comprehensive' curriculum models based on a selection of research findings. More research is needed to determine the best approach for long-term outcomes; however, the comparison highlights the potential benefits of the different approaches.

[5] A recent review of age-appropriate pedagogy in the early years of schooling (Queensland Department of Education and Training 2015; Walsh, G et al. 2010) notes that researchers observe the term 'pedagogy' is not well accepted, nor is it systematically or overtly included in policy and practice (Alexander 2004; Stephen, 2010 in Department of Education). Zaslow, Anderson, et al. (2016) note attitudinal barriers to engaging in discussion with early childhood educators in the US about pedagogy and instructional approaches.

Figure 9: Effects of academic and comprehensive curriculum models (OECD 2012, p. 85)

Which 'model' is most likely to improve a child's...	Academic	Comprehensive
IQ scores	X	
Motivation to learn		X
Literacy and numeracy	X	
Creativity		X
Independence		X
Specific knowledge	X	
Self-confidence		X
General knowledge		X
Initiative		X
Short-term outcomes	X	
Long-term outcomes	X	

Source: Pianta *et al.*, 2010; Eurydice, 2009; Laevers, 2011; Schweinhart and Weikart, 1997

Although there is limited research on age-specific curricular approaches (with most studies grouping 3-5 year olds together), there is consensus that teaching and learning in the early years must be developmentally appropriate to be effective (Queensland Department of Education and Training 2015; Siraj-Blatchford et al. 2002; Walsh, G et al. 2010).

Research on young children's learning processes highlights that learning is often sequential, relying on mastery of foundational skills and knowledge (including social and emotional skills like capacity for behavioural regulation and working memory) before more complex skills and processes can be learnt (Reid 2016; Weiland, Christina, Barata & Yoshikawa 2014). As such, a preschool program for 3-year-old children would not simply involve starting a 4-year-old program one year earlier.

Emerging research on the impact of the quality of the learning environment is also illustrating the importance of scaffolding learning progression (Arteaga et al. 2014; Jenkins, JM et al. 2016). A 2014 study from the US examined a dataset of children aged 3 to 5 and considered if there were differences in outcomes between children who spent two years in a mixed 3 and 4-year-old classroom in HeadStart versus those who spent one year in HeadStart as 3 year olds before moving to a dedicated 4-year-old preschool (pre-k) program. They found that:

> "children attending Head Start at age 3 followed by [Oklahoma] pre-k at age 4 have stronger pre-reading outcomes at kindergarten compared with children who attend Head Start at ages 3 and 4. This suggests that the impacts of early learning programs may be related to the sequencing of ECE programs to a more academic curriculum at age 4 and the extent to which the Head Start curriculum offers differential learning experiences to 4-year-olds who were, and were not, in the program at age 3" (Jenkins, J et al. 2014, p. 1).

The study posits that the different outcomes may be a result of the children not receiving "increasingly complex, differentiated learning experiences on a regular basis, which are critical for intellectual development" (Jenkins, J et al. 2014, p. 6). This research supports the argument that high-quality early education must be individualised and developmentally appropriate, and

support children to achieve mastery of critical skills in a sequence and pace that is appropriate for them.

> "An additional year that simply repeats learning activities of the first year would not be expected to make much difference."
>
> Reynolds (1995)

Implications for 3-year-old preschool programs

The large and diverse body of research on quality early education for 3 year olds generates three broad conclusions:

- **Starting early and staying for longer is beneficial for many children** – studies from Europe, the US, Canada and UK show modest but consistent benefits from two rather than one year of preschool.
- **Disadvantaged children benefit the most** – a range of studies highlight substantially greater impacts on cognitive and social-emotional outcomes for more disadvantaged children.
- **The quality of programs matters** – low and medium-quality programs deliver very little short or long-term impacts.
- **Preschool improves cognitive, social and emotional outcomes** – research on the long-term impacts of preschool highlights the interaction of academic and social and emotional skills on lifetime education and employment.

The implications of this for the design of an Australian 3-year-old preschool program are explored in Part 2, but the critical messages are that:

- A minimum dosage of 15 hours is important, with consideration of longer hours for highly vulnerable children;
- Skilled and supported educators are one of the most important contributors to an effective preschool program; and
- An intentional approach to the development and delivery of the learning program will be critical, including consideration of how to provide a preschool program that is developmentally appropriate for 3 year olds, and then build on and scaffold learning experiences in the second year of preschool.

What do we know about 3 year olds accessing early education in Australia?

For nearly two thirds of Australian 3 year olds, participation in early education and care is the norm. However, only a small proportion of 3 year olds are enrolled in a program led by an early childhood teacher and the children most likely to miss out are the ones who will benefit most. There is no national policy or funding to support access to a preschool program for all 3 year olds.

At least two thirds of Australian 3 year olds are attending early education and care settings. However, there is very little information available about the type of learning environments provided to these children, beyond general levels of compliance with the National Quality Standard and alignment with the Early Years Learning Framework.

Nationally, less than 25 per cent of services are rated as Exceeding the National Quality Standard and 'Educational Program and Practice' is the quality standard services experience the most difficulty in meeting (O'Connell et al. 2016). This suggests that more can be done to strengthen the quality of the learning program provided to 3 year olds, to ensure our investment in early education is primed to yield substantial and population-level outcomes.

This section draws on available data on 3 year olds in early education and care and reviews relevant policy settings nationally and in each jurisdiction.

This analysis of current policy and patterns of access provides broad guidance about the scope of the effort required to achieve universal preschool for 3 year olds.

Current patterns of access to preschool and early education and care for 3 year olds

It is estimated that around two thirds of 3 year olds attend some form of early education and care nationally (Figure 10), with just over 21 per cent reported as attending a preschool program (either in Long Day Care or sessional preschool).

Participation in early education and care or preschool varies across the jurisdictions (between 47 and 78 per cent) (Figure 11), although precise data on the proportion of 3 year olds attending, and number of hours they are attending for, is not publicly available.[6]

[6] The ABS notes that due to the data limitations associated with 3 old preschool data, care should be taken when interpreting and using the data for analysis or comparison as "the presented data is incomplete and does not provide an accurate and consistent view of the 3 year old population within or across states" (ABS 2016a).

Currently, in Australia, those 3 year olds who are attending a preschool program are generally:

- enrolled in a 'year before school' program before they turn 4 years old'
- in a state that has a high proportion of early childhood teachers within Long Day Care settings;
- in a state that provides free preschool to children known to child protection, Aboriginal and Torres Strait Islander children, or humanitarian entrants; or
- in one of the relatively few unsubsidised programs, often delivered by the community preschool sector, which are generally fee-based.

Available data must be understood as indicative rather than definitive, but nonetheless highlights apparent differences between jurisdictions and provides some sense of the scope of the policy challenge in extending preschool to 3 year olds.

The high proportion of 3 year olds already accessing ECEC suggests that the major opportunity presented by the implementation of universal 3-year-old preschool is:

- Firstly, to remove barriers to access for those not participating, and
- Secondly, to clearly define the parameters of the learning program they receive, to ensure that all 3 year olds have access to a preschool program that meets the quality thresholds that deliver high impact and significant returns on investment.

Terminology

Early education and care (ECEC): All approved services, including Long Day Care, sessional preschool, Family Day Care and occasional care.

Preschool: A defined learning-focused program, usually with minimum hours of attendance for children in the year or two before school and delivered by a qualified Early Childhood Teacher. This paper uses the terms '3-year-old preschool' and '4-year-old preschool' instead of one or two years before school (noting school starting ages vary across Australia).

Kindergarten: An alternative term for preschool in some states and territories and/or the term for the first year of formal schooling (also known as prep, pre-primary, transition and reception) in other jurisdictions.

Figure 10: Proportion of 3 year olds attending any early education and care, 2015 (ABS 2016b; Early Learning: Everyone Benefits 2016; Steering Committee for the Review of Government Service Provision 2016b, p. Table 3A.19).

Figure 11 presents the number and proportion of 3 year olds attending ECEC services and preschool. In summary, the data shows that:

- In 2015, there were nearly 207,000 3 year olds accessing ECEC services (66 per cent) out of an estimated resident population of 313,358 3 year olds.
- The data suggests variations in attendance in preschool between the jurisdictions, reflecting different patterns of provision and funding approaches.
- Generally, it appears that significantly less than half of the 3 year olds in any form of early education and care receive a preschool program.
- Extending access to preschool to 3 year olds would involve a dedicated preschool program for the approximately 207,000 children already in education and care, as well as extending access to the 3 year olds not in any formal ECEC (approximately 107,000).

The low proportion of 3-year-old children identified as being enrolled in preschool reflects the absence of a defined, national preschool program for 3 year olds in Australia. Where 3-year-old programs exist, they are generally non-subsidised fee-based services that are added on as capacity allows. In some states and territories, a small proportion of disadvantaged children have access to a general preschool program (generally a mixed-age cohort).

Figure 11: Number and proportion of 3 year olds in early education and care and preschool, by jurisdiction, 2015 (ABS 2016d, p. Table 1; Early Learning: Everyone Benefits 2016; Steering Committee for the Review of Government Service Provision 2016b, p. 3A.19 and 3A.25)[7]

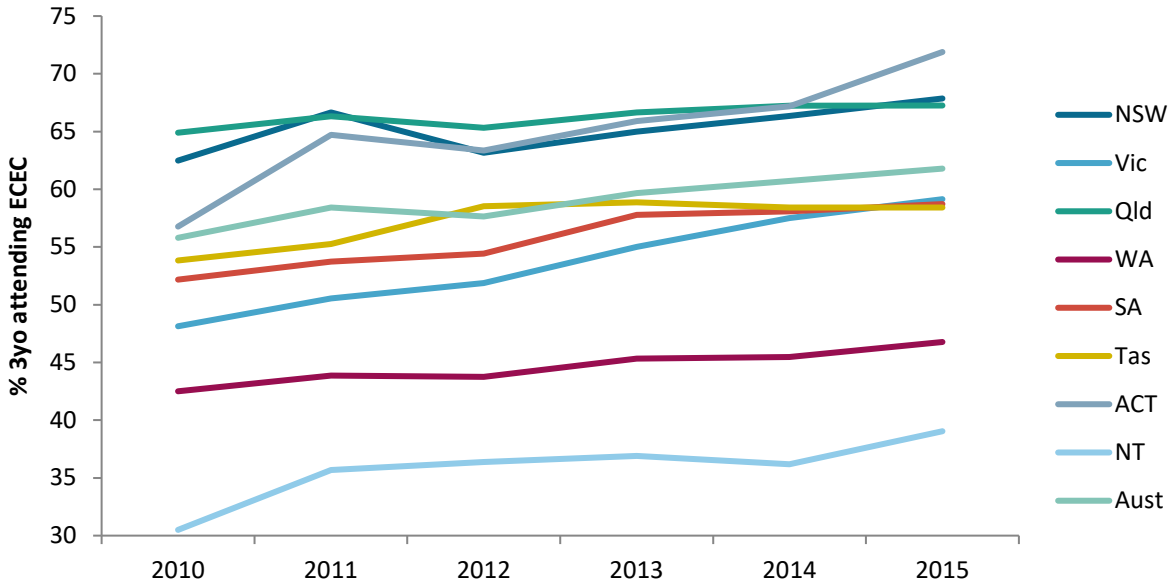
	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aus
% 3yo in any ECEC	78.7	57.2	68.3	61.3	54.1	58.4	47.3	70.9	66.0
# 3yo in any ECEC	78,709	44,223	44,318	12,666	18,756	3,683	1,802	3,764	206,747
% 3yo in preschool	38.2	7.1[8]	15.7	16.6	21.5	5.0	14.3	19.0	21.3
# 3yo in preschool	38,183	5,533	10,220	3,428	7,470	320	542	1,009	66,706
Estimated resident 3yo pop'n	100,018	77,388	64,918	20,681	34,698	6,300	3,803	5,317	313,358

Additionally, there has been a strong and steady increase over time in the proportion of 3 year olds attending early education and care (Figure 10). Nationally, there was a 6 per cent increase between 2010 and 2015 and, given workforce participation imperatives, there is no indication that this rate of increase will slow significantly in the short term.

[7] Percentage of children in ECEC includes children in CCB approved services (ROGS) and in sessional preschools (Preschool Australia, 2015). Percentage of children in preschool includes children attending preschool programs in Long Day Care and sessional preschools (Preschool Australia). Some double counting is likely. ERP from Australian Demographic Statistics (at June 2015).

[8] Victorian data for preschool programs not provided in long day care centres only include 3 year old children who have been approved to attend funded 4 year old kindergarten programs, but do not include children in other programs for 3 year olds (Steering Committee for the Review of Government Service Provision 2016a)

Figure 12: Proportion of 3 year olds accessing ECEC 2010-2015 (Steering Committee for the Review of Government Service Provision 2011, 2012, 2013, 2014, 2015, 2016)



The ABS's Childhood Education and Care Survey (CEaCS), conducted every three years, surveys families about their use of early education and care services. In 2014, there were 4,635 responses, with data on 7,126 children.[9] Because CEaCS is survey data based on parent report, rather than administrative data, some of the figures differ slightly from the official data presented in Figures 8 and 9, but the two datasets are broadly consistent in terms of the trends and patterns identified.

Analysis of CEaCS, undertaken for this report by the Australian Institute of Family Studies, highlights the range of early education and care settings attended by 3 and 4 year olds, and the difference in patterns of access between the two age cohorts.[10] Overall, the data shows that the majority of 3 and 4 year old children are attending early education and care, although more 4 year olds are enrolled in and attending ECEC than 3 year olds, with the difference largely driven by 4 year olds' participation in preschool programs.

Figure 13 indicates the types of ECEC usually accessed by 3 year olds, including preschool, Long Day Care, Family Day Care and informal (i.e. grandparent/family/friend) care. Children may be in multiple settings. In 2014, a total of 82 per cent of 3 year olds were in either ECEC or informal care, meaning that only 18 per cent were in exclusively parental care.

[9] The data excludes non-residents, families where one family is a member of the Australian Defence Force and people living in remote Indigenous communities (which accounts for around 15% of the population in the Northern Territory) (ABS 2015a).

[10] Analysis is based on data from the 2011 and 2014 CEaCS collections (ABS 2012, 2015a) and was conducted by the Australian Institute of Family Studies for the Mitchell Institute. This work extends the analysis of 2011 CEaCS data in Baxter (2015).

Figure 13: Types of ECEC accessed by 3 year olds, 2011 and 2014 (ABS 2012, 2015a)

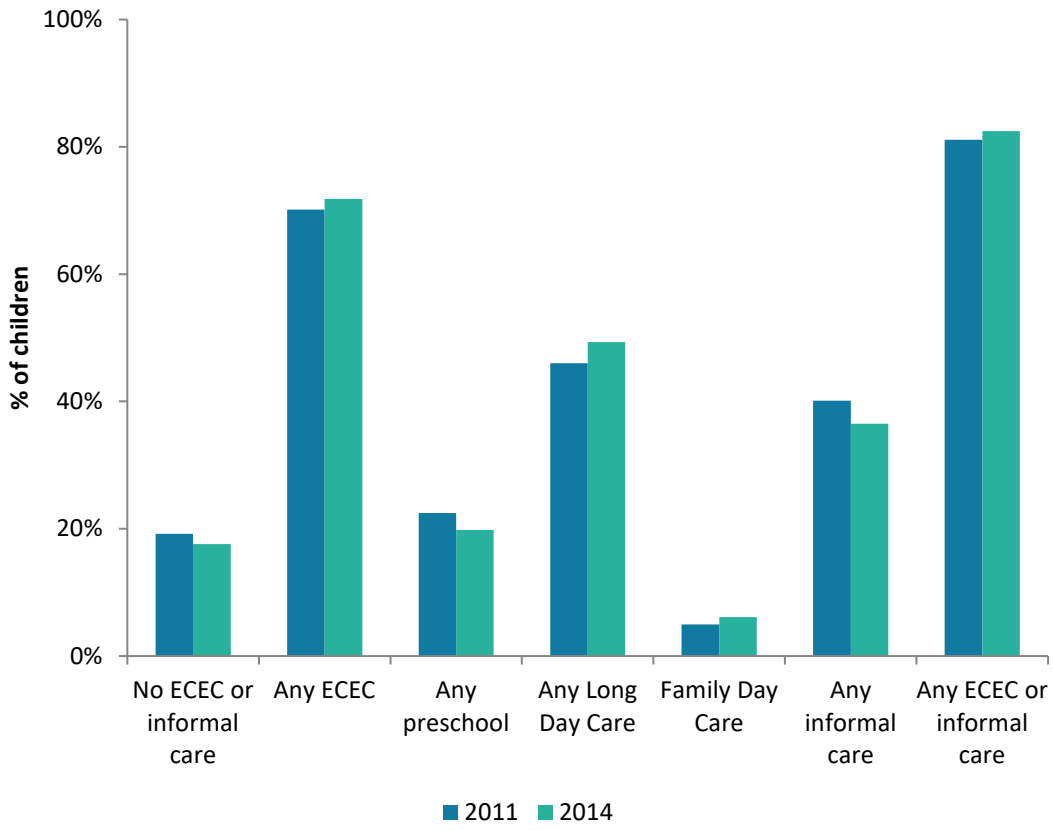
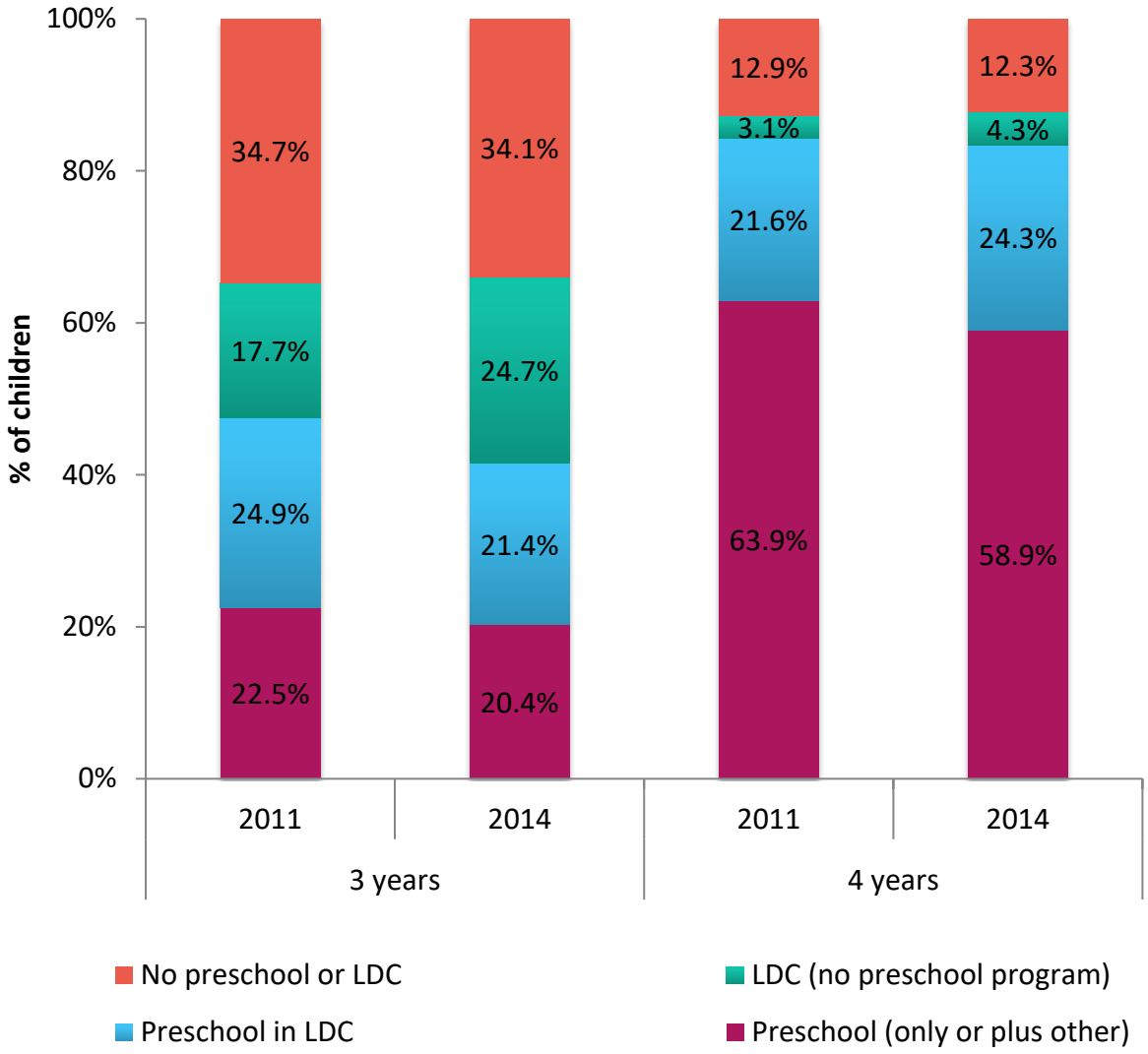


Figure 14 shows that, in 2014, around 34 per cent of 3 year olds are not in any ECEC, compared with 12 per cent of 4 year olds. This suggests that the shift of community beliefs, around the normalisation of attending preschool at age 4, has had an impact on families' decisions about enrolling their children in preschool programs. It may also indicate the impact of the effort to ensure a place is available for all 4 year olds under the National Partnership Agreement on Universal Access.

Figure 14 also shows a slight decrease in the proportion of 3 year olds attending a preschool program in Long Day Care settings, from 25 per cent in 2011 down to 21 per cent in 2014. One reason for this may be that 4 year olds have been prioritised for access to early childhood teachers under the Universal Access for 4 year olds initiative.

Figure 14: Combinations of ECEC by child age, 2011 and 2014 (ABS 2012, 2015a)



Learning programs for 3 year olds in early education and care

The majority of 3 year olds are already accessing some kind of approved early education and care settings (across all provider types). The process elements of quality in these settings varies, but all are generally consistent with the Early Years Learning Framework, which provides broad guidance and practices that support and promote learning. Individual services may also apply specific curriculum, pedagogical approaches or practices to the learning programs developed and implemented by teachers and educators. Some states have their own early years' curricula, which all align with the Early Years Learning Framework.

Aside from national minimum standards set out in the National Quality Framework in relation to educator qualifications and ratios, there is also significant variability in the structural quality, particularly qualifications and the dosage experienced by 3 year olds accessing early education and care. Children access early education and care in different ways, for example:

- **Long Day Care**: Children accessing programs in approved Long Day Care will generally have a Diploma qualified group leader, supported by a Certificate III qualified assistant. Some educators may be still studying to complete these qualifications. In some locations, such as New South Wales or where children are accessing preschool programs for 4 year olds, programs may be delivered by a qualified Early Childhood Teacher, with educator to child ratios consistent with the NQF (either 1:10 or 1:11). The group size will be generally consistent with these ratios, usually with 20-22 children and two educators. Children attend these services for between one and five days per week, with daily hours varying depending on family needs. The preschool program is sometimes delivered during set hours each day.
- **Sessional preschool**: Three year old children accessing state and territory-based preschool programs through early entry or targeted cohort arrangements will generally have their program delivered by a qualified Early Childhood Teacher with a Certificate III or Diploma qualified assistant. The ratio requirements are consistent with the NQF and group size is also usually 20-22 children with two educators. If the program is delivered as part of a school, the group size may be larger. Children may attend these services for up to 15 hours per week, 40 weeks per year with daily hours and number of days attended matching sessional preschool programs for 4 year olds or the school term.
- **Family Day Care**: Children accessing programs in Family Day Care will usually have a Certificate III qualified educator supported by an overarching Family Day Care coordinator holding a Diploma qualification. The educator to child ratio in Family Day Care is 1:7, with no more than four children preschool age or under. Generally, children attend these services for between one and five days per week, with daily hours varying depending on the family's needs.

In the literature, there appears to be limited formal differentiation between learning programs for 3 year olds and 4 year olds. Children have different developmental milestones across this age range, and teachers and educators generally develop their programs and practices to meet the emerging learning and development needs of the children in their care, consistent with the overarching Early Years Learning Framework.

Usual practice in states that provide for 3 year olds to access the 4-year-old preschool program, such as in Victoria and South Australia, is for individual services and teachers use their professional judgement to design learning programs that are responsive to the needs of individual children and that consider individual service group dynamics. Similarly, within sessional preschools, eligible 3-year-old children are likely to simply attend the 4-year-old program, with educators adapting intentional teaching experiences to meet the developmental needs of individual children.

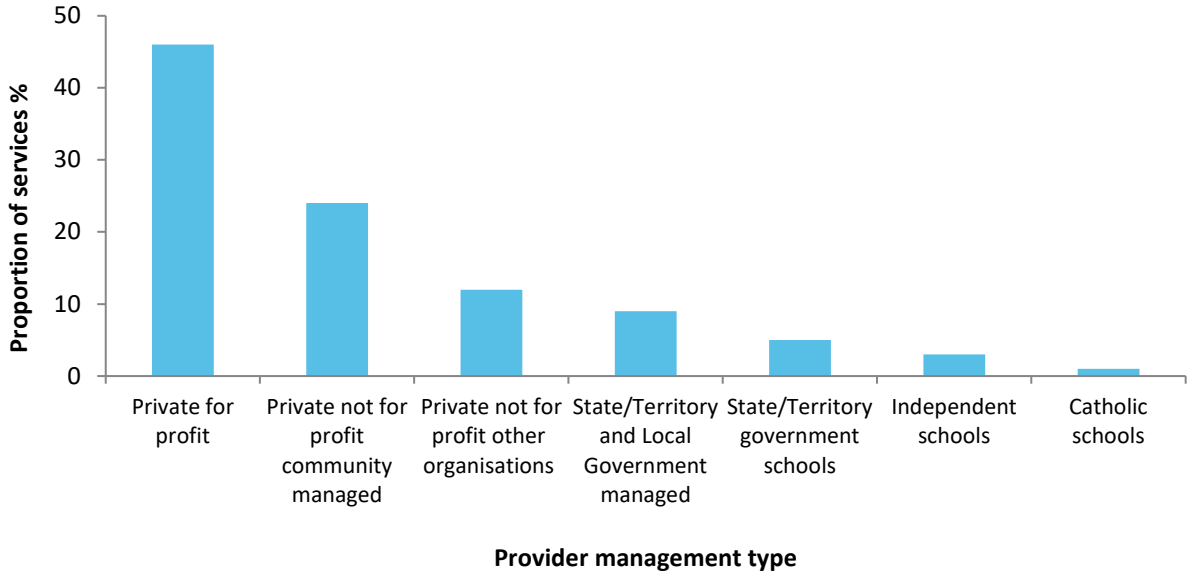
In general, Long Day Care services will have an established preschool or kindergarten room for 4-year-old children in the year before school, with a program delivered by the Early Childhood Teacher, as well as a room for 3 year olds. However, consistent with variability in children's development, many services have 'mixed age' groups that have a combination of children aged between 3 and 5 years and children may move up and transition rooms part-way through the year. Variable attendance patterns by individual children resulting in different groups of children attending on different days adds further complexity that educators in Long Day Care settings have to accommodate through their programming.

As noted in the previous section, research on the impact of different curricular approaches, as well as the broader evidence on developmental processes for 3 and 4 year olds, suggests that a more focused approach to supporting the learning and development of 3 and 4 year olds would be beneficial. This is important given the varying range and pace of children's learning and development between the ages of 3 and 5. Educators need to be able to adapt the program for

children who are advanced in some areas of their learning and development, as well as for children who might have additional needs.

The variability in the current provisions for 3 year olds reflects the diverse mix of providers and settings within the early education and care landscape in Australia (Figure 15), essentially operating in a mixed market that includes for-profit and not-for-profit Long Day Care, sessional preschools and kindergartens, state and territory and local government providers, the non-government school sector and Family Day Care.

Figure 15: Providers of early education and care services 2016 (ACECQA 2016b, p. 7)



It is clear that an efficient and cost-effective implementation of a preschool program for 3 year olds would require different strategies for each sector and jurisdiction. Currently, all 4-year-old preschool programs are centre-based, delivered primarily through sessional/school-based preschools (49.5 per cent) and in Long Day Care settings (50.5 per cent). The pattern of delivery differs significantly in each jurisdiction, with Long Day Care representing 66.8 per cent of preschools in New South Wales and 5.3 per cent in Tasmania (Steering Committee for the Review of Government Service Provision 2016b, p. 3.6).

Accessibility of preschool in Australia

Access is critical to the potential return on investment in developing a program for two years of preschool. Currently the children most likely to benefit from expanded access to high-quality early education, in both the short and long term, are those who are most likely to experience barriers to access.

The Mitchell Institute's 2016 report*, Quality Early Education for All,* highlighted that children in low-income families and from key equity groups (including Aboriginal and Torres Strait Islander children, children from some culturally and linguistically diverse communities, children with disability, and children who are known to child protection) are significantly under-represented in early education and care services, including preschool (Baxter & Hand 2013; Goldfeld et al. 2016; O'Connell et al. 2016; O'Connor et al. 2016).

Of the 40 per cent of 3 year olds not currently accessing any formal care, it is likely that around two thirds of their families are experiencing financial and non-financial barriers to access.

As such, of the third of 3 year olds not currently accessing any early education and care, it is likely that around two thirds of their families are experiencing financial and non-financial barriers to access. These children should be the priority for access and investment.

Some 3 year olds not accessing early education and care may not experience barriers to access. They are in exclusive parental or informal (i.e. grandparent) care and may be experiencing a strong and positive home-learning environment. These children are likely to still benefit from access to a high-quality preschool program.

The overarching goal for both 3 and 4-year-old preschool should be near-universal attendance at high-quality early education at the dosage, and for the duration, required to make a substantial and sustained difference in outcomes.

While the National Partnership Agreement on Universal Access for preschool for 4 year olds has, in most jurisdictions, achieved enrolment targets, there is evidence that around a quarter of children are not attending for at least 15 hours for the full year before school (see Appendix A). A key lesson from the National Partnership is that targeted strategies for those who experience barriers to access are essential for achieving universal access. It also appears that more work is required to understand what strategies are most effective at addressing non-cost barriers for vulnerable cohorts. Mechanisms for building relationships with families experiencing barriers to access, and supporting them to engage in preschool, need to be embedded in the system, rather than being short term interventions

Quality Early Education notes that there are a range of factors that influence a family's willingness and capacity to enrol their children in ECEC and preschool. For many families, these barriers are financial, but broader issues such as a family's life circumstances, particularly workforce participation of parents or beliefs about the benefits of early education are also key drivers of enrolment and attendance decisions.

Analysis of data collected for the E4Kids study did not find any child or family level predictors of whether children would access one or two years of early education and care before entry into school, although children are much more likely to be in early education and care if their parents are employed (Gilley et al. 2015).

Nonetheless, preschool attendance data for 4 and 5-year-old children shows a strong socio-economic gradient, indicating that access to early education is strongly correlated with a family's socio-economic status and that the children most likely to benefit – and to generate strong returns-on-investment – are those most likely to miss out.

Financial barriers

Quality Early Education highlighted evidence that family income is strongly correlated with children's attendance at early education and care, for both couple and single-parent families (Figures 16 and 17). Around 70 per cent of children in very low-income couple families, and around 50 per cent of children in single-parent families, are not accessing ECEC (ABS 2015a).

Cost of care (after subsidies) is a significant impediment to families accessing early learning (Grace & Bowes 2010). This data suggests that there remains a strong association between accessing early education and parental workforce participation, and that cost is likely a significant barrier for low-income families.

Figure 16: Attending ECEC by family income, couple parents (ABS 2015a, p. Table 6)

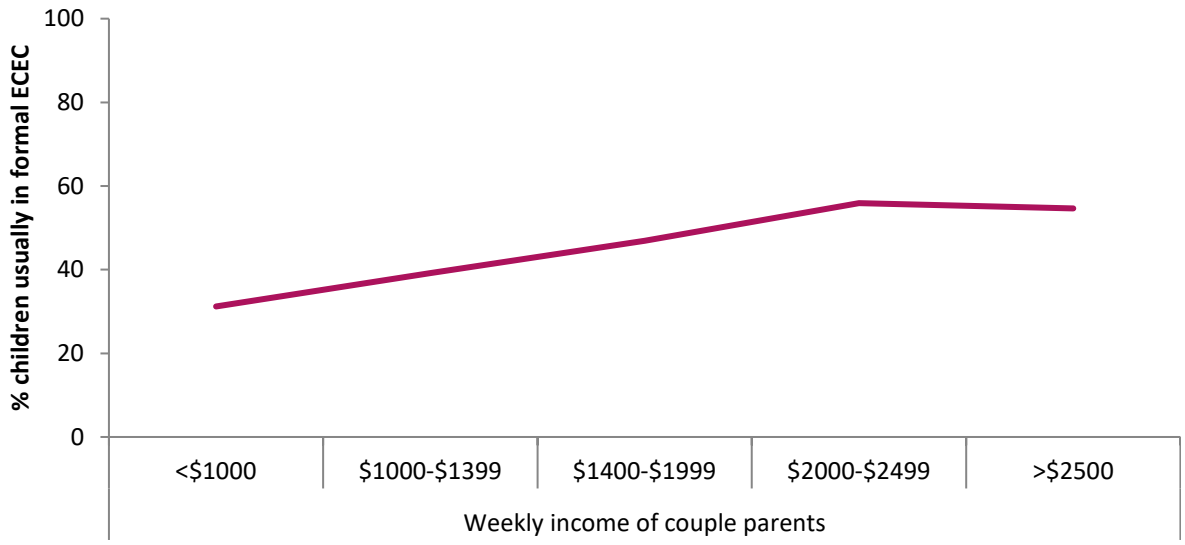
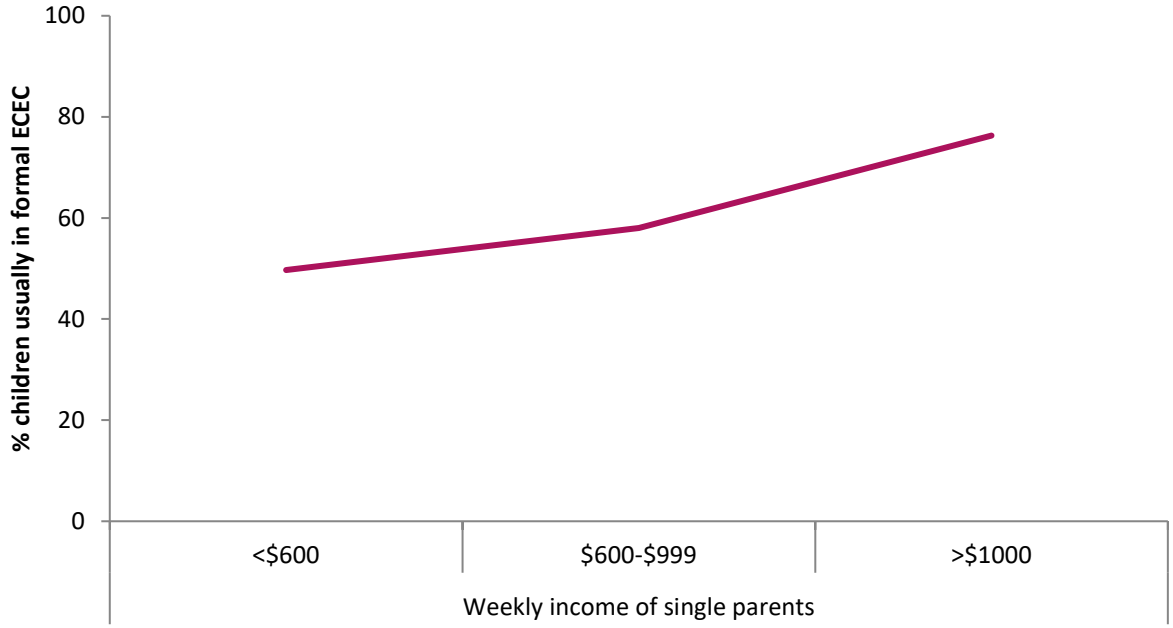


Figure 17: Attending ECEC by family income, single parents (ABS 2015a, p. Table 7)

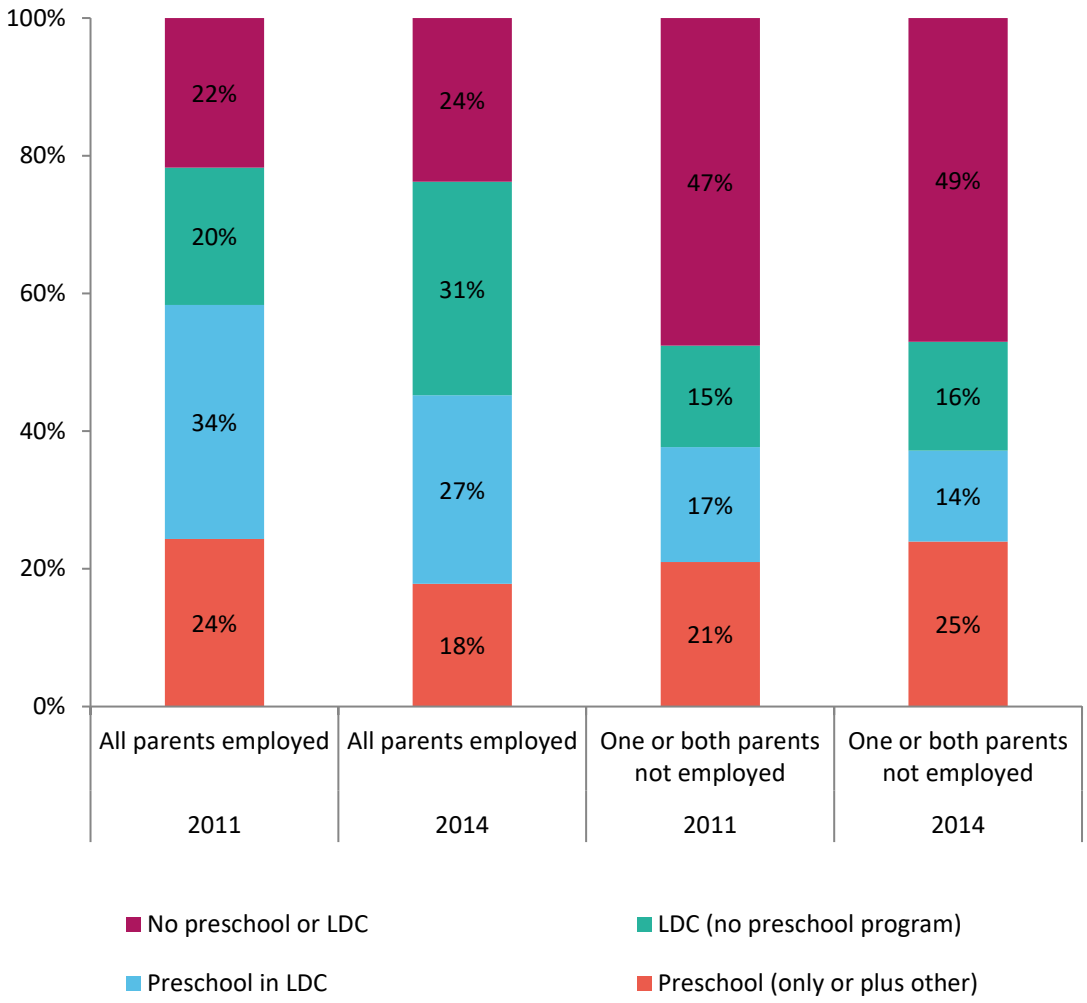


The employment status of parents has much less impact on 4 year olds than it does on 3 year olds, likely reflecting both the impact of Universal Access to preschool and community perceptions about the benefits of early education in the year before school.

The impact of parental workforce participation on the access of 3 year olds to early education is starkly highlighted in CEaCS data. While around two thirds of all 3 year olds attend early education and care overall, Figure 18 shows:

- In families where all parents are employed, three quarters of 3 year olds attend ECEC (either in preschool programs or Long Day Care or other settings). This includes employed single parents and couple families where both parents are employed.
- In families where there is at least one parent not employed, half of 3 year olds are attending ECEC. This includes couple families where only one parent is employed, couple families where neither parent is employed, and single-parent families that are not employed.

Figure 18: Participation of 3 year olds in early education and care by parental employment status, 2011 and 2014 (ABS 2012, 2015a)[11]



[11] **Preschool (only or plus other)**: Usually attend preschool only, usually attend both preschool and a preschool program in Long Day Care or usually attend preschool and Long Day Care (without a preschool program). **Preschool in LDC:** Usually attend a preschool program in Long Day Care only. **LDC (no preschool program):** Usually attend Long Day Care only (without a preschool program). **No preschool or LDC:** Children who do not usually use either preschool or Long Day Care

The employment status of parents, however, has much less impact on 4 year olds than it does on 3 year olds, likely reflecting both the impact of Universal Access to preschool and community perceptions about the benefits of early education in the year before school.

A comparison between the types of care accessed by 3 year olds (Figure 19) and the types of care accessed by 4 year olds (Figure 20) illustrates clearly that the employment status of families has significantly less impact on 4-year-old children. Universal Access has not completely removed the impact of financial barriers on children's access, but it clearly achieves greater equity.

Figure 19: Types of care accessed by 3 year olds by family employment status, 2014 (ABS 2012, 2015a)

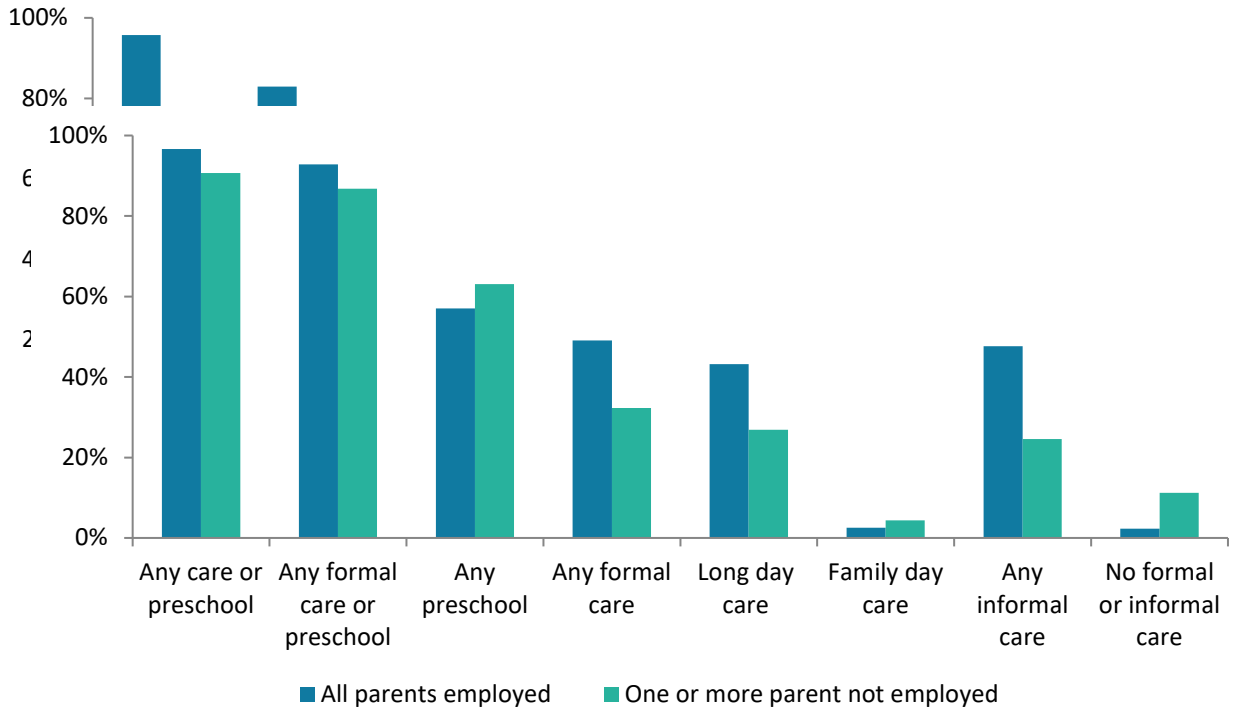


Figure 20: Types of care accessed by 4 year olds by family employment status, 2014 (ABS 2015a)

This analysis demonstrates that linking access to early education and care to parental workforce participation, as proposed in the *Jobs for Families* legislation, is likely to result in children from lower-income families having less access to early education. The Australian Government has ensured that continuity of access to preschool for 4 year old children will be maintained by introducing an additional exemption category for families if their child is attending a preschool program, with the exemption to apply for the period of the preschool program. A similar approach to children attending 3-year-old preschool program may be appropriate.

Beliefs about the importance of early education

Cost is not the only barrier to access. Families' beliefs about the importance of early education are a significant driver of their engagement with preschool.

The UK education quality authority, Ofsted, recently revealed that more than a third of the 80,000 disadvantaged 2 year olds eligible for a free early education had not taken up their place. While there had been a 10 per cent increase in the number of low-income children attending early learning settings, "a potential investment of more than £200 million failed to reach the poorest

children for whom it was intended" (Ofsted 2016, p. 5). Preschool for 3 and 4 year olds is delivered universally and has near complete enrolment. Free access for parents of 2 year olds was insufficient to drive extensive uptake to a targeted initiative. The UK's experience highlights the complex interplay between financial and non-financial barriers to access.

Quality Early Education also found that family beliefs about the benefits of early education (and beliefs about the primary importance of parental/familial care) are a significant driver of family decisions around enrolment and attendance. Research with families not accessing early education and care indicates that a preference for parental care, as well as a perception that children will not benefit from preschool, influence willingness to enrol children in early education (O'Connell et al. 2016, p. 33).

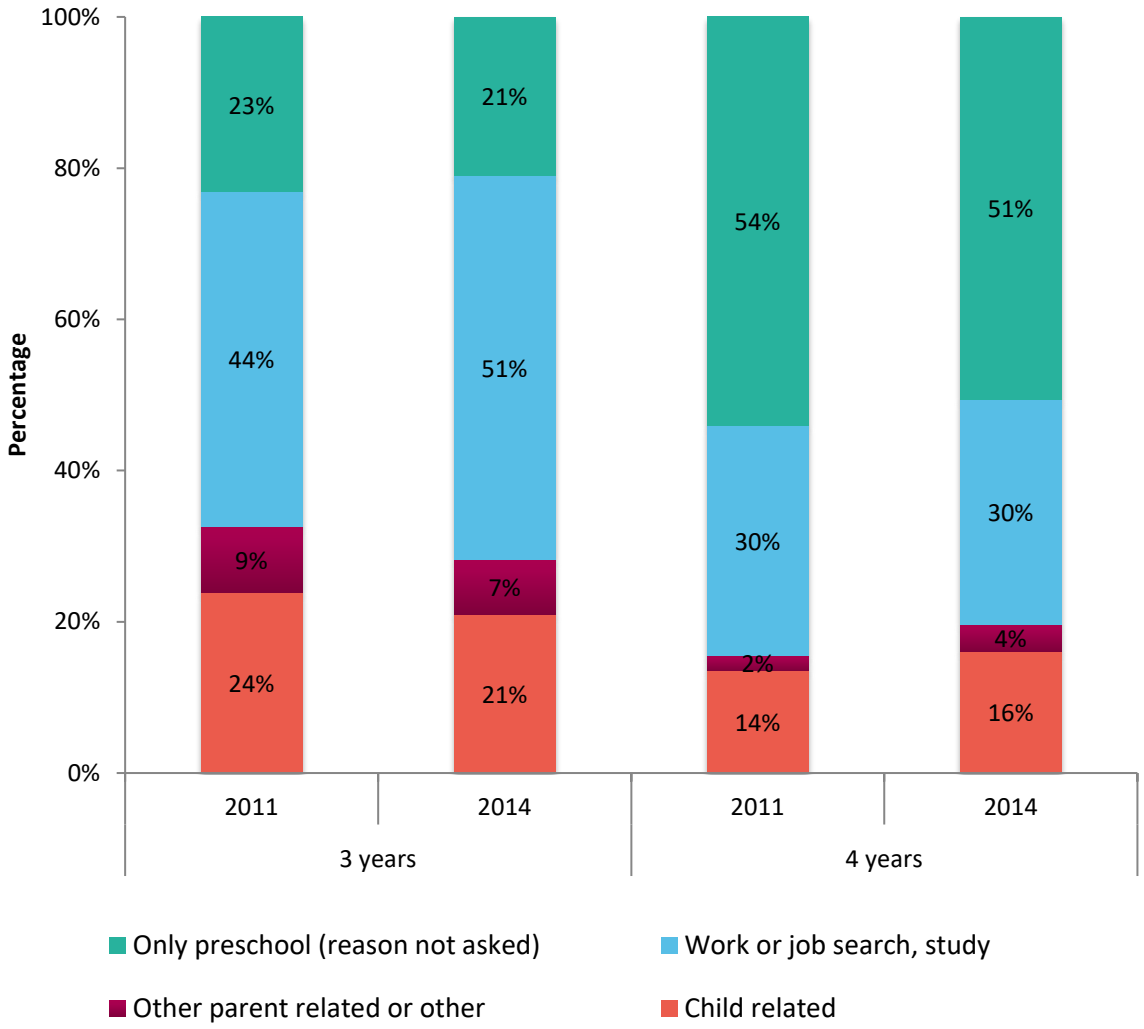
The CEaCS survey asks parents of children that are accessing early education and care for the primary reason for enrolling their children in formal care (note: parents of children only accessing preschool are not asked for their rationale in this collection) (Figure 21).

Differences in ECEC participation patterns between 3 and 4 year olds are partly driven by changes in parental workforce participation requirements or preferences (Baxter 2015, p. 4). In 2014, around half of parents of 3 year olds report their employment/study as the primary reason for accessing early education and care, while only 30 per cent of parents of 4 year olds nominated work and study as their primary reason (noting that parents whose children were primarily enrolled in preschool were not asked for their reasons).

However, a substantial proportion of parents (of 3 and 4 year olds) nominate 'child-related reasons' as their primary reason for enrolling their children in early education. Child-related reasons include the belief that it is good for the child and to prepare the child for school, and it is reasonable to infer that children are enrolled in preschool for similar perceptions around the benefits for children. Therefore, over 40 per cent of 3 year olds and two thirds of 4 year olds enrolled in early education and care are there primarily because their families believe it is good for them.

The difference between 3 and 4 year olds in this data is likely attributable to the presence of universal preschool, including marketing campaigns promoting preschool for 4 year olds in many jurisdictions supporting a growing community belief in the benefits of accessing early education in the year before school.

Figure 21: Main reason for using formal care for 3 and 4 year olds enrolled in ECEC, 2011 and 2014 (ABS 2015a)



For those children who may not be benefiting from a positive and enriched learning environment at home, shifting parental perceptions about the benefits of early education (while addressing other barriers to access) could be a very effective strategy.

Life circumstances

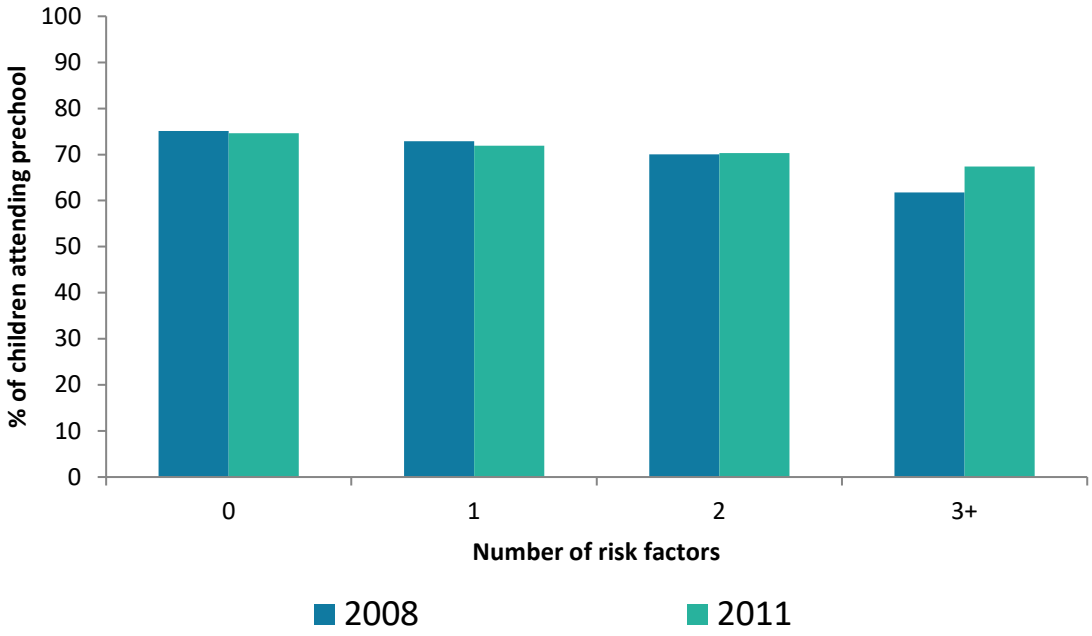
There is a further cohort of families who experience multiple and significant forms of disadvantage who face more complex barriers to access.

Children who are under-represented in preschool programs include those from low socio-economic backgrounds, single-parent families, young-parent families, Aboriginal and Torres Strait Islander families, some CALD communities, families living in remote communities, families experiencing issues with housing, domestic violence or who have had contact with Child Protection, and families with a child or parent who has a disability or mental health issues (O'Connell et al. 2016, p. 32).

Data from the Australian Early Development Census on the characteristics of 4-year-old children reported to be attending preschool highlights that there is an association between the number of risk factors a child experiences (i.e. being Indigenous, being from a non-English speaking background, living in a remote area, and/or living in the most disadvantaged communities in

Australia) and their likelihood of attending preschool (Figure 22). This is especially the case for children with more than three risk factors (O'Connor et al. 2016).

Figure 22: Number of risk factors and preschool attendance (O'Connor et al. 2016)



Families consistently highlight a number of structural and contextual factors that impact on their decision to participate in early education services:

- access and availability, including cost, operating hours, location (remoteness and living in disadvantaged communities) and lack of private and public transport;
- services not meeting their child's needs or the family's needs;
- poor coordination between services;
- limited access to specialist supports for children with additional needs;
- lack of publicity about services;
- complex paper work and enrolment processes; and
- lack of trust in services and fear of judgemental attitudes/behaviours (Baxter & Hand 2013; Carbone et al. 2004; Centre for Community Child Health 2009).

The Preschool Readiness Program – a model of differentiated support to address barriers to participation in preschool

The Preschool Readiness Program (PRP) was designed to address barriers to participation in preschool for Aboriginal families living in Alice Springs. The PRP highlights the types of components, processes and approaches necessary in a service delivery model that is effective in supporting and sustaining participation in preschool. It is a strong example of how to deliver differentiated support within a universal model. The PRP was administered by Central Australian Aboriginal Congress and delivered across a number of school-based preschools in the community.

The model involved:

- finding and connecting with families;
- health checks, developmental assessments and intervention work to determine and address child needs;
- preschool enrolment and adjustment support;
- intensive pre-preschool intervention; and
- partnerships between health and education providers to enhance the child's wellbeing and participation in preschool.

The evaluation found that the PRP was effective in increasing the number of children participating, and in supporting ongoing attendance. The evaluators found that "PRP was able to provide both practical support (transport and material support such as clothing for children) and long-term, relationship based support to help sustain day-to-day participation with families who might otherwise easily disengage" (Moss, Harper & Silburn 2015).

Services appear to be more effective in engaging and retaining these families when they are culturally safe, build positive relationships with families, include strategies for active outreach, and are connected to the broader service system and can therefore link families to additional support as needed (Centre for Community Child Health 2009; Mason-White 2012; O'Connell et al. 2016, p. 33; SNAICC nd)

In addition, Australian research has shown that areas of disadvantage, where children would most benefit from high-quality preschools, tend to have the lowest-quality services available. Cloney et al. (2015) found that services that rated as Working Towards the NQS or requiring Significant Improvement are disproportionately located in areas of concentrated disadvantage, and the E4Kids study confirmed that only 7 per cent of children in the lowest socio-economic quintile attended programs delivering the highest levels of instructional support, compared to 30 per cent of children from the highest socioeconomic quintile (Melbourne Graduate School of Education 2015, p. 6).

Policy and funding for 3-year-old preschool

The proportion and distribution of 3 year olds attending early education and care (and preschool programs) partly reflects differences in jurisdictional policy and practice.

The current policy landscape for 3-year-old preschool resembles, in many ways, the situation for 4-year-old preschool before the introduction of the National Partnership Agreement on Universal Access (see Appendix A). There are variable patterns of provision and access across the

jurisdictions, no clear national policy frameworks, an increasingly strong evidence-base and an existing infrastructure that can be leveraged to rapidly scale up access and impact. Yet there is much less diversity in the extent to which states and territories provide 3-year-old preschool, compared to significant differences prior to the introduction of Universal Access for 4 year olds, and the more consistent starting point may foster a more collaborative path forward.

Early childhood peak bodies, experts and advocates have been calling for an expansion of Universal Access to 3 year olds in their submissions to the Productivity Commission and in pre-budget submissions to state, territory and federal governments.

However, 3-year-old preschool does not figure prominently in current policy frameworks, either nationally or in the states and territories. The Northern Territory government included 'consideration of the possibility' of 3-year-old preschool in its recent overarching early years' policy framework. The Victorian Government's consultations around the *Education State Discussion Paper* found "support for funding three-year-old kindergarten for families experiencing vulnerability"(Capire Consulting Group 2016). There are several jurisdictions (Victoria, New South Wales and South Australia) that provide subsidised access to preschool for small, tightly defined cohorts of at-risk 3 year olds, and Western Australia is piloting providing Aboriginal children with early access to preschool.

An additional two years of funding for the National Partnership Agreement on Universal Access for 4 year olds was recently agreed, with stronger incentives to engage vulnerable and disadvantaged cohorts. The prospect of sustained, ongoing funding for Universal Access had been identified for consideration by the now discontinued Reform of the Federation White Paper process, led by the Department of Prime Minister and Cabinet. The National Partnership Agreement is due for renegotiation in 2017.

The relatively low profile of preschool programs for 3 year olds in current policy and funding debates reflects unresolved issues with 4-year-old preschool funding as well as the Productivity Commission's reluctance to provide an imprimatur for 3 year old preschool. The Commission wrote that:

> "There may be a case to extend universal access to preschool to three year olds in the future … However, any decision to extend the universal access arrangements to younger children should be based on an analysis of the effectiveness of the existing arrangements in improving development outcomes and from evidence drawn from relevant research undertaken in Australia and overseas.
>
> At this stage there is no strong evidence that having the wider population of Australian children commence preschool at age three, or younger, would significantly improve developmental outcomes in the long term. The Commission's view is that future funding for universal access to preschool for four to five year olds must first be resolved before consideration is given to extending preschool funding to three year olds" (Productivity Commission 2014b, p. 506).

As established previously, this paper reads the evidence differently, takes into account new evidence in the years since the Commission's Inquiry, and applies the evidence in the context of Australia's existing early education and care system. It suggests that available international research indicates that two years of high-quality early education yields modest academic and social and emotional benefits for all children, and significant impacts that persist over time for the children most at risk of developmental vulnerability.

Two years of preschool is an efficient and appropriate investment strategy for governments looking to improve outcomes at a population level to reduce the negative impacts of disadvantage and boost long term productivity.

Further, while there are clearly elements of the current National Partnership Agreement on Universal Access that need to be resolved (discussed in the next section) this should not preclude progression of universal access to preschool programs for 3 year olds in line with the growing evidence-base.

There are a range of existing approaches to the provision and funding of early childhood education and care programs for 3 year olds. This section (and Appendix D) provides a brief overview of the funding arrangements available nationally, and provision and subsidies in each jurisdiction.

Provision and funding mechanisms: Australian Government

The majority of 3 year olds already accessing approved early learning services do so with support from the Australian Government through child care subsidies (Child Care Benefit and Child Care Rebate).

The Australian Government makes a significant investment in early education and care through around $8 billion per year in child care subsidies for children accessing approved services – primarily Long Day Care and Family Day Care. This investment is designed to meet the dual policy objectives of supporting parental workforce participation and also supporting children's learning and development.

The current arrangements provide a means-tested base entitlement to reduce out-of-pocket costs for children, and additional entitlements where both parents are working. These subsidies are generally effective at providing a broad entitlement for children and reducing costs for parents.

The key criticisms of the current subsidy arrangements are that they are complex for families to understand and that affordability for families has been eroded by the Child Care Benefit hourly rate and Child Care Rebate annual cap not keeping up with increasing costs. This is particularly the case for single-income or non-working families who are only eligible for the Child Care Benefit.

Through the *Jobs for Families* package, announced in the 2015 Budget and responding to the 2014 Productivity Commission Inquiry, the Australian Government has proposed changes to improve affordability and simplify the subsidy arrangements by moving to a single means-tested subsidy.

Another major change in *Jobs for Families* is that the eligibility for the base entitlement for children (i.e. subsidy available to families where neither parents are working or studying) is significantly reduced. This reduction in the child's entitlement is a product of a much lower cut-off point for the income test (family income of $65,710 compared to around $150,000 currently) and fewer hours of allocated subsidy (12 hours per week compared to 24 hours per week), although the hourly rate for the subsidy is significantly higher.

For working families, the key change is that the hours of subsidy provided by government will be more closely aligned with the combined hours of work, training, study or other recognised activity undertaken by parents. This approach aims to improve workforce participation incentives by providing additional hours of subsidised care if both parents work additional hours. However, this means that, compared to the current subsidy system, a child's access to subsidy will be more directly reduced or increased by potentially relatively small changes in parents' work activities.

Figure 23 simplifies and summarises the various subsidy arrangements that can be accessed by 3 year olds under the current arrangements and proposed future arrangements.

The Australian Government also indirectly supports high-quality early education program for 3 year olds through support for the regulation of the sector through the National Quality Framework National Partnership Agreement, with $61.1 million allocated to the National Partnership Agreement over three years from 2015-16. Funding provided by the Australian Government under the National Partnership Agreement on Universal Access is not provided for 3 year olds.

Figure 23: Summary of current and future early education and care subsidies

Combined family income	Both parents working [12]	Current entitlement (CCB and CCR), Per week	Proposed future entitlement (CCS), Per week	Examples of impact
< $65,710	No	24 hours means tested CCB Provides approx $100 per week to reduce out-of-pocket costs	12 hours CCS at 85% of fee paid up to an hourly fee cap Up to $117 per week to reduce out-of-pocket costs	Variable out of pocket costs but provides some access for children from low-income families
$65,710 - ~$150,000	No	Means tested and provides approximately $80 per week at family income of $80,000, reducing to zero to reduce out-of-pocket costs	No access to government subsidy Parents must pay full fee	Children currently have access to a modest subsidy but parents will have to pay full costs in the future
>$150,000	No	No access to government subsidy	No access to government subsidy	No change, parents must pay full fees
Additional subsidy provided only if <u>both</u> parents are engaged in work, study, training or other approved activity				
All incomes up to around $150,000	Yes (at least 8 hours per fortnight)	At least 24 hours CCB up to 50 hours CCB + 50% CCR Out-of-pocket costs varies	At least 18 hours CCS per week up to 50 hours CCS per week. Out of pocket costs varies	Lower out-of-pocket costs for working families
Incomes over $150,000	Yes (at least 8 hours per fortnight)	50% CCR only	At least 18 hours CCS per week up to 50 hours CCS per week. Out of pocket costs varies	Lower out-of-pocket costs for working families

[12] For simplicity, this table simplifies the current and future subsidy arrangements by approximating income bands. The definition of 'working' in this table refers to undertaking any work, study, training or other approved activity such as recognised volunteering that meets the Australian Government activity test.

Implications of Jobs for Families on 3 year olds' access to early education and care

The current child care subsidy arrangements are effective at establishing a core entitlement to early education and care for all children. The base entitlement of 24 hours of CCB with a generous means test and the simple activity test arrangements for CCR means that the overwhelming majority of families retain access to some subsidy, even if parents are not in work or if their workforce participation changes or ceases completely.

Under *Jobs for Families* and the new Child Care Subsidy, the only 3 year olds who will retain access to subsidies regardless of their parents' work circumstances will be those living in households with a combined family income of less than $65,710. These children will retain access to 24 hours of subsidy per fortnight or 12 hours per week. For all other 3 year olds, both parents will need to be involved in an 'approved activity' for at least eight hours per fortnight in order to access the first tier of subsidy which provides 36 hours per fortnight or 18 hours per week.

The activity test is likely to create circumstances where children experience sudden reductions in their access to subsidised early education, specifically if a low-income family has an increase in income above $65,710 or if one parent's work-related activity changes. The consequence is likely to be that:

- Some children from low-income families dip in and out eligibility to the base entitlement through the year; and
- Some middle-income families have fluctuating access to subsidy through the year.

As cost remains a key barrier to access for children from low and middle-income families we would expect that these children would have their access to early learning interrupted as the cost would become prohibitive without access to some subsidy.

Broad definitions of 'approved activity', for example including a wide range of volunteering as an approved activity, will help some families maintain access to subsidies. However, in order to secure a learning and development return on taxpayer investment, subsidies should be designed to ensure that children from households that are most likely to experience insecure employment or financial disadvantage maintain their access to early education.

The most vulnerable children, including those from low-income families, should maintain access to early learning regardless of their family circumstances.

The Additional Child Care Subsidy will provide subsidy for individual children at 'serious risk of abuse or neglect' or in families experiencing 'temporary financial hardship'. However, this targeted subsidy is not a broad-base entitlement and has specific evidence requirements, ongoing application and approval processes and/or some time limits with the final policy settings yet to be defined. This may work to restrict access for the children likely to benefit most.

Provision and funding mechanisms: States and territories

The different patterns of access and provision across the jurisdictions reflects historical legacies and community norms. For example, the low rate of 3-year-old preschool attendance in Tasmania likely reflects its long history of provision and participation in school-based 4-year-old preschool. This means that there is both limited provision of preschool within Long Day Care settings and strong community norms around children attending preschool in the year they turn 4, but no similar norm for 3 year olds.

Conversely, the high rate of preschool participation of 3 year olds in New South Wales reflects a regulatory requirement to employ early childhood teachers, which means a greater proportion of younger children are exposed to Bachelor-qualified educators. And in the ACT, which, like Tasmania, has a long history of free school-based preschool programs for 4 year olds, there is a very high proportion of 3 year olds attending early education and care – which is likely reflective of workforce participation drivers and specific employment conditions in the ACT.

Appendix D provides a more detailed overview of participation, policy and funding arrangements for 3-year-old preschool in each jurisdiction, summarised here:

- **New South Wales** (38.2 per cent): Historically, NSW has had a higher proportion of early childhood teachers in early education and care settings, which accounts for the high proportion of 3 year olds in Long Day Care settings who are taught by an early childhood teacher (and are therefore counted as attending preschool). Three year old Aboriginal and Torres Strait Islander children, holders of Health Care Cards and children with additional needs are eligible for preschool subsidies. Until 2014, a much wider cohort of 3 year olds were eligible for NSW Government funding to attend community preschools.
- **Victoria** (7.1 per cent): Through the 'Early Start Kindergarten' program, Victoria provides 15 hours of free or low cost preschool for 3-year-old Aboriginal children and children known to child protection.[13] In Victoria, 75 per cent of local councils operate some form of preschool program for 3 year olds, mostly fee-based, and some non-government schools also provide 3-year old preschool.
- **Queensland** (15.7 per cent): In Queensland, 3 year olds are able to attend 'year before school' preschool programs if there are spaces available. However, they receive no subsidy to attend and fees are therefore high. Queensland has a few providers of fee-based dedicated 3 year old kindergarten programs. These services usually also offer the funded four year kindergarten program.
- **South Australia** (16.5 per cent): Aboriginal children and children under guardianship of the Minister are funded to attend preschool once they turn 3. Children with additional needs may access up to two terms of preschool prior to commencing in their eligible year of preschool if a preschool has the capacity within existing resources. All children are able to start their 'year before school' program one term, for one session a week, if they attending a government preschool. This is intended to provide an introduction to preschool.
- **Western Australia** (21.5 per cent): In WA, 3 year old kindergarten programs are largely privately provided (either through Long Day Care services, community agencies, or local government or non-government schools). The Kindilink program provides Aboriginal and Torres Strait Islander 3 year olds and their parents with six hours of early learning per week.
- **Tasmania** (5.0 per cent): Tasmania has some school-based preschool programs for 3 year olds, and children transferring from interstate and highly gifted 3.5 year olds can be enrolled in 'year before school' programs. The state-wide Launching into Learning program engages families in their children's learning (birth to age 4).
- **Northern Territory** (14.3 per cent): The NT provides free preschool for all 3 year olds in remote and very remote communities.
- **Australian Capital Territory** (19 per cent): The ACT Government delivers free Koori preschool programs for 3 to 5 year old Aboriginal and Torres Strait Islander children. There are a

[13] Victorian data for preschool programs not provided in Long Day Care centres only include 3 year old children who have been approved to attend funded 4 year old kindergarten programs, and so do not include children in other programs for 3 year olds (Steering Committee for the Review of Government Service Provision 2016a).

number of community established-and-run 'playschools' that provide (fee-based) programs for 3 year olds, which may be delivered by an Early Childhood Teacher. Some Independent, Catholic and government Early Childhood Schools also run 3-year-old programs, as well as five ACT Government funded Koori preschool programs for up to 100 Aboriginal and Torres Strait Islander children aged 3-5 years.

Implications for design and delivery of a 3-year-old preschool program

This analysis of Australian data on the participation rates of 3 year olds in early education and care, on existing policy and funding settings, and factors impacting access highlights several key implications for the design and delivery of a 3-year-old preschool program:

- Attending early education and care is the norm for two thirds of 3 year olds.
- The children who stand to benefit most from a preschool program are the ones who experience the greatest barriers to access.
- It is necessary to address financial and attitudinal barriers.

The critical finding of this analysis, however, is that the high proportion of 3 year olds already accessing ECEC suggests that the major opportunity presented by the implementation of universal 3-year-old preschool is:

- Firstly, to remove barriers to access for those not participating, and
- Secondly, to clearly define the parameters of the learning program they receive, to ensure that all 3 year olds have access to an adequate dose of a preschool program that meets the quality thresholds that deliver high impact and significant returns on investment.

The cohorts most likely to be experiencing financial and non-financial barriers to access, and who should be prioritised for access, include:

- Aboriginal and Torres Strait Islander children,
- Children known to child protection systems,
- Children with disabilities or ongoing health or medical conditions,
- Children from culturally and linguistically diverse backgrounds or who are humanitarian entrants, and
- Children from the bottom two quintiles of family income.

The challenge in reaching these cohorts should not be underestimated, as demonstrated by ongoing difficulties in meeting enrolment and attendance targets for vulnerable 4 year olds. However, given the strength of the evidence about the benefits for these groups, it is appropriate to focus effort and investment in this area.

Part 2: Design and Delivery

What is the best investment – universal or targeted preschool?

One of the key debates in countries that are currently introducing or expanding preschool provision is whether the priority is to invest in access for all children, or to target resources at priority cohorts. This is a genuinely challenging public policy issue, particularly in a context of budgetary constraints. However, with two thirds of Australian 3 year olds already accessing early education and care services, expanding preschool programs for 3 year olds is an eminently achievable policy goal.

The universal or targeted debate is a threshold issue for this report's analysis of how to design and implement a 3-year-old preschool program within the existing Australian early education and care landscape. This report takes the view that universal provision is ultimately the more efficient, equitable and effective approach.

Australia has a strong existing platform, provided by the National Quality Framework and existing provision of 4-year-old preschool, and clear implementation pathways established through the National Partnership Agreement on Universal Access.

It is both appropriate and feasible to build on the platform provided by the existing service system to provide quality universal access to preschool in the two years before formal schooling begins. Accordingly, Part 2 of this report:

- Provides the rationale for a universal approach and the implications for the design and delivery of a 3-year-old preschool program in Australia;
- Outlines the core elements of quality that are central to the design of the model, and considers options for delivery;
- Articulates the pathway to designing and implementing a 3-year-old preschool program, highlighting the key success factors of the National Partnership Agreement on Universal Access and lessons for 3-year-old preschool, key considerations for implementation, and critical issues for decision-makers; and
- Explores potential approaches for designing funding mechanisms.

The report does not aim to provide all the answers for delivering a 3-year-old preschool program and it does not necessarily advocate for a particular model or approach. Building on the existing service delivery system – a mix of government and non-government; not-for-profit and for-profit; and sessional, Long Day Care and school-based settings – is the only practical way forward. However, there is no simple, one-size-fits-all approach, especially given enormous diversity between and within jurisdictions.

Instead, this report aims to identify critical issues and flesh out potential answers, aligned with evidence and in the context of what is achievable within existing service delivery platforms and significant diversity between jurisdictions. Detailed modelling and jurisdictionally-specific implementation planning will be necessary. Nonetheless, this paper sets out relevant options and indicates an efficient and evidence-informed pathway forward.

The analysis is underpinned by five core design principles:

- **Efficient**: An efficient use of limited resources and a clear rationale for public investment.
- **Universal**: A proportionate universalism approach that consolidates early education and care as a universal platform for all Australian children, with delivery strategies and investment tailored to those experiencing barriers to access.
- **Evidenced**: An evidence-informed approach to strengthening children's developmental outcomes, including a life-course lens that takes into account the long-term impacts of investment in the early years.
- **Practical**: Delivery approaches that meet the needs of families and the dual objectives of strengthening child development outcomes and enabling parental workforce participation.
- **National**: Harnessing the benefits of agreed national goals and a consistent approach, combined with tailored implementation strategies.

The report takes the position that a universal model is the optimum strategy for maximising the impact of existing and future infrastructure and investment. However, consistent with a progressive universalism approach and the evidence that disadvantaged cohorts benefit most from preschool, the investment approach should prioritise access for the children who will benefit most.

Early education as a universal platform

Over the past 20 years, early education and care has been gradually developing as another universal service delivery platform, alongside universal healthcare, the school education system and Australia's tax-transfer system. There has been a significant expansion of the proportion of children attending early education and care services.

However, this expansion (and increase in government subsidy) has primarily been driven by workforce participation imperatives, arguably with secondary consideration of child development outcomes. This distinguishes Australia from many European countries, for whom early education and care has long been a core element of their universal social platforms (and ably meeting both child development and workforce participation objectives).

The National Partnership Agreement that extended preschool provision for all 4 year olds was the first explicit and Australia-wide commitment to universal (though still non-compulsory) delivery of early education. It was established as a universal entitlement – open to all children – on the basis of the evidence of the long-term benefits of quality early education, recognition of the benefits of a consistent national approach, and with an awareness that universality was an important lever for communicating the importance of early education and engaging children from all families, regardless of socio-economic background.

At the same time, the National Quality Framework sought to embed a shift from viewing 'child care' as babysitting to recognising the importance of early learning. The National Quality Framework ensures that all early childhood education and care has nationally consistent minimum standards focused on children's safety and wellbeing, and learning and development.

Australia's commitment to a universal approach to 4-year-old preschool partially aligned with the OECD's recommendations in the landmark report, *Starting Strong,* about early childhood education and care priorities for governments:

- Providing universal and appropriate access for all 3-6 year olds; and
- Ensuring equitable access, so that all children have equal opportunities to attend quality ECEC, regardless of family income, parental employment status, special educational needs or ethnic/language background (OECD 2001, p. 75; 2006).

One of the key issues for Australia in progressing 3-year-old preschool programs is whether they should be consolidated (and funded) as a universal service for all children, or if provision (and public resources) should be targeted at the most disadvantaged.

Universal 3-year-old preschool would require a fundamentally different funding and implementation approach to targeted delivery. For example:

- **Universal delivery** would involve embedding a preschool program within the majority of existing Long Day Care and sessional preschool settings. It brings the advantage of scale, and would involve a collaborative, cross-sector approach to developing the capacity to deliver a defined, consistent preschool dose in a sufficiently high-quality learning environment. The development of learning resources and implementation of a new learning program would be a sector-wide effort involving, for instance, inclusion of appropriate pedagogies for 3 year olds within pre-service training programs and a national focus and market for professional learning.
- **A targeted approach** would involve identifying specific cohorts of children and focusing provision and funding on this target group. This would likely require more localised solutions, such as inclusion of 3 year olds in existing 4-year-old preschool rooms or place-based strategies, and the development of a learning program would likely be a community or centre-level initiative, mostly involving iterative change to existing programming and leveraging existing resources.

The strengths and challenges associated with universal and targeted approaches are outlined in Figure 24.

"A universal approach has the potential to improve things for children in all SES ranges …[but] using a universal approach without addressing barriers to access, one that provides the same service to all, can actually steepen the gradient, and create greater differences in child outcomes between SES ranges. Targeting programs toward children who are most vulnerable has the potential to reach children in the greatest need. But targeting also has substantial challenges.

First, targeted solutions can reach the most vulnerable children in low SES ranges in a more intensive way, and so possibly improve outcomes for these children. However, as the largest number of vulnerable children are in the middle class, the majority of vulnerable children are missed.

Second, targeting programs in itself does not eliminate barriers to access – barriers such as the stigma associated with some programs continue to affect families. Targeting alone then, does not flatten the social gradient overall and improve child outcomes across the whole population."

Human Early Learning Partnership (2016)

Figure 24: Universal vs targeted approaches to 3-year-old preschool (Barnett, Brown & Shore 2004; Carey & Crammond 2014; Cascio & Whitmore Schanzenbach 2013b; Elliot 2006; Harrison et al. 2012; Whitehurst 2013)

In their review of international policy settings around early childhood education and care, Gambaro, Stewart and Waldfogel (2014) argue that a free and universal entitlement for all children is the most effective strategy for ensuring population-wide access, pointing to the near-universal attendance rates in France and the UK and the limitations of targeted approaches such as the US HeadStart program for reaching all (or even most) of the families they target.

Universal approaches can also support the shifting of social norms around enrolment and attendance, helping to normalise participation in early education. New Zealand's introduction of 20 hours of free preschool for 3 to 5 year olds only increased headline participation rates slightly (from 93.6 per cent in 2007 to 94.7 per cent in 2011). However, during this time, there was a 23 per cent increase in attendance hours (dosage). Additionally, 17 per cent of all parents and 30 per cent of low-income parents made a decision to participate in preschool as a direct result of the policy (May 2014, p. 157).

There is a complex trade-off between the expense of universal delivery and an approach that targets resources at those with the greatest need and where the greatest impact can be achieved. Gambaro, Stewart and Waldfogel (2014) note that:

> "While universal policies appear to be most effective at reaching the disadvantaged, they are clearly expensive for government: in order to reach a relatively small group of children, the state pays for provision for many others who would attend anyway. Thus in England, increasing enrolment from around 60% to more than 90% of three-year-olds has been achieved at the cost of extending funding to cover all 90%" (Gambaro, Stewart & Waldfogel 2014, p. 220).

Yet, they suggest that given the long-term gains that quality early education can deliver "subsidising children from richer backgrounds in order to reach all children may be seen as a sensible social investment that will deliver a pay-off in the long run" (Stewart et al. 2014, p. 220).

However, it is not clear that universal provision has to be free in order to achieve the desired attendance rates and child development outcomes. A universal system that pays for targeted initiatives by providing subsidised rather than free access for the rest of the population may deliver the same outcome (Stewart et al. 2014, p. 221).

Stewart et al. (2014, p. 240) suggest that the "cross-country evidence makes a strong case for transparent income-related fees where universal free provision is not possible". Certainly, this appears to be the most pragmatic approach in the current fiscal context, where there are pressures to reduce public expenditure across the board.

In *Quality Early Education for All*, the Mitchell Institute argues against perpetuating the fragmentation and inequity of the current service system, in which programs or interventions are often only available in selected centres, in some locations, for some people. This report suggests that one of the fundamental limitations of many social policy interventions in Australia is that "they are often only accessible to a tiny fraction of the children who need them, and therefore cannot shift outcomes at a population level" (O'Connell et al. 2016, p. 42).

There are several underpinning principles that inform the debate between universal versus targeted approaches:

- **Efficiency** – in the context of limited resources, where can public investment have the greatest impact?
- **Evidence** – is there evidence to support prioritising some population cohorts over others, or evidence of differential impacts?
- **Effectiveness** – what service delivery approaches are most effective in reaching and engaging the target population/s?
- **Equity** – what funding and delivery approaches produce the most equitable outcomes?

Applying these principles to the specific context of 3-year-old preschool programs in Australia, and in light of the evidence about the conditions that support access and impact, this paper

argues that a universal approach is the most appropriate strategy for introducing 3-year-old preschool.

Efficiency

- The opportunity for significant return on investment lies with lifting the school readiness and academic achievement of disadvantaged children, and strengthening their foundational social and emotional competencies (with dividends evident throughout the life course).
- The foundation of a universal platform already exists. Two thirds of 3 year olds are already accessing early education and care utilising existing subsidies and payment mechanisms. The National Quality Framework is lifting the quality of early-learning programs children are receiving. The additional effort and investment required will relate to targeting the children currently missing out because of barriers to access and ensuring other children currently in the system are receiving an adequate dosage of a high-quality program.
- There is evidence that advantaged children also benefit from high-quality early-childhood programs, albeit not as greatly (AEDC 2014; Schulman & Barnett 2005). The fact that all children can benefit from preschool reduces the potential inefficiencies of universal provision.

Evidence

- The evidence indicates that all children gain some benefit from preschool, although the largest impacts and the greatest benefit accrue to children experiencing disadvantage.
- The impact of preschool on disadvantaged children is greater if they are in a mixed cohort of children from diverse backgrounds (Bartik 2014; Sylva et al. 2004b, p. iv).
- High-quality early education matters for all children, and a substantial proportion of Australian 3-year-old children currently in early education and care, are not receiving a sufficiently high-quality experience or a sufficiently robust learning program (or an adequate dosage to be beneficial).
- Preschool is a proven strategy for reducing developmental vulnerability. AEDC data shows that children who attended preschool were nearly a third less likely to be developmentally vulnerable in their first year of school, with this relationship holding across all socio-economic quintiles (Goldfeld et al. 2016; Sayers et al. 2012).

Effectiveness

- Universal platforms offer one of the best strategies for normalising attendance of all children as well as shifting community norms and beliefs about the role and importance of early education (evident in near-universal enrolment in 4-year-old preschool).
- Universal preschool provides a non-stigmatising and shared community platform that all children can access.
- Most children attend early education and care settings within a few kilometres of their home (Cloney et al. 2015) and the extensive geographical reach and coverage of existing child care centres is more likely to be accessible to children within the target population (not all of whom live in areas of concentrated disadvantage).

Equity

- A key objective for early years' policy in Australia ought to be reducing the socio-economic gradient evident in AEDC data. This data demonstrates that children with vulnerabilities are spread through all communities, and that place-based approach targeting only the lowest socio-economic communities is likely to miss many children who would benefit from preschool.

- Additional resources are needed to effectively meet the needs of disadvantaged children and their families.
- Means testing is an established principle in Australia and underpins the structure and design of our social protection system. It is likely to be an acceptable funding approach for 3-year-old preschool, particularly in the context of the foreseeable fiscal environment in Australia.

This paper takes the view that further strengthening the existing universal preschool platform yields the most significant benefits, and argues that a proportionate universalism approach that prioritises public investment in children with greater levels of need is the optimum approach.

> 'Proportionate universalism' provides a means of delivering targeted services from a universal base to best close the outcome gap … for some children a different 'dose' or 'intensity' of a universal program is required, although the children still fundamentally receive a version of the universal program.
>
> This approach enables much broader targeting that avoids the usual problem of programs being too targeted and missing most of the population who could really benefit.
>
> Harrison et al. (2012)

Design considerations for universal 3-year-old preschool

Designing a universally available preschool program, that also targets additional resources and support to the children and families that require additional investment, is the key challenge.

One of the critical issues is where to set thresholds for access to increased subsidies (and ideally to increased dosage) in a way that balances efficiency, evidence, effectiveness and equity.

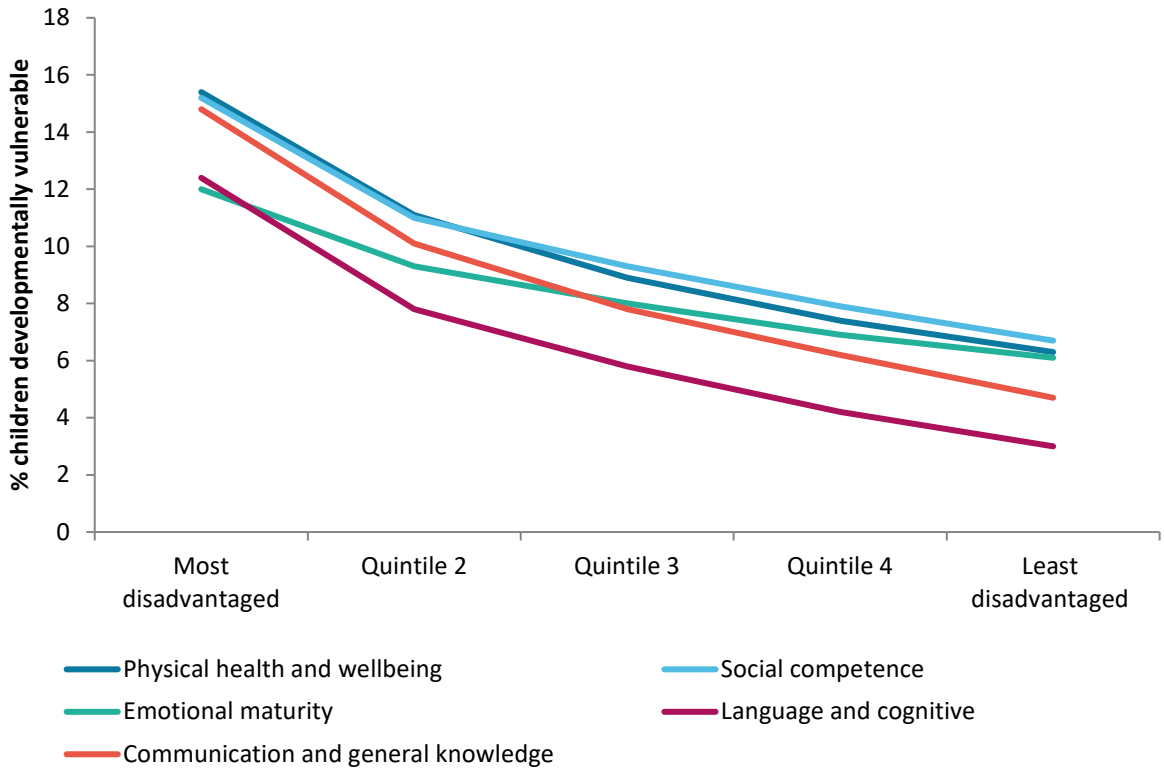
There are currently approximately 300,000 3-year-old children in Australia. The data on the socio-economic status of 4 year olds in *Preschool Education, Australia* suggests that there are approximately 20 per cent of children in each quintile, although some jurisdictions have very different patterns and distributions of disadvantage (Figure 25).

Figure 25: 4 year old children enrolled in a preschool program, by SEIFA (ABS 2016c, p. Table 8)

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust
Most disadvantaged	16,179	9,997	10,814	4,432	4,037	1,320	875	69	47,725
Q2	14,802	10,835	12,481	4,450	5,570	1,052	443	242	49,873
Q3	13,548	13,537	13,439	3,826	6,240	869	653	674	52,782
Q4	13,752	14,771	13,617	3,439	7,943	631	695	1,396	56,249
Least disadvantaged	17,923	12,473	12,075	2,408	8,867	383	616	2,948	57,694
Not stated	290	173	839	3	1,464	4	163	106	3,042
Total	**76,496**	**61,791**	**63,262**	**18,559**	**34,124**	**4,260**	**3,446**	**5,425**	**267,366**

Socio-economic status is not the only indicator of disadvantage (and not the only indicator of need for high-quality early education), but the distribution of developmental vulnerability evident in AEDC data (Figure 27) nonetheless shows a sharp socio-economic gradient. A child's risk of developmental vulnerability is directly correlated with their family's socio-economic status, making it an appropriate indicator of where targeted initiatives should be directed.

Figure 27: Percentage of children developmentally vulnerable on AEDC, by SEIFA and AEDC domain (AEDC 2016)



This data also highlights that only targeting the 20 per cent of children in the lowest quintile will not be adequate for substantially shifting population-level outcomes (Schulman & Barnett 2005). As Barnett (2009, p. 2) notes:

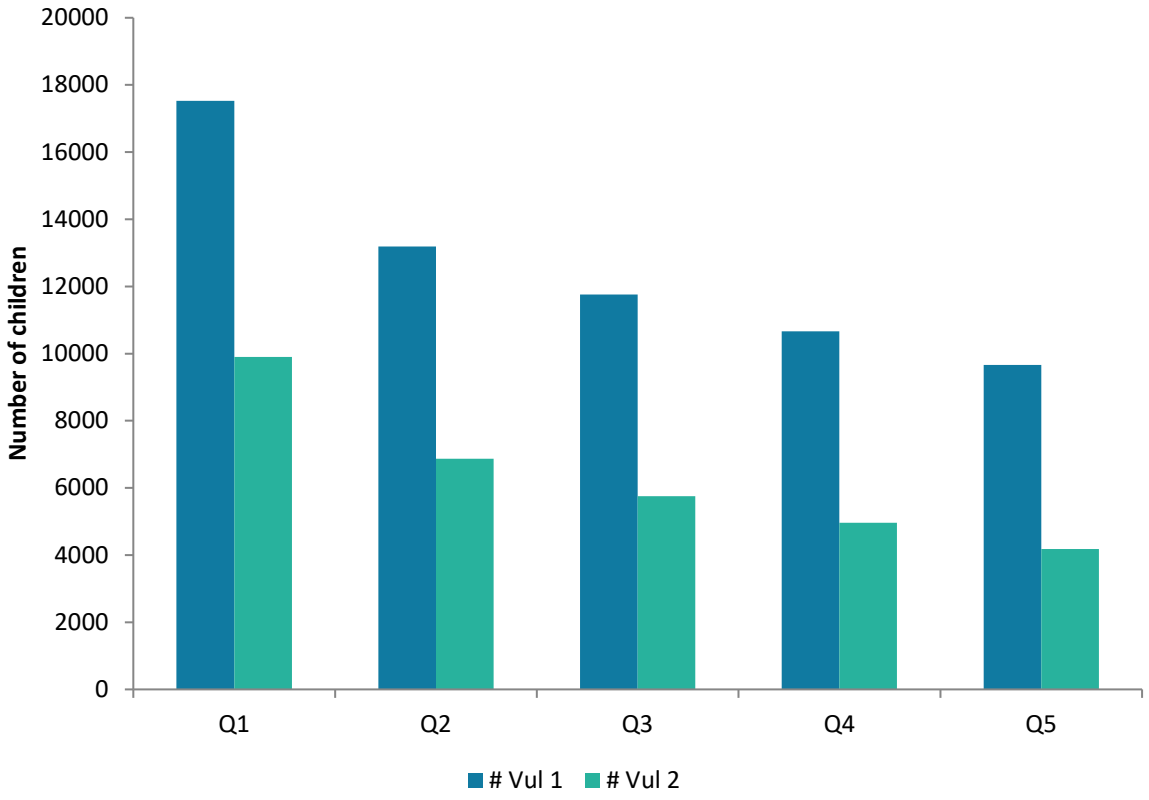
> "In sheer numbers, there are actually more middle class (defined as the middle three income quintiles) children who enter kindergarten poorly prepared to succeed than there are poor children who do so … the effects [of preschool] on the middle class, while somewhat smaller than those for disadvantaged children, are large enough to be meaningful and to produce long-term payoffs that would offset the costs of providing them with quality preschool education."

Establishing a preschool program that was only available to the most disadvantaged children would be a missed opportunity to strengthen developmental outcomes across the population.

Instead, a strategy that makes preschool available to all children, and targets resources and investment in reducing financial and non-financial barriers to access for children in the bottom two quintiles, is justified. Targeting the bottom two socio-economic quintiles would represent around 40 per cent of the total 3-year-old population, or around 100,000 children. Figure 28 shows that around half of all children experiencing developmental vulnerability are in the bottom

two quintiles (48 per cent of those with at least one domain of vulnerability, and 53 per cent of those with vulnerabilities in more than one domain).

Figure 28: Number of children developmentally vulnerable in one or more domain (Vul 1) or two or more domains (Vul 2) by socio-economic quintile, 2015 (AEDC 2016, p. 33)[14]



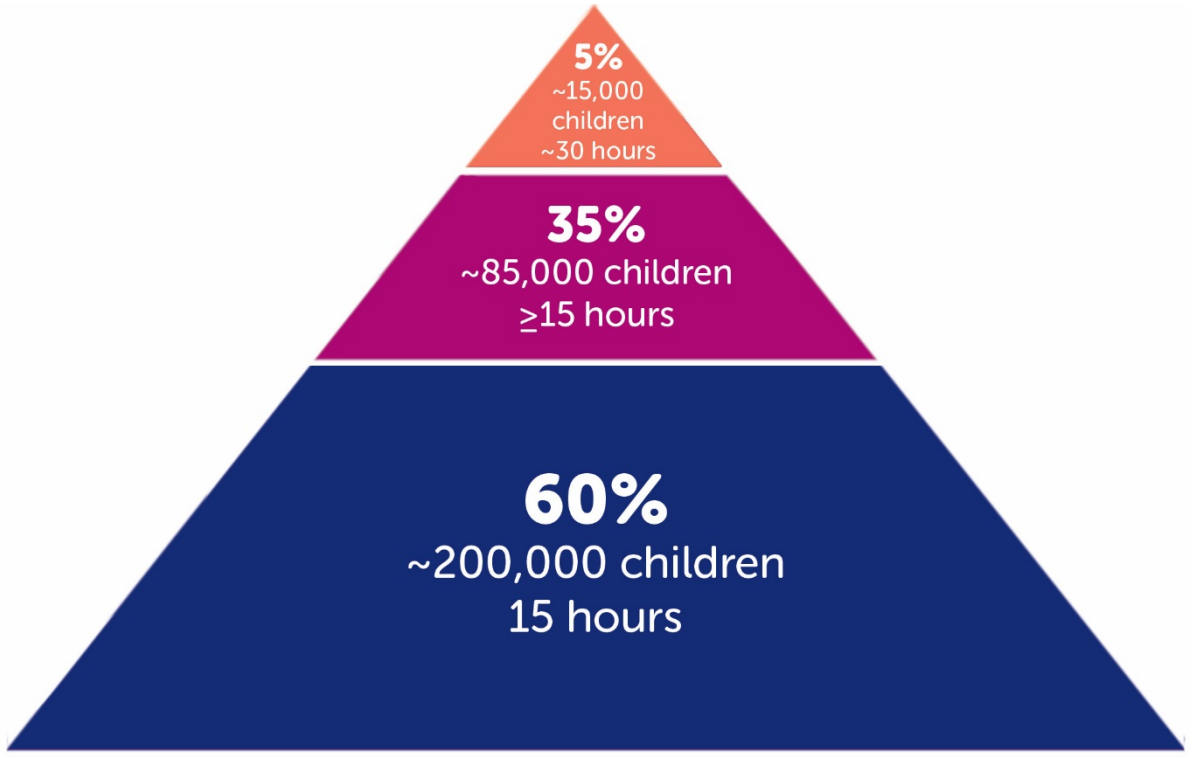
Consideration should also be given to how best meet the needs of the approximately 5 per cent of children experiencing multiple and complex forms of disadvantage (including children known to the child protection system) who are likely to require much more intensive provision of the highest quality.[15]

The basic structure of a 'progressive' universalism model is outlined in Figure 29, which highlights the ideal minimum dosage (reflecting the evidence outlined in Part 1) and the approximate number of children in each cohort.

[14] Total numbers derived from number of children with valid scores and reported proportion of children in each quintile with developmental vulnerability.

[15] In Quality Early Education for All, one of the Mitchell Institute's key recommendations is to invest in scaling up evidence-based, high-intensity programs for the children most at risk of developmental vulnerability. These children require higher quality provision than they would receive in usual care, as "in the typical programs and in the absence of no specific additional supports or interventions, our analyses support the finding that children with low baseline scores tend to remain below the level of ability expected for their age two years later" (Tayler, Cloney & Niklas 2015, p. 58).

Figure 29: Applying progressive universalism to 3-year-old preschool in Australia



Place-based universalism

A place-based approach to universalism may be another strategy for combining the benefits of universalism and targeted provision. The Abbott Pre-K preschool program in New Jersey illustrates that this approach can be highly effective (Barnett et al. 2013). This could involve working with local government areas or large regions experiencing higher levels of disadvantage, implementing 3-year-old preschool programs for all children within that region, and providing specific subsidies to address financial and non-financial barriers to 3 year olds in the bottom two quintiles.

In a context of limited resources, and a thin Australian evidence-base, this may be an appropriate strategy for directing investment to where it can have the most impact and is most likely to reach the children with the greatest need, while retaining the benefits of universalism (particularly the reduction in stigma, the availability of appropriate programs at all local centres, mixed cohorts of children, and shifting community norms). This approach would also offer the opportunity for a quasi-experimental impact study, which could provide the evidence to inform decisions about national scale up.

Design of a 3-year-old preschool program

Investment in early education only produces positive population-wide impacts on child development through high-quality programs, delivered at a sufficient dosage, over an adequate period of time. To ensure a positive return on this investment, the design parameters of any 3-year-old preschool program must deliver to the elements of quality necessary for a substantial and sustained impact on children's development.

This section is organised around key elements of process and structural quality and focuses on the task of charting the most efficient and cost-effective path to the overarching aim of improving child development outcomes though expanded access to two years of high-quality preschool programs.

This section reflects the evidence outlined in Part 1, and identifies the key issues around structural and process quality in the context of the existing Australian system and context.

There are genuinely challenging trade-offs to be made around quality and affordability, a challenge that is more difficult in the absence of robust Australian data to reliably guide investment decisions. The task of public policy is to balance competing priorities to achieve the best outcome possible.

The potential delivery approaches and potential alternatives outlined here aim to build on the existing service system and quality infrastructure to suggest practical pathways to implementation (Figure 30).

Figure 30: Summary of key considerations for the design and delivery of a 3-year-old preschool program

Elements of quality early education

Process elements shape the dynamics of daily occurrences in early education settings, such as:

- children's interactions and engagement with caregivers; children's interactions with other children; learning opportunities, including structured and scaffolding activities and informal processes such as language stimulation; and health and safety measures.

Structural factors facilitate these interactions and learning activities, such as:

- educator to child ratios; the size of each group of children; and the formal education and training of caregivers (Ishimine, Tayler & Thorpe 2009; Taggart et al. 2014; Vandell, D & Woolfe 2000).

Structural elements set the conditions that facilitate and enable the enriched educator-child interactions and attention to learning and development that drive improvement in children's outcomes (O'Connell et al. 2016).

Structural elements of quality provision

The structural elements of quality provision are both the preconditions for process quality and the primary driver of the cost of early education and care; they are where the critical decisions about the quality and affordability trade-offs become evident.

This section outlines key elements of structural quality – dosage, ratios, qualifications, and settings and resources. It outlines the key considerations and options, as well as the rationale and available evidence for the setting of minimum standards.

Largely, it recommends maintaining the existing requirements under the National Quality Framework, with a focus on elements known to influence quality within an effective preschool program.

Dosage

The number of hours of quality early education that children are exposed to (hours per week/weeks per year) is one of the most important keys for unlocking the potential impact of investing in early education. Public investment in early education should be calibrated to enable and incentivise children to attend for the minimum number of hours needed to make a difference in their developmental outcomes.

The National Partnership Agreement on Universal Access set a very specific dosage target of 15 hours per week (later amended to 600 per year in recognition of non-traditional delivery mechanisms, such as mobile preschool).[16]

> "The challenge to public policy is how to ensure that children enter the ECEC system early enough, for a sufficient period of time on a weekly basis and at high enough quality to make a positive difference to their learning and life trajectories."
>
> E4Kids (2012)

[16] As noted previously, the benchmark of 15 hours per week was based on evidence from the UK's EPPE study, which found that part-time attendance was an adequate dosage for most children (i.e. they found limited marginal benefit from greater attendance) (Loeb et al. 2007; Sylva et al. 2004a). It appears that disadvantaged children may benefit from more regular and intensive provision, ideally around 30 hours per week. This aligns with research on early education programs targeted at highly disadvantaged children

Currently available evidence broadly supports a minimum dosage of 15 hours for 3 year olds, aiming for greater exposure (three-four days per week) for more vulnerable children.

In line with the principle of practical delivery approaches that work for families, providers should have flexibility around the structure and delivery of 3-year-old preschool programs (i.e. delivering two full days or multiple shorter sessions, depending on the needs and preferences of their community and on the approach that best supports financially viability).

Educator to child ratios

Educator to child ratios are a key contributor to quality as they are a primary enabler of the responsive interactions and sustained shared thinking instances that best support and scaffold children's learning (Early Childhod Australia 2013; Huntsman 2008; Siraj-Blatchford et al. 2002).

They are also one of the key costs in preschool programs, as wages constitute at least 60 per cent of providers' expenses (Brennan 2012; Productivity Commission 2014b).

Due to the complex interactions between ratios, qualifications and group size in influencing children's outcomes, there is insufficient granular Australian data to definitely determine an optimum educator-to-child ratio for 3-year-old preschool programs.

However, considerable analysis and consultation went into setting the current minimum ratio requirements under the National Quality Standard (Figure 31). Applying these ratio requirements to a 3-year-old preschool program will ensure an adequate minimum standard and this is considered to be the most appropriate approach based on available evidence and practice.

Figure 31: Educator to Child ratios established for 3 to 5 year old children under the National Quality Standard (ACECQA 2016a)

From 36 months to preschool age	
State	Ratio
Australian Capital Territory	1:11
New South Wales	1:10
Northern Territory	1:11
Queensland	1:11
South Australia	1:10 for centre-based services other than a preschool 1:10 for disadvantaged preschools 1:11 for preschools other than a disadvantaged preschool
Tasmania	1:10 2:25 for children attending a preschool program
Victoria	1:11
Western Australia	1:10

Qualifications

As discussed in Part 1, there is clear evidence that educator quality makes a significant difference to children's outcomes. As such, there is a general consensus that minimum qualification requirements are the simplest proxy for ensuring minimum levels of educator quality.

Like educator to child ratios, educator qualifications are currently regulated under the NQF and are also a significant driver of the cost of delivering a preschool program.

(such as the Abecedarian approach), in which around four days per week appears to be optimum (Campbell et al. 2012).

In determining minimum qualification requirements for a 3-year-old preschool program, it is important to consider the strength of the evidence as well the current policy landscape. In relation to educator skills and qualifications, the following factors are important to note:

- Transitional provisions under the NQS mean that many educators have not yet attained the qualification they are counted under. For example, the current Early Childhood Teacher (ECT) and Diploma qualification requirements are still being embedded, with many educators 'working towards' or part-way through their qualifications.
- Under the NQF, centre-based services over a certain size will be required to employ an additional Early Childhood Teacher in 2020. This may provide greater flexibility in delivering 3 and 4-year-old preschool programs that are led by an Early Childhood Teacher.
- There is increasing capacity and capability in the workforce, as more Diploma-level educators complete their qualifications, and also as existing Diploma-level educators build their expertise and as the NQF continues to be embedded through the continuous improvement framework.
- Ongoing workforce challenges in attracting and retaining Early Childhood Teachers and Diploma qualified educators, largely due to pay and conditions.
- Jurisdictional variability in existing qualification requirements and 4-year-old preschool delivery. For example, NSW already has multiple Early Childhood Teachers.

Skilled educators -

- Have deep knowledge of how children develop and learn
- Are able to respond to children's interests, strengths and needs
- Are skilled in guiding children's behaviour
- Use different strategies and plan for individual differences
- Understand children learn through relationships
- Foster learning dispositions in children which in turn develop thinking skills, attentiveness, language skills and sociability
- Are skilled at building relationships and forming partnerships with families
- Are more likely to stay in the sector and within a service, reducing change and inconsistency (when they are appropriately paid and supported).

Early Childhod Australia (2013)

By 1 January 2020

When Long Day Care and preschool services are provided to 60 to 80 children on any given day, the service must ensure that a second early childhood teacher is in attendance for:

- three hours on that day (for a service that operates for 50 or more hours per week); or
- 30 per cent of the operating hours (for a service that operates for less than 50 hours per week).

A service may choose to comply with these requirements by engaging a second early childhood teacher for half of the full-time equivalent hours at the service.

When Long Day Care and preschool services are provided to more than 80 children on any given day, the service must ensure that a second early childhood teacher is in attendance for:

- six hours on that day (for a service that operates for 50 or more hours per week); or
- 60 per cent of the operating hours (for a service that operates for less than 50 hours per week).

A service may choose to comply with these requirements by engaging a second full-time equivalent early childhood teacher.

ACECQA (2016d)

The second Early Childhood Teacher, due to commence in many services from 2020, should be utilised to deliver preschool programs for 3 year olds. A program led by experienced Diploma qualified educator, with appropriate support from an Early Childhood Teacher, may be a viable interim or transitional measure.[17]

These approaches allow individual jurisdictions to consider their individual workforce challenges and opportunities, and to develop localised responses in developing their implementation plans.

The roll-out and impact of this approach would need to be closely monitored, given the importance of quality thresholds for return on investment in this space. If program quality was insufficiently high, the additional expenditure would not be worthwhile. Caution should be applied in ramping up the proportion of 3 year olds attending preschool if minimum levels of quality cannot be guaranteed.

Settings and resourcing

Access to a high-quality preschool program for all 3 year old children will require an expansion of capacity within the sector as a whole to accommodate the 40 per cent of children currently in exclusive parental or informal care. It will also require careful analysis of the quality of the program and current dosage being delivered to the two thirds of 3 year olds already accessing early education and care (which is likely to be at least 15 hours for many children).

[17] Educators currently classified under the NQS as Diploma level, but who have not yet completed their qualifications, would not be recommended, given the importance of quality thresholds in securing a return on investment. However, a phased implementation timeframe could be considered to build an appropriately skilled and qualified workforce.

While the structural and process quality parameters of a preschool program for 3 year olds should be clearly defined, services should have a high degree of flexibility to deliver preschool programs in ways that meet the needs of their local community, including demand, within those parameters. For example, in practice the following delivery options could be considered:

- **Long Day Care**: The program may be embedded within an existing Long Day Care program. This would meet the needs of working families and could accommodate the variable drop-off and pick up times used by working families. Depending on parental demand and attendance patterns, the LDC could offer the program across three days at the beginning of the week and two days at the end of the week with hours per day structured to ensure children receive 600 hours of preschool over the course of the year – including a break for holidays. The service would structure the session times to ensure rostering of a consistent lead educator (Early Childhood Teacher or diploma qualified educator) and consistent assistant for core groups of 3-year old children. Outside of the preschool program hours, the regular Long Day Care program would be delivered.
- **Sessional Preschool**: The program may be delivered as a stand-alone sessional program for 3 year olds that broadly matches the current delivery models for 4 year olds. In this scenario, services could offer 15 hours of preschool program per week for 40 weeks per year. The 15 hours per week could be structured in a variety of ways, such as a five-day fortnight, two 7.5 hour days, or five three-hour days. Depending on current 4-year-old preschool capacity, this may be an efficient way of maximising resource utilisation.
- **Mixed-age cohort**: In markets or services where there is an insufficient population of 3 year old children, it may be appropriate to offer a combined 3 and 4-year-old preschool program in either LDC or stand-alone preschool settings, with additional teacher support and resourcing as required.

Different delivery approaches will be required in each jurisdiction, with each state and territory facing unique implementation challenges in expanding provision. For example:

- In states and territories with extensive school-based preschool provision, it may be necessary to foster more extensive provision through Long Day Care (for example, given the enormous capital investment that would be required to build additional facilities for 3 year olds), or to support the development of community-based preschools.
- In states and territories with a mix of sessional preschool and Long Day Care preschool provision, targeted strategies are likely to be necessary to expand the number of places available in both sectors and to support and incentivise new delivery models that meet the needs of modern families.

Although some areas may require additional capital investment to create sufficient places, in many areas it will be possible to utilise existing 3-year-old rooms in Long Day Care centres and to organise sessional preschools to maximise use of existing facilities. Vacancy data shows a long term trend of vacancies in Long Day Care services and anecdotally, these vacancies tend to be in the 3-5 years age group (rather than younger children) (Australian Government Department of Education and Training 2016).

Data on the expansion of provision for 4-year-old preschool shows that most of the growth in provision in the past four years has occurred in the Long Day Care sector (Figure 32). This is likely to reflect a number of factors, including improving quality standards in Long Day Care settings as well as greater proportions of working families needing the additional flexibility offered by Long Day Care in order for their child to access a high-quality preschool program. There has also been some growth in non-government schools offering Long Day Care based preschool programs.

Figure 32: Enrolment in preschool programs in the year before school by sector (ABS 2013, p. Table 5; 2014, p. Table 3; 2015b, p. Table 4; 2016b, p. Table 15)

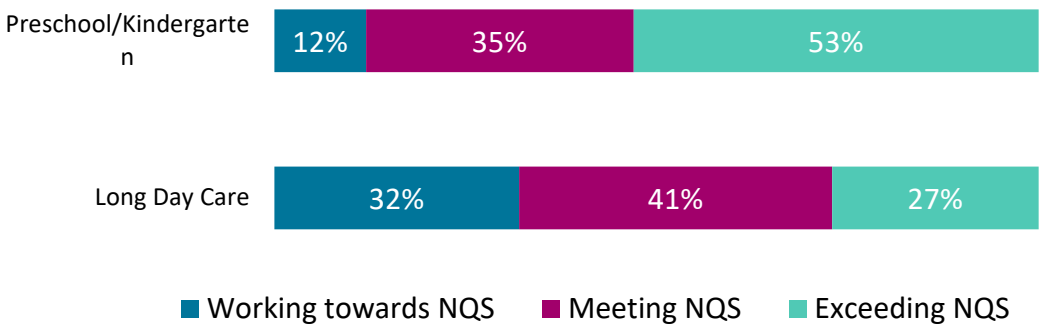
Years	% enrolled govt Preschool	% enrolled non-govt Preschool	% enrolled LDC	% enrolled LDC & Preschool	Total number enrolled	Total % enrolled
2012	26%	36%	38%	2%	255,170	87%
2013	21%	34%	42%	3%	288,052	97%
2014	22%	31%	44%	4%	289,730	96%
2015	19%	28%	47%	5%	304,153	100%
Change 2012-15	-6%	-8%	+9%	+3%	+48,983	+13%

There is likely capacity to expand provision for 3 year old children within Long Day Care settings, although it would be important to carefully monitor the quality of this expansion. ACECQA data indicates that there is a higher proportion of Long Day Care providers rated 'Working Towards' the National Quality Standard than preschool and kindergarten providers (Figure 33).

Long Day Care services receive a quality rating for the whole of their provision (from birth through to their preschool program), so these quality ratings are not necessarily a reflection of the quality of their preschool programs specifically. Yet, given the importance of meeting quality thresholds to adequately support children's outcomes and return on investment, quality provision must be a key consideration. It would be expected that the overall quality of the Long Day Care services will continue to increase as the National Quality Framework is further embedded and existing transitional provisions, particularly in relation to qualifications requirements, lapse.

ACECQA reports that a higher proportion of preschools in Government schools (35 per cent) and Catholic schools (41 per cent) do not meet the National Quality Standard compared to community-run services (23 per cent) (ACECQA 2016b, p. 11), although school-based preschools in WA and Tasmania are not reported in the National Quality Framework Assessment and Ratings process.

Figure 33: Quality ratings by centre-based service sub-type, August 2016 (ACECQA 2016c, p. 13)



The implementation process should work with and build on existing platforms and provision models as appropriate, with a focus on the desired outcomes and sufficient flexibility for each jurisdiction to develop options and pathways to deliver those outcomes.

The funding mechanisms chosen for 3-year-old preschool should endeavour to avoid distorting the market by favouring particular delivery settings (as long as quality standards are met). For example, the Productivity Commission recommended that preschool be funded through a per-child subsidy that is paid regardless of whether the child attends Long Day Care or sessional/school-based preschool (Productivity Commission 2014a, p. 30).

In all jurisdictions, consideration of ensuring sufficient places for all 3 and 4 year olds attending preschool and ensuring cost is not a barrier to access should be a key focus in planning and development processes.

Group size and consistency

Currently, the average group size for 3 year old rooms is around 20-22 children (with an educator to child ratio of 1:10/11), and it is recommended that this be maintained. The physical infrastructure of early childhood education and care is built around this group size, and there would be limited scope for change without extensive additional capital works.

Another key consideration is the consistency of the relationships children develop in their preschool programs. Models developed for 3-year-old preschool programs should be mindful of the opportunity to maintain consistent peer groups wherever possible. Emerging evidence about the benefits of peer learning among 3 to 5 year olds includes increased opportunities for peer-to-peer learning, building stronger relationships, facilitating smooth transitions and reducing complexity in educator programming.

Process elements of quality provision

This section considers two critical contributors to process quality: the nature of the learning program provided for 3-year-old children, and the professional learning support required by the sector to effectively scale up the provision of preschool for 3 year olds.

In research, as well as in the literature on developmental milestones and in early education practice, 3 year olds are often considered part of a broad 3-5 age group. However, one of the benefits of developing a dedicated preschool program for 3 year olds specifically will be the opportunity to identify the elements of a quality learning program that responds to the developmental stages, learning needs and interests, fine and gross motor skills and particular circumstances of 3-year-old children. This currently exists for 4 year olds, as preschool programs have been developed with the developmental and learning needs of 4 year olds in mind.

> "The best way to learn how to become a competent 4-year-old learner is to embrace the joys and wonders of being a 3 year old. We shouldn't be tempted to rush children through any parts of their childhood as it will not improve outcomes."
>
> Dr Anne Kennedy

Without the focus on the specific developmental stage and circumstances of 3 year olds, there is a risk that 3 year olds will be offered either a learning experience 'pushed down' from the 4-year-old curriculum or a 'sped up' learning experience – neither of which is likely to lead to the desired learning and development outcomes.

Research on early numeracy, for example, points to "continuity in the development of mathematics skills from infancy, with more complex mathematical ideas building on earlier representations" (Reid 2016, p. 6). This research also highlights the interplay between social and emotional skills and readiness to learn numeracy skills. Behavioural regulation (including attention and inhibitory control) and working memory are both linked with early numeracy

achievement (Reid 2016; Weiland, Christina, Barata & Yoshikawa 2014). Learning in preschool requires children to "recall, apply, and associate new knowledge in different classroom activities," and these actions are cognitive social and emotional skills that are developing significantly between ages 3 and 5 (Weiland, Christina, Barata & Yoshikawa 2014). These elements of 'executive functioning' are neurobiological in nature – they are part of how brains develop in this critical window (Weiland, Christina, Barata & Yoshikawa 2014). This highlights that it is not appropriate, desirable or effective to simply deliver a 4-year-old curriculum to younger children.

Another key benefit of delivering two years of preschool programs is the ability to better respond to the learning and development needs of individual 3 and 4-year-old children. It provides more scope to stretch and extend children in the areas they are relatively advanced, and to provide additional time and support in the areas where they would benefit from it.

Curriculum and pedagogy

Three year olds are very curious, keen and enthusiastic explorers of everything and everywhere. They learn best through active, hands-on approaches and with the support of more skilled but responsive and respectful adults or educators.

The intent of delivering 3-year-old preschool programs is to ensure all 3 year olds experience a rich and developmentally-appropriate learning environment. This should be a learning environment that enables them to develop the skills that allow them to become confident learners, to manage their emotions and behaviour, and to build positive peer relationships. These learning and development opportunities provide the foundations for future success.

The nature of the learning program that children are offered in a 3-year-old preschool program is, therefore, critical to the effectiveness and impact of investment in this space.

The Early Years Learning Framework, which currently supports 4-year-old preschool, also provides an effective and appropriate overarching framework for 3-year-old preschool programs (COAG 2009a).

Established in 2009 and a core part of the National Quality Framework, the EYLF articulates a shared Australian approach to early years' pedagogy. It informs current practice in both preschools and early education and care settings more broadly. The embedding of a common national pedagogical framework for the early years is a significant achievement and it is well supported across the sector.

In order to ensure that the learning program provided to 3 year olds is developmentally appropriate, of sufficiently and consistently high quality, and appropriately aligned with existing preschool programs, it would be beneficial to develop resources to guide educators in the practical implementation of the EYLF in a 3-year-old preschool program.

Becoming, Being and Belonging: An Early Years Learning Framework for Australia

Outcome 1: Children have a strong sense of identity

Outcome 2: Children are connected with and contribute to their world

Outcome 3: Children have a strong sense of wellbeing

Outcome 4: Children are confident and involved learners

Outcome 5: Children are effective communicators

In particular, it would be beneficial to develop program documents or guides, aligned with the EYLF, that provide more detailed information on the desired outcomes, learning approach and structure of 3 and 4-year-old preschool programs to:

- Help ensure the 3-year-old preschool program is age-appropriate and utilises pedagogical practices and learning activities that align with the developmental stages experienced by 3 year olds;
- Enable an appropriate progression and scaffolding of learning and development opportunities between 3 and 4-year-old preschool (so that 3-year-old children do not simply experience a 'pushed down' curriculum or experience the same learning program twice);
- Provide support to educators and help build their capacity to deliver a high-quality preschool program for 3 and 4 year olds; and
- Support a nationally consistent approach to children's early learning, while enabling flexibility to tailor the learning program to the needs and priorities of individual children and local communities.

There is a great deal of variation in children's learning and development between the ages of 3 and 5, and any guidance should be firmly aligned with the EYLF's focus on child-centred learning and would support rather than replace the professional judgement and expertise of early childhood educators. A preschool program for 3 year olds should also complement initiatives for the inclusion and support of children with additional needs, such as the Inclusion Support Program and various state-based programs.

There is likely to be limited community support in Australia for 3-year-old preschool if it is perceived to be channelling young children into 'school-like' environments.[18] The ability to communicate how the 3-year-old preschool program is developmentally appropriate, grounded in play-based, inquiry-focused pedagogies that support social and emotional development, is critical.

Understanding the requirements and nature of a developmentally appropriate learning program for 3 year olds will also provide information about the extent to which there needs to be an additional investment in learning resources (indoor and outdoor equipment and resources) to enable existing Long Day Care and sessional preschool services to offer new dedicated programs designed specifically for 3 year olds.

Distinguishing features of a 3-year-old preschool program

[18] For instance, there has been a degree of community resistance to a recent Tasmanian proposal to lower the school starting age to 5, on the basis that highly formalised learning is not appropriate for young children (Armstrong 2016; Holderness-Roddam 2016; Walsh, J 2016).

Many of the features of a preschool program for 3 year olds may, at first glance, seem similar to 4-year-old preschool. However, different approaches to practice and programming are needed for 3 year olds in order to achieve learning and development outcomes and to set children up for success in 4-year-old preschool.

- **Approaches to programming**: Three year olds are eager to try and master new skills, such as how to climb up the stairs of the slide, how to propel themselves on a swing, how to paint, draw, or to build with blocks. Mastery learning requires opportunities to practise things again and again, with the support and encouragement of others. This suggests that constantly changing the experiences that are provided is not in children's best interests. Three year olds will want to revisit activities or experiences over and over and, while the adults may be 'bored', the children will find them interesting because they want to master the learning or skill that is involved. Thinking about a children's learning as a continuum from emerging to mastery is important when planning for preschool program for 3 year olds.
- **Group time**: Three year olds like to be in small groups for learning experiences such as reading stories, singing, dancing or movement. Large groups can overwhelm 3 year olds and place unfair demands on their listening skills and capacity to be actively engaged in the group experience. In small groups, educators are able to include every child in the experience to maximise the children's learning opportunities. While there may be circumstances where the whole group would come together, those occasions are best kept to a minimum. The best way for a 3 year old to learn about how to become a member of a larger group is to be fully engaged and active in many small group experiences as this builds the skills and confidence they will need to be a contributing member of a larger group.
- **Learning experiences**: A shorter attention span is one of the critical differences between 3 and 4 year old children. To respond to this, experienced teachers of 3 year olds know the importance of planning and offering fewer but richer and more engaging experiences that will capture children's interest and sustain their attention. Putting out lots of activities can encourage children to 'flit' from one thing to another which works against learning dispositions educators are seeking to develop in 3 year olds such as how to persist, stay on task or to solve problems. The presence of a supportive, co-learner and more experienced player (often adult educator) along with interesting, open-ended or 'rich' materials such as large blocks, sand, water, dress-ups, clay, construction sets, for example will help younger children to engage in the experience and to sustain their interest.
- **Daily routines**: Three year olds are interested in everyday routines, which provide great opportunities for learning about concepts, the sequence of events (i.e. the sequence of getting dressed in the morning) and learning about being a contributor and learning independence. Involving 3 year olds in everyday routines and experiences such as dressing, meal times and transitions is powerful learning for them. Three year olds are capable of following simple instructions and sequences (first, we run the bath…). In group settings, 3 year olds have less capacity for waiting for things to be organised or ready, which means educators need to plan ahead and be organised and where possible involve the children in getting ready for routines such as meal times or rest time.
- **Language and literacy learning**: One of the features of 3 year olds moving from toddlerhood is the flourishing of their expressive and receptive language skills and becoming more creative in their use of language including through developing sentences and asking questions. Immersing 3 year olds in meaningful conversations, listening carefully and responding to their communication and interactions with us, reinforces their confidence as communicators. Tuning 3 year olds into the rhythms and sounds of language will support extending their language skills, and lay the foundations for more formal learning. For 3 year olds, this may include being immersed in literacy and they may start documenting marks to describe who is in a painting or single alphabet letters that are often considered by the child as whole words. Educators may provide lots of opportunity for children to be exposed to written text but not

necessarily encourage the physical act of writing as this would be dependent on children's fine motor skills and strength. These foundations would be built on in 4-year-old preschool, where there is more of a focus on supporting children to have familiarity with narrative structures; translate information from one medium to another; ability to recall information and sequence (cognitive); memory and mentally map main events of a story. Children learning English as an additional language are likely to require a specific focus, including supporting their comprehension and oral language and developing their confidence and skills engaging with their peers and educators (Clarke 2009).

- **Numeracy, science and tech:** As children develop their language skills, this supports basic numeracy concepts such as counting, sorting, classifying, comparing and patterning as well as embedding mathematical language. Children's natural curiosity often leads to play-based inquiry of basic science concepts, which can be explored by educators through questioning, hypothesising and otherwise scaffolding children's everyday experiences. As young children grow older they are also increasingly using digital technology. Concepts of technology and the internet can be built in similar and intentional ways to help provide a foundation for digital literacy.
- **Outdoor Play**: As their upper body strength develops, outdoor play provides opportunities for 3 year olds to master new skills and build their confidence. Consistency in outdoor play experiences is necessary to provide younger children with ongoing opportunities to master new physical skills, whereas for older children the focus tends to be on building speed and tackling complexity. For a preschool program for 3 year olds, obstacle courses may include the use of low levels of height, with simple structures about balance or stepping action rather than a combination of both. Children may need additional assistance, such as a teacher holding the hand of the child, or standing close by for support and encouragement, with changes to the course made once children have had plenty of opportunities to learn the new skill. Similarly, while older children may enjoy playing more sophisticated ball games which include complex rules and objectives, motion and endurance, ball games for 3-year-old children will focus on the skill development of catching and throwing to support accuracy of ball direction.

Implications for resourcing

Differences in children's development, such as the development of cognitive capacity and fine motor skills between the ages of 3 and 4, have implications for designing and resourcing a 3-year-old preschool program. For example:

- Three year olds are eager and active learners and want to get really involved in activities, but their capacity to wait and share is often limited (although preschool helps build their ability to focus on activities over time). When introducing something new, like magnifying glasses, to 3 year olds, it is appropriate to ensure there are enough resources or equipment for everyone to have a turn together rather than putting out a small number and helping the children to share or to wait for a turn. Similarly, when planning an experience of washing dolls as part of learning about health routines, or because several children have new babies in their families, you would have a doll for every child who wanted to play, rather than only having two dolls and helping them to wait or share as you might with 4 year olds.
- Three year olds are developing strength and control of their fine motor skills, whereas these skills are much more developed for 4 year olds. This means that tools and resources for 3 year olds such as puzzles, scissors, craft resources or dress up clothes, need to be selected to promote children's emerging skill development (i.e. puzzles with fewer larger pieces) rather than the mastery achieved by older children.
- Three year olds are also likely to require more intensive assistance from educators to use resources than 4 year olds, where skills have been mastered and peer-to-peer learning becomes more prevalent.

Professional learning

Although the introduction of 3-year-old preschool would, to a large extent, build on existing infrastructure and leverage the sector's skills and capacity, an investment in professional learning opportunities for educators and those in leadership roles would be necessary.

A workforce development and professional learning strategy should be developed in consultation with professional bodies and other stakeholders and should form an integral part of a new preschool program. As the current Early Years Workforce Strategy expires in 2016, it would be timely for the new strategy to consider how to achieve a workforce that has the qualifications and skills to deliver a high-quality preschool program for all 3 year olds.

A 'stretch' and 'lift' approach to professional learning, which leverages the expertise of experienced educators while supporting an increase in capacity by other educators, will be important to improving consistency and ensuring minimum standards are met – particularly for process quality – across the various delivery options.

Areas of focus for professional learning could include:

- For educators – planning and implementing a developmentally appropriate program for 3 year olds, ensuring preschool for 4 year olds aligns with and builds on preschool for 3 year olds in a coherent way, programming and practice approaches, engaging with families to explain the benefits and processes of learning in 3 year old preschool, meeting the needs of children from diverse social and cultural backgrounds, and supporting Aboriginal and Torres Strait Islander people to build careers in ECEC.
- For leaders – strategies for embedding 3-year-old preschool within existing Long Day Care or sessional preschools, and programming structures that support delivery of 3 and 4-year-old programs and maintain financial viability.

Key design considerations

The next section outlines the broad processes and critical issues for designing, planning, implementing, embedding and sustaining a 3-year-old preschool program. The critical issues related to the parameters for the model design have been outlined here and are synthesised in Figure 26.

A joint decision about the basic parameters of the preschool program is the first critical decision in the implementation process.

Implementation priorities and pathways

The planning and implementation of a 3-year-old preschool program is complex. Implementing Universal Access for 4 year olds involved articulating shared goals and collaborating to achieve those goals. This success provides a strong template for progressing 3-year-old preschool. Key considerations for planning, implementation, embedding and maintaining a preschool program for 3 year olds are discussed in this section.

A national approach to 3-year-old preschool would require a shared commitment and collaboration between Australia's three tiers of government and early education and care providers in multiple sectors (community preschools, for profit and not-for-profit Long Day Care providers, government and non-government schools).

Progressing access to a preschool program for 3 year olds is an opportunity to articulate a national 10-year roadmap for embedding universal provision of two years of access to a high-quality preschool program, with the appropriate dose, for all children.

A 10-year roadmap could include clear articulation of the roles and responsibilities of all key stakeholders at each stage, achievable priorities and progressive targets for each stage, a plan for funding certainty and sustainability, and the development of an appropriate information infrastructure to measure impact and guide policy decisions and iterative change.

A new National Partnership Agreement may be the most appropriate pathway forward, but certainly a collaborative approach to designing, implementing and sustaining a national 3-year-old preschool program would be optimal.

This collaborative approach must include focused engagement with groups that can represent the interests of vulnerable children and their families to ensure program design is appropriate and inclusive from the outset.

Consultation with other critical parties including professional bodies, universities, unions, parents and children will also be important and need to be factored into the planning process. In addition, it will be critical to be mindful of the potential for flow-on effects for the broader early education and care sector. The introduction of a dedicated preschool program for 3 year olds should be designed in a way that strengthens the overall early education sector, particularly for Long Day Care and community based sessional preschool services.

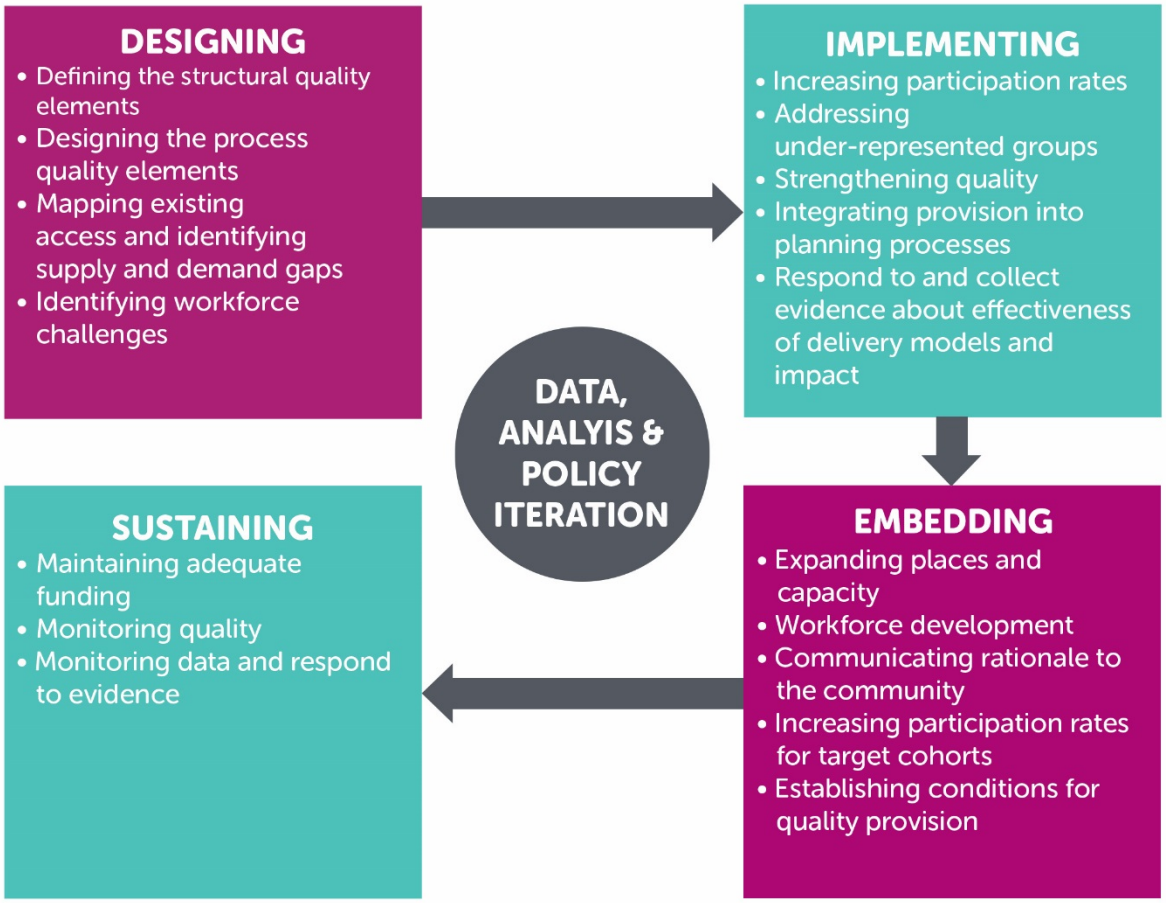
Within this approach, there is potential for trailblazer jurisdictions with a particular commitment to early education to begin embedding two years of universal preschool within their existing systems, potentially with Australian Government support and as part of a staged implementation and evaluation process.

This section identifies key lessons from the National Partnership Agreement on Universal Access to preschool for 4 year olds, and highlights the priority issues in the design, planning and implementation phases. It suggests that implementation be conceptualised as a four-stage process (Figure 34).

- **Designing**: Defining the structural and process elements of a preschool program for 3 year olds and considering how a 3-year-old preschool program could be delivered within the existing system in each jurisdiction, based on current utilisation and capacity. Scoping and developing jurisdictional-specific implementation plans in collaboration with relevant stakeholders.
- **Implementing**: A phased approach to expanding capacity, delivering a workforce strategy and gradually building attendance rates.
- **Embedding**: Once there is adequate capacity within the sector, maintaining a focus on quality, attendance for the right dosage, and ensuring priority cohorts have equitable access.
- **Sustaining**: Maintaining appropriate levels of quality and funding, and responding to emerging evidence about dose, duration and quality thresholds.

Underpinning these processes must be a renewed commitment to building an information infrastructure that enables the impact of this policy initiative to be measured, and a commitment to policy iteration in response to new evidence.

Figure 34: Implementation approach for 3-year-old preschool



Lessons from the National Partnership Agreement on Universal Access

The National Partnership Agreement on Universal Access to Early Childhood Education has rapidly expanded the availability of affordable preschool places for 4 year olds. Although all 4 year olds are not yet attending preschool for the optimum minimum of 15 hours, the Universal Access National Partnership is one of the more effective examples of cooperative federalism and provides key lessons for the progression of access to preschool programs for 3 year olds.

Appendix A provides the background to the National Partnership Agreement, as well as an exploration of the implementation processes and a snapshot of differences in jurisdictional approaches to delivering preschool. Understanding these jurisdictional differences is critical for recognising the options and constraints around how to embed a 3-year-old preschool program.

Analysis of the effectiveness of the National Partnership Agreement highlights key lessons, mechanisms and opportunities for expanding access to preschool programs for 3 year olds.

The official 2014 evaluation of the National Partnership Agreement identified that the key enablers of effective delivery included:

- The collaborative and flexible approach to implementation;
- Strong relationships with stakeholders, especially in jurisdictions with extensive non-government provision;
- Extensive and staged planning and roll-out; and
- Funding and support from the Australian Government (Deloitte Access Economics 2014).

However, the review also found that a number of the targets had not been met, especially those related to participation of children experiencing disadvantage. Furthermore, while enrolment targets have mostly been met, the significant gap between enrolment and attendance rates appears to show that at least one third of 4-year-old children are not yet receiving an adequate dosage of preschool.

The implementation approach for 3-year-old preschool should build on the strengths of the National Partnership Agreement on Universal Access and address some of the limitations that have been identified. Key strengths and limitations of the National Partnership Agreement are outlined below.

Strengths and opportunities

- An agreed and clearly defined minimal level of structural quality to build the foundations for equitable and consistent preschool education across Australia.
- A policy framework that enabled diverse modes of provision, but with common objectives and clearly defined quality standards.
- Flexibility to respond to individual jurisdictional circumstances, delivery platforms and baselines.
- An approach that facilitated the dual objectives of early education (child development and workforce participation) with a focus on meeting the needs of children and families by enabling access in different settings.
- Australian Government payments structured to provide incentives to meet clearly defined (if not well-measured) and achievable targets.
- A change in focus and ambition over time. As most jurisdictions met the overall population targets, or were on track to meet the target, the focus shifted to prioritising vulnerable children.

- An injection of Australian Government funding at the commencement of the agreement to build the underpinning capacity (i.e. to facilitate planning, support workforce development initiatives and finance capital works where required), followed by funding to contribute to the direct costs of delivery in order to maintain delivery.

Challenges and limitations

- Embedding universal access and increasing participation of 4 year olds in preschool programs are worthy policy objectives that require an ongoing financial commitment by the Australian Government. The National Partnership Agreement's non-recurrent funding arrangements are, therefore, extremely problematic. The lack of funding certainty creates political and policy distractions that focus attention on whether or not the agreements are going to be renewed, rather than on how best to leverage the agreements to strengthen outcomes for children. Existing mechanisms within the National Partnership Agreement model for facilitation and reward-based payments could be better utilised if all parties had certainty over the ongoing funding allocation.
- The data and information infrastructure in early childhood education is not of sufficient quality, consistency or breadth to draw reliable conclusions about the efficiency, effectiveness or impact of funding models, delivery approaches or strategies to engage disadvantaged cohorts (Deloitte Access Economics 2014, 2015; Fox 2016; O'Connell et al. 2016).
- Rolling out universal access to early education for all 4 year olds without an accompanying high-quality national evaluation was a significant missed opportunity to drive improvements in the evidence base and to guide future policy decision-making.
- There is evidence that some jurisdictions have not been spending the money as was intended (New South Wales Auditor-General 2016), and more analysis of the efficiency and effectiveness of the specific funding and delivery strategies would be useful.
- Progressing multiple early childhood reforms at the same time (including the introduction of the National Quality Standard and the Early Years Learning Framework) created challenges, although also created a strong policy focus on the early years. The initial work undertaken to introduce and begin embedding the National Quality Framework will streamline future implementation of preschool programs for 3 year olds.
- The limited progress on getting attendance rates to match enrolment rates, and continued disparities in participation driven by socio-economic status, suggests the need for a longer term implementation plan that progressively increases targets over time.

Lessons for a preschool program for 3 year olds

- A shared commitment to clearly defined and specific common goals is an important enabler. The Australian Government can lead and facilitate progress towards a nationally consistent approach to a shared policy problem.
- Common goals with flexibility in implementation is necessary, to take into account diverse starting points, different sector and population profiles and historically different patterns of investment and provision.
- Investment in consistent data and functional data systems is essential.
- There are considerable benefits to a universal approach, although specific strategies to target those who experience barriers to access must be considered at the outset.
- A clearer articulation of stages of implementation and the development of strategies for effective establishment, embedding and maintenance of new policy and provision is necessary.

Design and planning considerations for preschool programs for 3 year olds

The analysis in Figure 35 focuses on the key tasks and priorities for the design and planning stages and highlights the importance of a coordinated and collaborative partnership between the Australian Government and state, territory and local governments to define and achieve common goals developed in the best interests of children and national prosperity.

Establishing key consultation mechanisms with the sector and other important stakeholders will also be an important feature of this phase.

Considering potential flow-on effects within the early education and care sector will also be critical. The design of a dedicated preschool program for 3 year olds must continue to support choice for families and continuity of care and learning for children. It must also leverage existing capacity within the sector and avoid approaches that may have negative implications for the overall affordability of early education and care and the financial viability of the sector.

As noted by the Productivity Commission (2014a; 2014b, p. 383), Long Day Care services often cross-subsidise, charging relatively flat fees, regardless of children's ages, so that the high costs of care for younger children are offset by lower costs for older children. If there was a substantial reduction in the number of 3-year-olds in Long Day Care because families chose to access a preschool program in other settings, there may be implications for affordability and financial viability. This would not achieve optimal outcomes for children.

Implementation considerations for preschool programs for 3 year olds

The key tasks for the implementation process, outlined in Figure 36, span the expansion of the number of places available, through to engaging with the community about why two years of preschool is beneficial for children and a worthwhile investment, and to the development of a data and evaluation plan.

Figure 35: Design and planning considerations for 3-year-old preschool programs

Key task	Priorities and potential pathways
Agreement on the core features and minimum requirements of the model	Considering how to deliver a 3-year-old preschool program within the existing early education and care platform and with reference to the needs of children and families. Clearly defining the structural elements of the 3-year-old preschool program - minimum dose, qualifications, ratio, group size, etc. as well as considering a framework to define the key elements or features of process quality, as outlined in the previous section on the design features of a preschool programs for 3 year olds.
Assessing capacity and growth possibilities	Utilising exiting data to develop a clearer understanding of what 3 year olds are currently receiving and the hours they are already accessing (i.e. confirming that a large proportion of the 3 year olds currently in centre-based early education and care are already receiving more than 15 hours early learning). Scoping, at jurisdictional and regional levels, where there is: ▪ capacity within the existing system and market, particularly within existing Long Day Care and sessional preschool services; ▪ likely to be inadequate supply or demand; and ▪ a need for investment to create additional capacity. Working collaboratively to identify potential solutions and learn from existing models and approaches to address gaps in the market. Considering potential flow-on impacts on the broader early education and care sector, particularly around affordability and financial viability of services.

Agreement on key target cohorts and identification of evidence-based engagement strategies	Utilising existing research and data, as well as knowledge within the sector, to develop a clearer understanding of the specific strategies have been successful or unsuccessful at addressing financial and non-financial barriers to access for 4-year-old preschool. Clarifying priority cohorts such as (but not limited to): ▪ Aboriginal and Torres Strait Islander children ▪ Children known to child protection systems ▪ Children with disabilities ▪ Children from culturally and linguistically diverse backgrounds or who are humanitarian entrants ▪ Children from the bottom two quintiles of family income (e.g. Family Tax Benefit Part-A children). Consultation with key stakeholders should include providers, peak bodies, communities, families and children.
Implementation planning	Developing jurisdictional-specific implementation plans in collaboration with relevant stakeholders and developing specific stakeholder-consultation mechanisms. A structured and phased roll out that builds capacity over time is appropriate.
Commitment to a workforce strategy	A renewed commitment to an Early Years Workforce Strategy is timely as the current strategy is due to expire in 2016 and the quality of the learning environment experienced by children is the key determinant of whether the investment in 3-year-old preschool will yield the types of long-term outcomes that makes this a priority investment. Leveraging existing investment and reform processes to ensure an appropriately skilled and available workforce is a necessary component of delivering a high-quality 3-year-old preschool program, and given significant progress in meeting NQF requirements would be an appropriate focus of a new workforce strategy. Consultation with key stakeholders should include providers, peak bodies, professional bodies including universities, training organisations and unions.

Figure 36: Implementation considerations for 3-year-old preschool programs

Key task	Priorities and potential pathways
Expanding number of places available	Expanding the capacity of the sector to accommodate a significant increase in the number and hours of 3 year olds attending is a key implementation challenge. As with Universal Access for 4 year olds, a different approach will be needed in each jurisdiction in order to take into account very diverse modes and patterns of provision. Approaches may include: ▪ Working with sessional preschools to identify options and models for organising their programming to optimise access. ▪ Working with Long Day Care providers to identify options and models for organising their programming to integrate 3-year-old preschool programs. ▪ Local strategies to ensure service viability. ▪ Fostering development of a community preschool sector or preschool provision within Long Day Care settings, especially in jurisdictions with primarily school-based provision for 4 year olds. ▪ Working region by region to scale up over time. ▪ Identifying areas where investment in capital works is needed, following assessment of utilisation of existing facilities. Consideration of how existing funding, regulatory and subsidy mechanisms are creating barriers or opportunities for affordable access where places exist.

Increasing number of early childhood educators	Building on existing workforce plans for the ECEC sector, jurisdictions should forecast the number of early childhood educators needed over the decade to achieve two years of preschool program. Strategies to increase the number of early childhood educators should build on strategies that have been used effectively to meet the NQF requirements and may include: ▪ Scholarship programs for Diploma and Bachelor qualifications ▪ Incentives and support to upgrade qualifications from Diploma to Bachelor ▪ Collaboration with the higher education sector to ensure adequate places for pre-service teachers are available
Addressing workforce challenges	There are persistent and complex workforce challenges in the early childhood sector which are likely to impact on educator recruitment and retention. In particular, inequities in pay and conditions between sectors can create disincentives for early childhood teachers to work in non-school settings. Monitoring the development and implementation of the workforce strategy will assist in identifying short and medium term priorities, opportunities and challenges.
Developing a learning program for 3 year olds	Providing clarity for the sector and for families about the nature and structure of the learning program provided for 3 and 4 year olds is a critical element of developing and implementing a 3-year-old preschool program. This would involve guidance for the sector on applying the Early Years Learning Framework for 3 and 4-year-old cohorts, and how to build on and scaffold learning pathways across the two years of preschool. This guidance would need to be sufficiently flexible to allow educators to respond to the needs, priorities and interests of their communities, but also provide some coherence and rigour to the preschool learning program. ▪ Recent evidence on the effectiveness of specific strategies on supporting early literacy, numeracy and social and emotional learning should be considered. ▪ There is an opportunity to collaborate with university teacher-education programs to develop a coordinated approach to training pre-service teachers to deliver 3 and 4-year-old preschool programs.

Plan for transition support and monitoring quality	Given the absolute necessity of a high-quality learning environment in order to reap the benefits of investing in 3-year-old preschool, a plan for supporting the sector to transition to the delivery of two years of preschool, and for ongoing monitoring of quality, is necessary. ▪ Capacity building for the sector to support transition and equip educators to design and deliver quality learning programs for 3 and 4-year-old children. ▪ The current pace of the Assessment and Rating process under the National Quality Standard is too slow to guarantee that all providers will be meeting minimum quality thresholds. Additional investment may be needed to accelerate the Assessment and Rating process, in a way that does not compromise the effectiveness of the process or create unnecessary burdens on services). ▪ Consideration could be given to embedding a validated assessment tool as part of the NQS process for preschool programs (Fox 2016).
Communicating the rationale for 3-year-old preschool to the community	Community support for 3-year-old preschool is important for both uptake and support for government investment in the early years. Currently, many people hold a different framing and understanding of early learning than professionals and child development researchers (Kendall-Taylor & Lindland 2013). ▪ A community education campaign to share information about the role and impact of two years of preschool, and about what and how children learn and develop, could be effective.
Testing strategies to engage priority cohorts	A clear lesson from the implementation of Universal Access is that the cohorts who stand to benefit most from high-quality preschool are those who are likely to experience barriers to access. Jurisdictions have trialled a range of approaches to increase attendance for 4 year olds and there are important lessons to be learnt from this experience (Moss, Harper & Silburn 2015). The roll out of 3-year-old preschool is an opportunity to embed the more effective of these models across the system in a coherent and integrated way, and to build the evidence to support the effectiveness of these strategies.

Data development and evaluation plan	One of the most significant limitations of the National Partnership Agreement on Universal Access has been the lack of data to evaluate its effectiveness or measure its impact on children. All levels of government have been working to strengthen their data capacity and work towards more consistent and robust data. Adequate data, a commitment to measuring impact and clear strategies to build the necessary evidence base (especially around dosage, duration and quality thresholds) must be a core component of the delivery of 3-year-old preschool. A phased implementation gives the opportunity for natural experiments and embedding quasi-experimental methodologies in the design and delivery of the new model. This opportunity should not be lost.

Embedding and sustaining preschool programs for 3 year olds

As part of establishing a 10-year roadmap for embedding universal provision of two years of preschool, a specific focus on how to embed and sustain the 3-year-old preschool program after the initial implementation effort will be necessary. This reflects the key lessons of the National Partnership Agreement on Universal Access for 4 year olds.

Mandatory annual reports at a national and jurisdiction level should be made publicly available to inform policy makers, researchers and the public about progress and future priorities.

Embedding (following initial implementation)

To ensure two years of high-quality preschool becomes firmly embedded, it will be necessary to develop strategies that:

- increase participation rates;
- address under-represented cohorts;
- continue to strengthen quality;
- integrate provision into planning processes; and
- collect and respond to evidence about effectiveness of delivery models and impact.

Sustaining (across the long-term)

An ongoing commitment to adequate, sustainable and stable funding arrangements, as well as an approach that collects and learns from emerging data and evidence, will be critical for the long-term effectiveness of this initiative.

Priorities for sustaining two years of preschool include:

- Maintaining adequate funding, including measuring and maintaining affordability to ensure cost does not become a barrier to access;
- Monitoring quality (using and strengthening existing quality frameworks and systems); and
- Monitoring data and responding to evidence – especially as evidence of dosage and quality thresholds develops.

Funding considerations

This section considers pragmatic approaches to progressing investment in 3 year old preschool in the short to medium term. In particular, it considers the relative and appropriate roles and responsibilities for some of the key stakeholders in 3-year-old preschool – the Australian Government, states and territories and families.

Attending high-quality preschool in the two years before school has the potential to improve outcomes across the population. However, universal provision of preschool is a relatively expensive intervention (Education Endowment Foundation 2016) and there is legitimate debate internationally about whether it is the most efficient and impactful strategy for achieving the outcomes sought (Barnett, Brown & Shore 2004; Cascio & Whitmore Schanzenbach 2013b; Early Childhod Australia 2013; Leak et al. 2010; Whitehurst 2013), not least because the benefits of investing in early education depend so strongly on the quality of the learning experience provided to children (and currently, only two thirds of services are currently rated as Meeting or Exceeding the National Quality Standard).

In Australia, there is also extensive debate about who should be responsible for funding preschool, with stakeholders variously asserting:

- that it ought to be an Australian Government responsibility;
- that it has traditionally been – and should remain – a state and territory responsibility; or
- that because early education supports parental workforce participation, it is appropriate for parents to bear some or all of the cost.

One of the reasons that early education and care funding is one of the more contested areas of public policy is that we are currently in the middle of a shift from viewing 'child care' as primarily a facilitator of workforce participation, to responding to the new insights and evidence generated by the science of child development, recognising the importance of the early years for later development and human capital, and expanding the role of the state in supporting positive early development accordingly.

However, the broader shift is unresolved and incomplete, and as yet there is not necessarily widespread community buy-in for early years' investment for purely child development purposes, beyond preschool for 4 year olds. There is not yet consensus on which level/s of government ought to hold funding and delivery responsibility.

This situation is exacerbated by current fiscal circumstances, including a persistent structural deficit, an anticipated decade of low-to-moderate growth as the Australian economy transitions after the mining boom, and uncertain international economic conditions. This situation means both that there is an increased need for investment in human capital, and limited capacity to substantially increase investment without politically challenging trade-offs (Daley & Wood 2015; OECD 2016).

Now, and for the foreseeable future, however, there appears to be insufficient fiscal capacity to dramatically scale up investment in early education to the extent that an adequate dosage of sufficiently high-quality preschool could be provided free to every child. As such, this report explores financing considerations to enable a pragmatic pathway forward, considering the relative policy trade-offs with the objective of maximising outcomes for children.

At the heart of this consideration is that most Australian families have both the capacity and willingness to contribute to the cost of early education, and means-testing is a well-established Australian social policy principle that links direct costs to ability to pay. However, for a small proportion of families, any cost at all for 3-year-old preschool will be a significant barrier to access, and the children most likely to be locked out of early education are those most likely to benefit significantly from access. The policy challenge, therefore, is to establish a financing approach that addresses cost barriers for those cohorts.

This paper takes the view that a means-tested system that prioritises investment for the most disadvantaged children is the optimum approach. It suggests that, at this point in time, free or low-cost early education for disadvantaged 3 *and* 4 year olds should be prioritised over free 4-year-old preschool for all children.

This section considers:

- The role for each level of government and families in funding 3-year-old preschool; and
- Funding approaches, priorities for investment and possible trade-offs;

Roles and responsibilities

There is a strong rationale for both levels of government to play an ongoing role in establishing and maintaining 3-year-old preschool, and for those families who have the capacity to contribute to do so.

The National Partnership Agreement on Universal Access for 4 year olds was founded on the recognition that a coordinated national approach, with flexibility to respond to jurisdictional differences, was the optimum pathway to delivering a universal preschool platform. The early childhood reforms of this period established a shared role for the Commonwealth and states and territories in building the underpinning infrastructure (including the National Quality Framework and the Early Years Learning Framework) and supporting the initial expansion of system capacity.

The Australian Government played an important leadership and facilitation role, and Australian Government funding was essential for enabling the development of a minimum standard for a universal preschool program. Subsequently, there has been some disagreement between the Australian Government and states and territories about the appropriateness and extent of ongoing Australian Government funding. Extensions of the original agreement have been on a short term (two year) basis.

A benefit of this approach is that is allows governments to set new targets and priorities, including on emerging policy priorities such as improving access for vulnerable children. However, the significant draw-back is the uncertainty a lack of ongoing funding creates and the political distraction created by questions focused on 'if' the investment will be ongoing instead of 'what' the investment should be focused on. The ongoing uncertainty has been highly detrimental to the embedding and sustainability of preschool provision for 4 year olds.

There also remains significant inconsistency in the type and extent of funding eventually passed onto families and providers of preschool programs. Children receive very different funding entitlements depending on which delivery model their parents choose (school based, stand-alone sessional preschool or Long Day Care based) and also which state they live in. There are also significant

differences between state-based contributions to 4-year-old preschool funding. What is clear is that the current level of investment must be maintained in order to ensure that children continue to have access to a high-quality preschool program at a price that is affordable to families.

This report suggests that the delivery of 3-year-old preschool should be thought of in five stages (design, planning, implementation, embedding and sustaining), and that the nature and extent of the role for each level of government should be clarified.

In each of the areas that requires investment to establish and maintain 3-year-old preschool, and in each stage of delivering a universal 3-year-old preschool platform, there is a clear rationale for:

- **The Australian Government** to play a role in catalysing action, contribute funding to support a national approach to scale up and ensure ongoing quality, and providing support to families to offset the direct costs of accessing preschool for at least 15 hours per week;
- **States and territories** to determine the most appropriate implementation strategies in their jurisdiction, contribute to the scale up of places and capacity and ensure ongoing quality, provide additional investment in the direct costs of accessing preschool in line with community expectations and jurisdictional needs and priorities.
- **Families** to contribute to the costs of 3-year-old preschool in line with their capacity to pay. If it is intended cost should not be a barrier to access, it will be necessary to fully subsidise access for some children, and for means testing rates to be both reasonable and transparent.

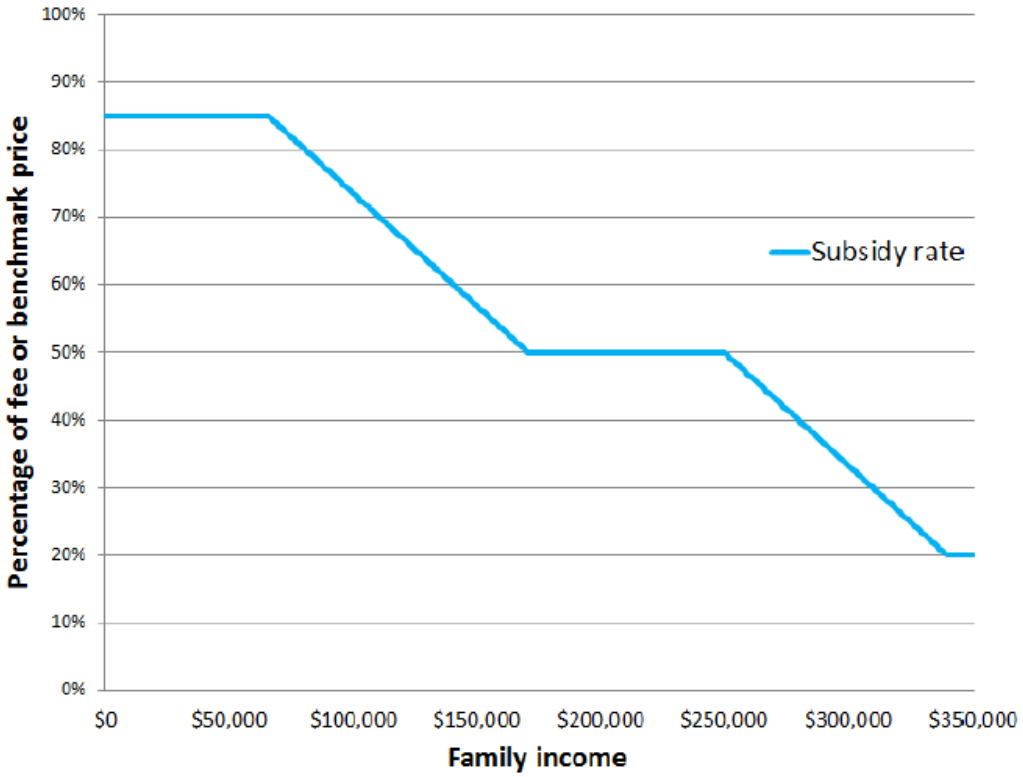
An appropriate approach would be to prioritise free or low-cost access for the 100,000 children in the bottom two income quintiles (generally families with a combined income under $100,000).

Alternatively, the taper rates proposed under the *Jobs for Families* package (Figure 37 and 38), which would apply to Long Day Care services, could be utilised. It would be preferable if the taper rate begin after the cutoff for the bottom two quintiles. It would also be necessary to ensure children from low-income families who do not meet the activity test receive at least 15 hours of subsidy per week, extending the proposed preschool exemption for 4 year olds to 3 year olds.

Figure 37: Proposed Child Care Subsidy income test, Jobs for Families (Klapdor 2016, p. 18)

Family income	Subsidy rate – percentage of actual fee or benchmark price, whichever is lower
Up to $65,710	85 per cent
More than $65,710 to below $170,710	Tapering from 85 to 50 per cent
$170,710 to below $250,000	50 per cent
$250,000 to below $340,000	Tapering from 50 to 20 per cent
$340,000 or more	20 per cent

Figure 38: Proposed rate of subsidy by family income, Jobs for Families (Klapdor 2016, p. 19)



Funding approaches, priorities for investment and trade-offs

There is a broad continuum of potential funding approaches and mechanisms, from wholly privately funded preschool through to a full per-child allocation with loadings for additional needs. Each of these approaches involves trade-offs around cost to government/s, cost to families, accessibility, ease of administration and equity.

Figure 39 outlines a number of potential funding approaches and mechanisms and notes comparative impacts and relative accessibility, complexity of administration and equity. In general, all models outlined here are based on shared funding responsibility between the Australian Government and state and territory governments.

More detailed costing of these various approaches depends on the design and planning phases outlined earlier, and would only be possible once this initial scoping work had been undertaken.

Figure 39: Strengths and limitations of various funding approaches to 3-year-old preschool

Funding approach	Access	Complexity	Equity	Comments
Shared Australian Government and state and territory government funding to provide free preschool for a tightly defined group of highly disadvantaged children only (i.e. children known to child protection services). Only existing ECEC subsidies and private contributions available for all other children.	Lower	Medium	Lower	Will only reach a small proportion of the children that will benefit most and may not be sufficient for lifting population-level outcomes, maintains the complexity and lack of transparency of the current system.
Shared Australian Government and state and territory government funding to establish a new 3-year-old preschool subsidy that provides free or very low cost preschool programs for all children in the bottom two quintiles of the income distribution, and means tested private contributions on a sliding scale, separate to existing ECEC subsidies.	Higher	Higher	Higher	Complex new subsidy arrangement which will be challenging to integrate with existing service delivery options. Likely to be confusing for families and complex for providers but would facilitate a proportionate universalism approach and prioritise access to the children who stand to benefit most.
Using existing Australian Government entitlements through ECEC subsidies (CCB/CCR or *Jobs for Families* subsidy) and state and territory governments providing a per capita amount based on state specific priorities directly to services not approved to access child care subsidies.	Medium	Medium	Lower	Will not be adequate to ensure high-quality 3-year-old preschool program is affordable for families and contributes to ongoing fragmentation of service system. Difficult to set consistent minimum standards for the preschool program across service settings. Likely to result in significant variability in access across the nation and also likely to exclude a proportion of the children likely to benefit most, maintains the complexity and lack of transparency of the current system.
Shared Australian Government state and territory government funding that broadly replicates	Higher	Medium	Higher	Reasonably complex arrangements, however, likely to be effective in facilitating a national universal approach that: leverages existing jurisdiction

Funding approach	Access	Complexity	Equity	Comments
arrangements for 4-year-old preschool with identified priorities and targets plus parental contributions: • Australian Government per capita partial contribution plus ECEC subsidies to help address cost barriers • State and territory government funding allocations and investment • Family contributions, with identified vulnerable cohorts receiving additional targeted fee relief				capacity, is flexible enough to consider different service delivery options, and can respond to state specific issues. Likely to ensure a high-quality, 3-year-old preschool program is affordable for families.
A per-child subsidy that covers the full cost of delivery, with loadings for disadvantage, remoteness and/or disability, paid directly to the service the child accesses so children access preschool programs with no out-of-pocket costs.	Higher	Medium	Higher	Complex to calculate in way that ensures the rates of subsidy are adequate to fully fund service delivery, given significant variability in cost structures and cost drivers in preschool service delivery options. Would establish early education as being of equivalent importance to school education and strongly support access and equity.
Not recommended				
Targeted, contestable, short-term grants to operate preschool programs for 3 year olds, possibly in specified locations or for specified cohorts of children.	Lower	Lower	Lower	Contributes to the fragmentation and inequitable social service delivery, will only reach a small proportion of the children that will benefit most and will not be sufficient for lifting population-level outcomes.
Solely private funding of preschool programs for 3 year olds with government only funding existing regulatory systems.	Lower	Lower	Lower	A highly inequitable approach that restricts access for the children likely to benefit most, also difficult to set consistent minimum standards for the preschool program.

Conclusion

This paper has considered the evidence, policy and implementation of a preschool program for 3 year olds. Its focus is how to leverage current investment and capacity to deliver a universal preschool program within Australia's existing early education and care landscape.

Every child in Australia deserves the opportunity to reach their potential. If Australia is to remain globally competitive into the future, and maintain or improve our standards of living, it is vital that we invest in programs that promote opportunity, boost our human capital and close the disadvantage gap at a population level.

With nearly a quarter of children starting school with developmental vulnerabilities that impact their ability to thrive at school, it is clear that investing in children is a national priority. Small-scale, highly-targeted programs for narrow cohorts of children will not deliver the scale of the improvements in outcomes we need to secure a prosperous future for all Australians.

Considering the current economic outlook and fiscal challenges facing Australia, this paper also recognises that investments to improve outcomes must be as efficient as possible – maximising the long-term return on existing and new public and private investment.

Preschool – Two Years are Better Than One establishes that the vast majority of 3 year old children are regularly attending early education and are already subsidised to do so. It highlights that there is strong domestic and international evidence of the benefits of providing universal entitlement to two years of a quality preschool program. There is also considerable existing capacity and infrastructure that could be leveraged to increase the impact of our current investment.

A new universal preschool program for 3 year olds should be the next policy priority for governments interested in lifting our education performance and preparing for economic prosperity into the future.

The effort required to deliver a new quality preschool program for all 3 year olds is likely to be relatively modest in the scheme of existing investment in early education and care. Australia has made significant progress towards universal access to preschool in the year before school. We can do the same for 3 year olds.

There is a clear opportunity to leverage high current participation rates by 3 year olds, existing investment in ECEC through subsidies, preschool provision for 3 and 4 year olds and the ongoing roll-out and future components of the National Quality Framework and policy development and implementation for Universal Access for 4 year olds.

We recommend that as an immediate and low-cost first step, the Council of Australian Governments (COAG) agree to commission a scoping study for 3 year preschool programs. At a minimum, the scoping study should identify:

- **Delivery gaps and opportunities**, to provide more granular data and information about the scale and focus of the implementation challenge. In particular:
  - Data on current participation rates and hours of attendance, at national, state and regional levels, including participation profiles of priority cohorts.
  - Capacity (vacancies) in the existing service systems and identifying areas where there are few or no vacancies.
  - A review of workforce capacity and development needs.
- **Necessary process and structural elements of the preschool program**, using the parameters identified in this paper as a starting point.
- **Effective strategies to improve participation in preschool** programs, particularly addressing financial and non-financial barriers to access for priority cohorts.
- **Jurisdiction-specific implementation options**, to inform decisions about optimal pathways forward and identify opportunities to leverage existing investments and costs.
- **Improvements in data collection** necessary to enable ongoing monitoring of the impact of this policy.

With the current national partnership due to expire at the end of 2017, it would be desirable for this work to be commissioned by the end of 2016 for completion and publication within 12 months.

Ensuring all children have access to at least two years of high quality preschool program is the best evidence-based investment we can make to give every child the best start and ensure our nation's future.

Key recommendation

COAG should commission a scoping study into universal 3-year-old preschool programs for Australia. The study should be completed by the end of 2017 and should identify:

- Delivery gaps and opportunities
- Core process and structural quality elements
- Strategies to address barriers to access for priority cohorts
- Jurisdiction-specific implementation options
- Improvements in data collection needed to track impact

Appendix A: Lessons from Universal Access for 4 year olds

In 2008, the Council of Australian Governments (COAG) endorsed the National Partnership Agreement on Early Childhood Education 2009-2013 (NPA ECE), which involved a $955m investment (over 5 years) from the Australian Government (COAG 2009b).[19]

This initiative aimed to achieve universal access to preschool for all children:

- In the 12 months before full-time schooling begins;
- Delivered by a four-year university-qualified early childhood teacher;
- For 15 hours a week, 40 weeks a year;
- In a form that meets the needs of parents; and
- At a cost that does not present a barrier to participation.

The agreement was followed by further agreements largely intended to maintain (rather than support implementation) Universal Access.

The National Partnership Agreement on Universal Access to Early Childhood Education 2013-2015 ($655.6m) focused on maintaining existing preschool provision and increasing access for vulnerable and disadvantaged children and Indigenous children specifically (COAG 2013).

The National Partnership Agreement for 2016-2017 ($843m) maintained the focus on vulnerable and disadvantaged children, with an additional specification that provision be made for all children , "regardless of whether quality early childhood education programs are delivered through schools (non-government and government), standalone preschools or Long Day Care centres" (COAG 2016, p. 4).

The maintenance National Partnership Agreements (2013-2018) have provided around 43 per cent of the total cost of preschool, with the remainder covered by the states and territories and families (Productivity Commission 2014b, p. 500).

Implementation

The main implementation challenge for Universal Access was boosting the capacity of the system to deliver preschool programs for all children in the year before school, especially expanding the number of places available and ensuring sufficient workforce capacity.

[19] The agreement on Universal Access was part of a broader suite of national early childhood initiatives and agreements, outlined in Harrington (2014).

The NPA implementation approach needed to take into account the huge baseline variation between states and territories driven by historically diverse approaches to funding and delivery of early childhood services. There is even significant variation in the age at which children enter school, resulting in differences in what 'year before school' means in terms of children's ages (Figure A1).

Figure A1: Current school and preschool starting ages and terminology by jurisdiction (Steering Committee for the Review of Government Service Provision 2016b, p. 3.2)

	Age of school entry	Age of preschool entry	Program name
New South Wales	5 by 31 July	Usually aged 4 and 5	Preschool
Victoria	5 by 30 April	4 by 30 April	Kindergarten
Queensland	5 by 30 June	4 by 30 June	Kindergarten
Western Australia	5 by 30 June	4 by 30 June	Kindergarten
South Australia	5 by 1 May	4 by 1 May	Preschool
Tasmania	5 by 1 January	4 by 1 January	Kindergarten
Australian Capital Territory	5 by 30 April	4 by 30 April	Preschool
Northern Territory	5 by 30 June	4 by 30 June	Preschool
Australia	5	4	

The scale of the implementation challenge was significant (Figure A2). In 2008, only four jurisdictions had any capacity to deliver preschool programs for 15 hours, and only a small proportion of children were accessing them. Some jurisdictions had very limited preschool provision, while others had well-established preschool programs that ran for less than 15 hours. All jurisdictions needed to rapidly expand the number of places available and the number of Early Childhood Teachers (ECTs) across the system.

Figure A2: Baseline preschool provision in each jurisdiction and anticipated increase in staffing required (2009)[20]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Approximate baseline hours provided	12	10	0	11	11	10	12	12
Proportion of children enrolled in an ECE program for at least 1 hour	82%	96%	29%	95%	87%	97%	94%	84%
Proportion enrolled in a preschool program available for at least 15 hours	29%	7%	0%	n/a	0%	6%	14%	0%
Anticipated increase in ECTs (FTE) 2009-13	944	250	1580	272	296	Not reported	55	90

[20] Source: ACT Government (2009); Deloitte Access Economics (2014); NSW Government (2009); NT Government (2011); Productivity Commission (2014b); Queensland Government (2009); SA Government (2009); Tasmanian Government (2009); Victorian Goverment (2009); WA Government (2009).

The NPA required each jurisdiction to develop an implementation plan that addressed their specific circumstances and challenges. For instance, Western Australia already had universal preschool co-located with primary schools but needed to shift from 12 to 15 hours of provision, while Queensland needed to establish a preschool platform across the whole state.

As a result of the initial variation and the different implementation strategies, there are very different models of preschool provision across the country, with some preschool programs being primarily funded and delivered by government as part of the education system, others primarily delivered through Long Day Care, and others offering a mix.

Australian Government funding is calculated using the estimated Total Resident Population of 4 year olds (COAG 2013, 2016). Appropriately, each jurisdiction has utilised its National Partnership Agreement money differently, in both the implementation and 'maintenance' phases. Each jurisdiction:

- Provides a different level of per-child funding (Figure A3),
- Takes a different approach to the provision of recurrent funding (Figure A4),
- Utilises a different mix of funding (Figure A5), and
- Addresses the challenge of increasing participation of disadvantaged children in different ways (Figure A6).

Figure A3: Estimated per child expenditure on preschool in each jurisdiction (Productivity Commission 2014b, p. 499)[21]

[21] Figures for Queensland may be an undercount due to issues with the underlying data.

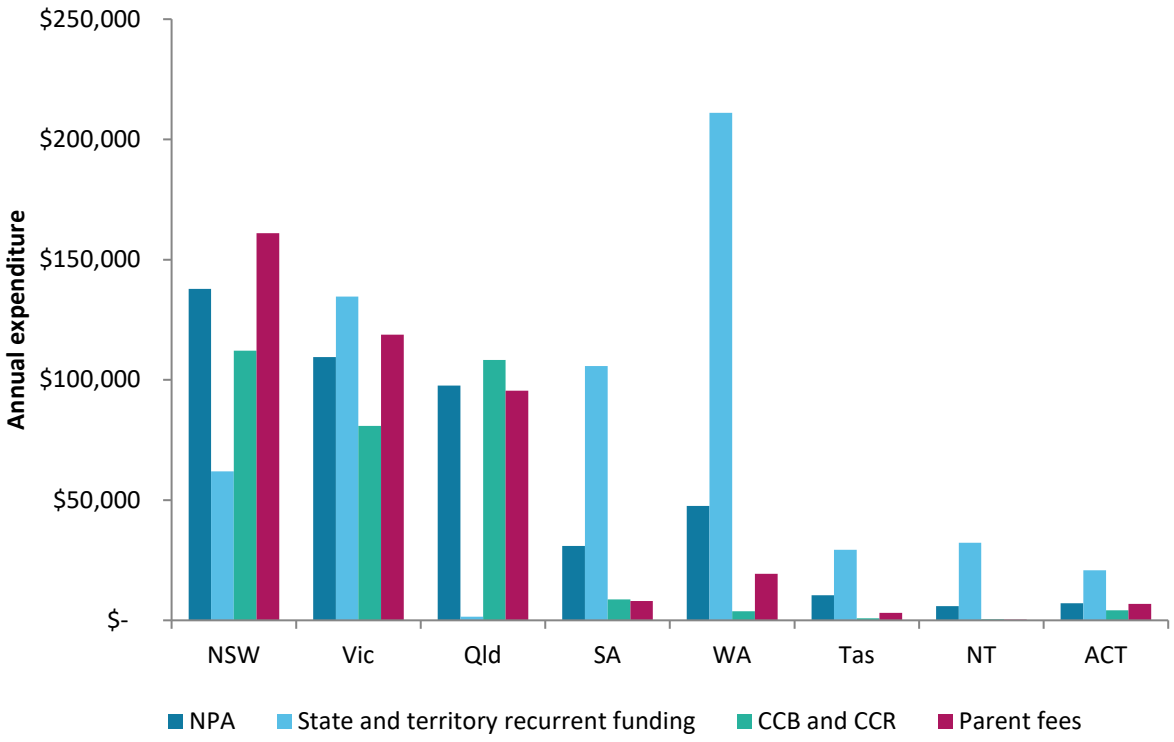
Figure A4: State and territory approaches to providing recurrent funding for preschool

State or Territory	Recurrent funding approach
New South Wales	In New South Wales, the state government provides grants to over 750 community based preschools (including preschools operated by local governments). Under the current Preschool Funding Model, these rates are from $1,805 to $5,270 per child per annum, depending on SEIFA rating, with additional loadings for outer regional (+$850), remote services (+1250), and children with English language needs (+$400) (NSW Department of Education 2016c). From July 2017, there will be an increase in base rates for children who attend more hours, intended to reduce out-of-pocket costs for families by around 30 per cent and create incentives for children to enrol for at least 600 hours per year. The base rate will be linked to SEIFA decile and target investment at low income families (NSW Department of Education 2016a, 2016d). From mid-2016, NSW made up to $23.6m in grants available to Long Day Care providers delivering preschool programs. These grants provide a minimum rate of $300 for each child enrolled, rising to $450 for those enrolled for 600 hours, with an additional loading of $450 for children from Aboriginal families or those enrolled in disadvantaged areas, rising to $675 for those enrolled for 600 hours (NSW Department of Education 2016b). However, these grants were one-off payments and recently the government has announced that preschool funding for children in Long Day Care will only be available for targeted groups.
Victoria	Approved preschool providers in Victoria can apply to receive a grant for each eligible child who is enrolled and attending a program that meets the requirements of Universal Access (Victorian Department of Education and Training 2015a). The majority of preschool expenditure is through the kindergarten per capita grant (the base rates of which are $3,390 to $6,185 per child in 2016, depending on location). Grants of between $552 and $1,791 are made to non-government schools operating preschool programs, with the higher rate going to low ICSEA schools. Various other supplements are available for specific cohorts or smaller regional services. Victoria also invests in Early Years Management, a $9,739 per annum grant that supports the management of early years services. The program has a strong focus on improving access and participation in kindergarten for vulnerable children and families, and fostering a more integrated early years system (Victorian Department of Education and Training 2016b, 2016c).
Queensland	In Queensland preschool funding is distributed to providers of approved kindergarten programs through the Queensland Kindergarten Funding Scheme. The funding is intended to offset the costs of implementing and operating a kindergarten program and can be used to supplement the salary of an Early Childhood Teacher, purchase resources and/or reduce costs for parents. Kindergarten services receive around $2,700 per child per year. Kindergarten services in low socio-economic communities receive a 45% loading if located in the bottom SEIFA quintile and 30% if in the second bottom quintile.

	Services receive an additional 50 per cent loading if located in Very Remote and Remote communities Long Day Care services in low-socio-economic communities receive a 25% loading if located in the bottom SEIFA quintile. Long Day Care services receive around $1,600 per eligible child per year (the lower rate is because families can access Child Care Benefit/Rebate to reduce their costs) (Queensland Government 2015b, 2015c).
South Australia	In South Australia, preschool is offered across a range of settings. It is integrated with school provision in some places, and is also offered in government-funded child and family centres and Long Day Care services. The South Australian Government uses its National Partnership Agreement funds to make sure all children can access at least 15 hours of preschool, and funds children regardless of where they access their preschool program. Subsidy rates are linked to the socio-economic status of the service's location, with additional subsidies ($1,695 to $2,820) for children with disability, Aboriginal and Torres Strait Islander children, and children of families holding health care cards.
Western Australia	All 4 year olds are entitled to a free kindergarten place at a public school, and the WA Government pays (on average) 75 per cent of the cost of kindergarten in non-government schools. The WA Government uses its National Partnership Agreement funds to increase the hours of kindergarten provision from the state-funded 11 hours per week to the national benchmark of 15 hours per week. Children accessing kindergarten in Long Day Care settings do not attract any subsidy from the WA Government.
Tasmania	In Tasmania, kindergarten is integrated with school provision. The Tasmanian Government uses its National Partnership Agreement funds to make sure all children can access at least 15 hours of preschool through government and non-government school-based services.
Northern Territory	The Northern Territory uses the Department of Education's student needs-based funding model to provide preschool funding to government, non-government and standalone preschools and Long Day Care centres.
Australian Capital Territory	In the ACT, preschool is largely integrated with schools, both government and non-government. The ACT Government uses its National Partnership Agreement funds to make sure all children can access at least 15 hours of preschool through school based programs. Children accessing preschool programs in Long Day Care settings are not subsidised under the National Partnership Agreement, although Long Day Care services can access other support.

These very different approaches to recurrent funding are evident in the diverse patterns and sources of funding across the jurisdictions (Figure A5).

Figure A5: Amount and source of preschool funding by jurisdiction (Productivity Commission 2014b, p. 499)



Each jurisdiction has also taken a different approach to the objective of achieving equal participation of all children, regardless of socio-economic status or family background. Figure A6 provides an overview of the types of strategies identified in each jurisdiction's 2015 implementation plan (Australian Capital Territory 2015; New South Wales Government 2015; Northern Territory Government 2015; Queensland Government 2015a; South Australian Government 2015; Tasmanian Government 2015; Victorian Government 2015; Western Australian Government 2015).

These strategies can be grouped into two broad approaches – per-child subsidies with additional loadings for priority cohorts (largely in jurisdictions with mixed provision) and, in jurisdictions with mostly government or school provision, a focus on broader strategies around engaging children and families in early learning.

Figure A6: Strategies for improving access for vulnerable and disadvantaged children

State or territory	Approach to improving access
New South Wales	Increased per-child subsidies for the community preschool sector, with additional loadings for children in outer regional and remote areas, children with additional English language needs, Aboriginal and Torres Strait Islander children, children in low income families. NSW also provides funding for mobile preschools to service remote communities.
Victoria	• *Kindergarten Fee Subsidy* – enables eligible vulnerable children to access a funded kindergarten program for 600 hours in the year before school free of charge or at a minimal cost.

	• *Early Start Kindergarten Program* – enables Indigenous children and children known to child protection to attend a 3-year-old kindergarten program up to 600 hours per year free of charge. • *Access to Early Learning Program* – a service model that aims to build the capacity of education and care services to meet the needs of vulnerable children, to work more effectively with families, and to work more collaboratively with the broader child and family service system. Currently delivered in 7 local areas. • *Koorie Engagement Support Officers/ Koorie Preschool Assistants Program* – specialist staff who provide information and support to the families of Indigenous children, communities, kindergarten staff and management.
Queensland	Per-child subsidies with additional loadings for regional and remote services. A range of local initiatives to integrate early education with the broader service system, including building the capacity of kindergarten providers to engage with Aboriginal and Torres Strait Islander families and deliver inclusive early childhood education programs.
South Australia	Ensuring universal provision of preschool, with additional subsidies targeted at priority cohorts – for example Aboriginal and Torres Strait Islander children, children on a Health Care Card and children on Temporary Protection, bridging or Humanitarian visas. Funding early childhood leadership positions on the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands.
Western Australia	Continuing delivery of preschool through local schools to ensure all children have access to a preschool program. Funding for broader early-learning strategies, such as child and parent centres, the Best Start playgroup model and the Better Beginnings literacy program.
Tasmania	Continuing delivery of preschool through local schools to ensure all children have access to a preschool program. Funding is provided to broader early learning strategies such as the Launching into Learning program (0-4), Child and Family Centres, and Aboriginal Early Years Liaison Officers.
Northern Territory	Per-child subsidies with additional loadings for remote services, with a focus on developing quality early childhood education program and curriculum models that are appropriate to remote and very remote and Indigenous context. The Northern Territory also funds extensive provision of the Families as First Teachers program and the Mobile Early Childhood Education program.
Australian Capital Territory	Continuing delivery of preschool through local schools to ensure all children have access to a preschool program. Building community support for preschool and family engagement strategies.

Effectiveness and impact

Overall, the Universal Access partnership approach has been effective in meeting its policy objectives of increased provision of a preschool program to all children in the year before school. However, it is clear there are still some children missing out on access to 15 hours a week of a preschool program and not all children are attending for the full year – and these children are more likely to be from disadvantaged cohorts.

As a delivery strategy, the National Partnership Agreement on Universal Access is one of the more effective examples of cooperative federalism. The Queensland Government, for instance, commented that:

> "Universal Access has been one of the most successful federation-style reforms in recent history. It demonstrates the effectiveness of both levels of government working together, with jurisdictions tailoring delivery models and strategies to their own unique circumstances to achieve an agreed outcome" (Deloitte Access Economics 2014, p. 3).

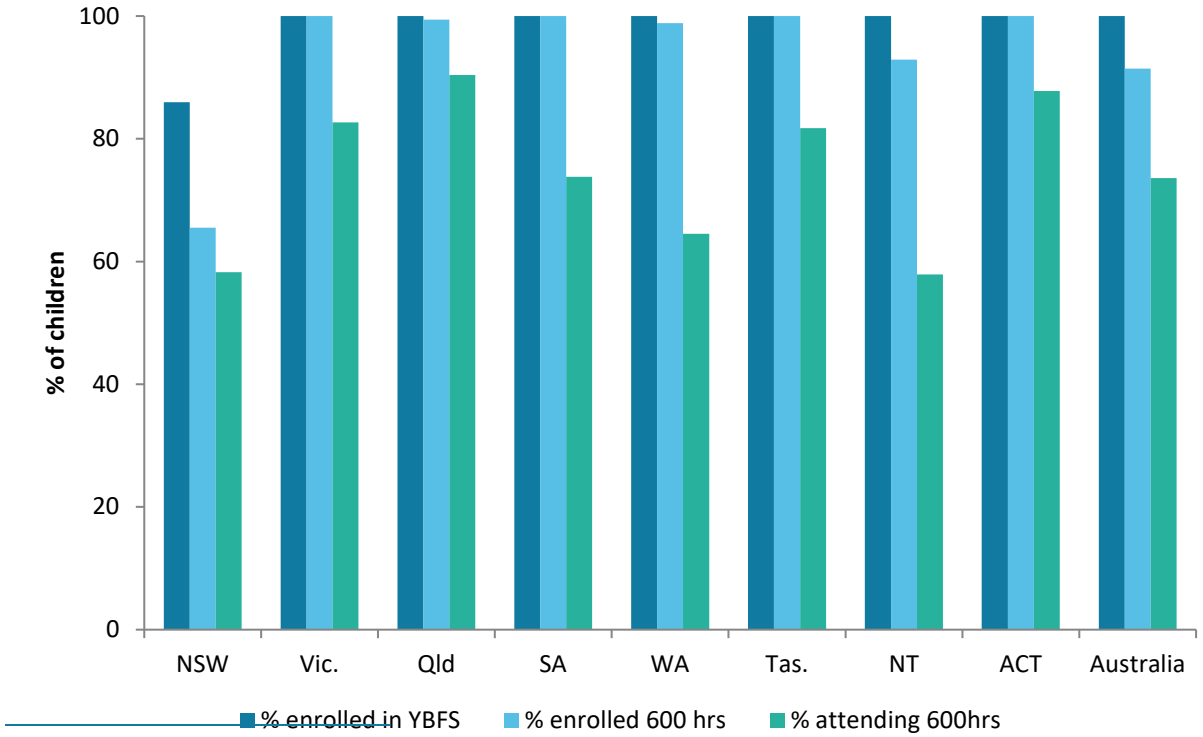
Nationally, preschool provision and participation has increased significantly, with headline enrolment targets met in most jurisdictions. The overarching assessment of the effectiveness of the National Partnership Agreement shows that a high proportion of children are enrolled in a preschool program in the year before school, including Aboriginal and Torres Strait Islander children and children from disadvantaged backgrounds. It is clear that all jurisdictions have significantly expanded their provision of preschool and boosted the early childhood teacher workforce.

It is also clear that strategies to ensure that preschool was available in forms that met the needs of parents were successful in promoting innovation and expansion in Long Day Care and other centre-based settings.

Yet, underlying the headline figures is a variable pattern of implementation that has resulted in inequitable patterns of delivery and expenditure between jurisdictions, highly variable direct costs for families, and poor data infrastructure that limits our ability to measure the effectiveness and impact of the National Partnership Agreements.

Not all children are attending 15 hours of preschool per week (Productivity Commission 2014b, p. 493), and there is a particularly significant gap between enrolment and attendance (Figure A7). However, the current measure of attendance –taken during a reference week in August –under-estimates participation throughout the year.

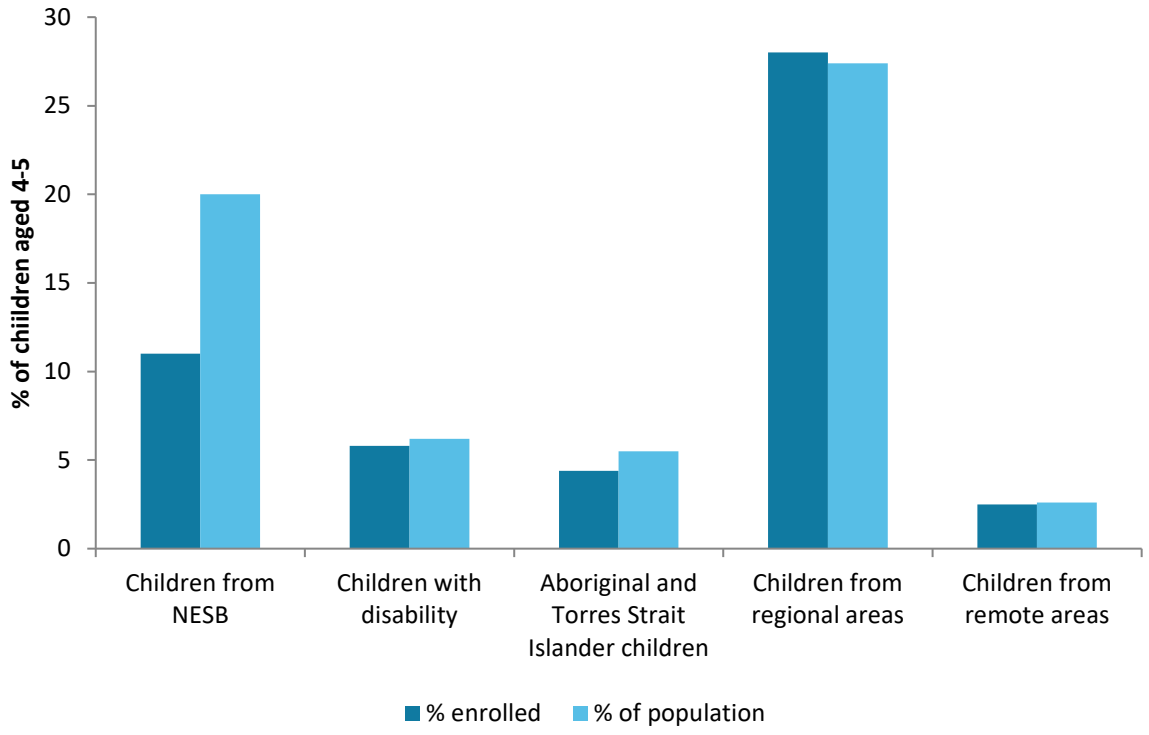
Figure A7: Proportion of children enrolled and attending preschool (ABS 2016d)[22]



[22] Note: Totals capped at 100%

Enrolment and attendance rates suggest that mechanisms to ensure cost was not a barrier to access for families have been successful for many families, although cost barriers appear to still be preventing many vulnerable children from accessing preschool – especially in jurisdictions where it is not available for free for these cohorts. Children from non-English speaking backgrounds and Aboriginal and Torres Strait Islander families are under-represented (Figure A8).

Figure A8: Proportion of children aged 3–5 years enrolled in a preschool program who are from special needs groups, compared with their representation in the community, 2014 (Steering Committee for the Review of Government Service Provision 2015, p. 3A.16)[23]



Critically, in considering the effectiveness of the National Partnership Agreements, it is clear that issues remain with the consistency and accuracy of data and measurement.

The official 2014 review of the impact of the NPA was significantly limited by the lack of robust comparable data or the capacity to measure the impact of the NPA on children's outcomes (Deloitte Access Economics 2014, 2015). At the outset of the NPA, there was very limited consistent data, and although work has been undertaken to improve the quality of the National Early Childhood Education and Care Collection (the National Collection), information gaps and lack of consistency in the way information is collected significantly limits the quality of data (Deloitte Access Economics 2015; Fox 2016).

These data issues mean that there are widely acknowledged issues with data accuracy that limit the comparability and utility of the core datasets designed to track progress against the National Partnership Agreement targets. While the data remains incomplete or misleading is it difficult to

[23] Note: there are limitations in comparing preschool participation and representation in the community, given differences in methodology.

determine exactly where Governments need to focus effort to ensure all children are enrolled in Universal Access preschool programs.

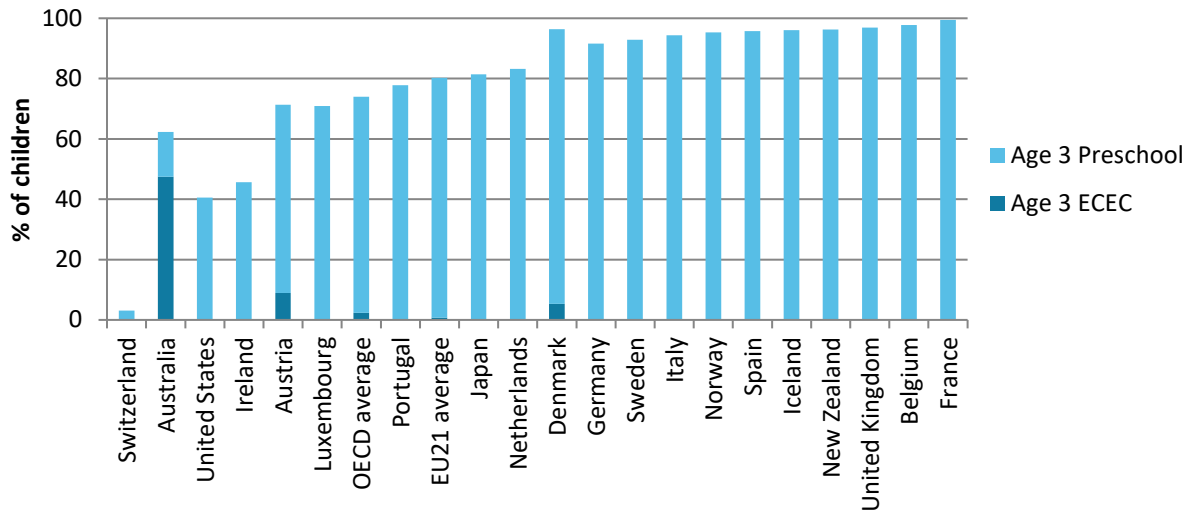
Appendix B: International approaches to preschool for 3 year olds

Internationally, there is a move towards public investment in two years of preschool, with early education clearly being framed as an investment in human capital. A number of European countries have provided universal preschool for 3 and 4 year olds since the 1960s. More recently, peer countries like the United Kingdom and New Zealand have introduced free or heavily subsidised preschool for 3 and 4 year olds, and high-performing East Asian countries are rapidly expanding their early education systems towards universal access for all 3 and 4 year olds.

The structure and delivery of early childhood education differs significant internationally. Gambaro, Stewart and Waldfogel (2014, p. 9) note that "national differences in the organisation of children's care and education are deeply rooted in different historical developments and reflect the wider set of relations between families, the market and the state". However, it is clear that many countries are grappling with similar challenges around increasing access, maintaining or increasing quality, and managing affordability (for both families and the government).

Australia has much lower levels of participation in either ECEC or preschool programs than peer countries in the OECD, where the average rate of participating in preschool programs (classified as ISCED2) is close to 80 per cent.

Figure B1: OECD Enrolment rates in early childhood education at age 3 (OECD 2015, p. 322)



English-speaking peer nations have been rapidly expanding their provision of preschool to 3 year olds over the past decade. For example:

- The United Kingdom established an entitlement to funded early education for 4 year olds in 1999 and this was expanded to 3 year olds in 2004, and more recently to 40 per cent of 2 year olds, based on disadvantage. There is near-universal attendance in part-time programs from all 3 and 4 year olds, although a lower proportion of low-income 3 year olds are in regular preschool.
- New Zealand introduced 20 hours of free early education for all 3 year olds in 2007 and have near universal attendance. The introduction of a free entitlement increased overall participation slightly, and number of hours attended significantly (May 2014; McLachlan 2011; Taguma, Litjens & Makowiecki 2012).
- Ireland has historically low levels of participation in preschool. Universal access for 4 year olds was introduced in 2010, with universal free preschool for 3 year olds coming into effect from September 2016 (Child and Family Agency 2014; Directorate-General for Internal Policies 2013; Early Childhood Ireland 2015).

A number of European nations implemented high-quality universal preschool, starting at least at age 3, as a core part of their social platforms. For example:

- Norway has near universal attendance in preschool from age 3 and for around 30 hours per week, although it took nearly 30 years to build both capacity and demand for full coverage There was a steady but gradual expansion from 27 per cent of 3 to 5 year olds in 1980, to 97 per cent by 2010 (Ellingsaeter 2014, p. 57). The socio-economic gap in access has decreased since the 1980s, attributed to the expansion in places and reduction in fees (Ellingsaeter 2014; Engel et al. 2015).
- France has a long-standing universal preschool platform for all children aged 3-6. The program is free, integrated with the school system, supports full or part-day attendance, and runs in three age-based classes. Since 1980, all 3 year olds have had a legislated right to an early education place, and attendance is near-universal (Fagnani 2014; OECD 2004). The expansion of provision to universal access in the 1970s produced large and sustained impacts, with the most disadvantaged cohorts benefiting most (Dumas & Arnaud 2010).

The countries that are at the forefront of global education innovation and that are the high performers in international education benchmarking exercises, such as Shanghai, Hong Kong, and Korea (Zhao 2015), are rapidly expanding their provision of early education and are moving towards universal provision for all children from age 3. For example:

- China currently has two thirds of children in preschool programs and is aiming to provide universal access to two years of preschool by 2020, with early childhood education being a key component of China's strategy for lifting human capital (Bing Wu, Eming Young & Cai 2012; Brookings Institute 2013).
- Korea currently has nearly 75 per cent of 3 year olds in preschool programs, with universal access to early education for 3 to 5 year olds. All 3 to 5 year olds receive a subsidy to attend early education, regardless of whether they attend a stand-alone kindergarten program or ECEC setting, with a common curriculum operating across all early education providers (Kaga, Barnett & Bennett 2012; Taguma et al. 2012).

The tables in this appendix provide snapshots of the architecture of various early education systems, including information on attendance, governance, policy, funding, quality and regulation.

Country profiles

United Kingdom (England)	
Context of legislation changes/or reforms	Major reforms over the past 15 years, primarily via the Childcare Act of 2006. The reforms aimed to provide more child-centred approaches and holistic, coordinated services. The Sure Start initiative was a central part of these reforms. Bringing ECEC and education together under the same governance was also part of the system vision. All 4 year olds have been entitled to a funded early education place since 1998 and in 2004 this was extended to all 3 year olds. From 2010, all 3 and 4 year olds have been entitled to 570 hours of funded education. This was later extended to the 40 per cent most disadvantaged 2 year olds. The Early Years Professional Programme (EYPP) from 2007 sought to raise staff qualifications and better align with school qualifications (including have more school teachers in preschool settings). In February 2016, it was announced this would be doubled to the equivalent of to 30 hours of free childcare from 2017. Eight councils will offer it from Sept 2016.
Governance	*Ministry of Education is the governing agency* Early education and childcare includes different forms of nurseries (day nurseries, nursery schools and nursery classes), playgroups, children or family centres and childminders.
Program information	All 3 and 4-year-olds in England are entitled to free ECE, priority 2 year olds are also eligible
Funding arrangements	Public financing comes mostly from the national level which covers the majority of ECEC costs and the remaining share is usually paid for by parents. Public expenditure of $US9,000 per child over 3 years per year (OECD data 2014)
Age of participation	93% of 3 year olds and 97% of 4 year olds participated in 2015
Ratios	Kindergarten and preschool teacher ratio is 1:15 children ECEC settings is 1:8
Hours	570 hours of free early education or childcare a year. This is often taken as 15 hours each week for 38 weeks of the year. From 2016/17 this will be doubled to 30 hours/week
Staff qualifications ECE	In group care facilities in England, 50% of the caregivers in charge of children under 3 years of age are required to have a relevant ISCED Level 2 qualification, while at least one practitioner must have a qualification at Level 3. For children over 3, at least one practitioner has to have a Level 5 qualification, corresponding to the “Early Years Professional Status”, and another staff member a Level 3 qualification.

	On-the-job training is mandatory for all ECEC professionals. In particular, for children over the age of 3, initial education is at a high level. since one practitioner per group needs an ISCED Level 5 qualification.
Quality and curriculum frameworks	The Early Years Foundation Stage (EYFS) sets out the pedagogical approach for children's learning and development from birth to age 5, targeting six areas of learning: • personal, social and emotional development • communication, language and literacy • problem solving, reasoning and numeracy • knowledge and understanding of the world • physical development • creative development. It emphasises a play-based approach with individualised learning and integrated activities. *Statutory framework for the early years' foundation stage - Setting the standards for learning, development and care for children from birth to five* was released in 2012
Quality monitoring and/or evaluation	Government agency monitor all four areas: staff quality, service quality, curriculum implementation and child development/ outcomes in all ECEC settings.

Sources:(OECD 2014a; UK Government 2016; Wall, Litjens & Taguma 2015)

New Zealand	
Context of legislation changes /or reforms	Significant reforms to early childhood education over 1986 and 2008, commencing with early education centres moving under the Ministry of Education in 1986*; Pathways to the Future* launched: a 10-year strategic plan for ECE in 2002, 20 Hours Free Programme implemented in 2007; Legislation of the principles and strands of *Te Whāriki in 2008;* Better Public Services Programme launched in 2012 including goals for early years' education.
Governance and program delivery	Delivered by ECE centres who opt into the scheme
Program information	*20 Hours ECE* was launched in 2007 for all 3 and 4-year-olds to access (ECE) services for six hours a day, 20 hours a week at no charge. *20 Hours ECE* is provided, per child, for 3 to 5-year-olds in services that have 'opted in' to the scheme. Since 1 July 2010, 5-year olds and all teacher-led ECE services, Kōhanga Reo and Playcentres have been included in the scheme.
Funding arrangements	Parents apply through the ECE services. They can have 20 hours free and then pay fees to the centre for any hours used over this. Public expenditure on pre-primary - over $US11000 per child over 3 years of age (OECD 2014 data)
Age of participation	Around 93 per cent of 3 year olds and 97 per cent of 4 year olds in New Zealand were enrolled in centre-based ECE in 2014

Ratio of children per teacher in kindergarten by class size (2014)	11-20 children – 6.6 21-30 children – 7.5 31-40 children – 8.1 41-50 children – 10.1 More than 51 children – 8.5
Hours	20 hours free (up to 6 hours a day and 20 hours a week total) Some centres may have a minimum hours' policy so parents may face fees for their child's attendance above 20 hours.
Staff qualifications teachers	The benchmark qualification for New Zealand-qualified early childhood teachers is a Bachelor of Teaching (Early Childhood Education) or Diploma of Teaching (Early Childhood Education), or an equivalent Level 7 qualification approved for registration by the Education Council of Aotearoa New Zealand.
Curriculum frameworks	*Te Whāriki* – framework for 0-5 years - adopts a specific socio-cultural perspective on learning that acknowledges the different cultural and social contexts in New Zealand and a social and interactive way of learning is highly important. The curriculum is built around five 'pillars' of child development for which developmental, cultural, and learning goals are formulated. Heralded internationally as a leading example of culturally inclusive curriculum.
Quality monitoring and/or evaluation	

Sources: (New Zealand Government 2016; OECD 2014a; Taguma, Litjens & Makowiecki 2012; TeachNZ 2016)

Ireland	
Context of legislation changes /or reforms	Ireland has a strong tradition of parental (home) care for preschool aged children and low participation rates in ECE before the major reforms over the past 5-6 years, stemming from 1999 white paper. The first National Children's Strategy, *Our Children – Their Lives (2000-2010*) and universal pre-school provision was made in January 2010. More recently, a new policy framework for children and young people for 2014 to 2020 - *Better Outcomes Brighter Futures* - shifting policy to an early intervention focus and including a national early years' strategy and additional free year of preschool. The most recent legislative changes made in 2015, coming into effect in September 2016 extend free preschool access to 3 year olds. Compulsory school age is 6 however, 45.5 per cent of 4 year olds and 99 per cent of 5 year olds are enrolled in primary schools voluntarily (2013)

Governance and program delivery	Under the Department of Children and Youth Affairs
Policy Framework	*Better Outcomes Brighter Futures* - The national policy framework for children & young people 2014 - 2020 is a whole government policy, operating across all agencies.
Funding arrangements	The state pays the participating centres. Parents pay fees for additional hours or services over and above the 15 hours free
Age of participation	3-5 year olds are eligible for free hours
Class size/ Ratios	Up to 11 children: 1 pre-school leader 12 - 22 children: 1 pre-school leader and 1 pre-school assistant 23 - 33 children: 2 pre-school leaders and 1 pre-school assistant 34 - 44 children: 2 pre-school leaders and 2 pre-school assistants and so on.
Hours	Free hours are 3 hours a day over 5 days (15 hours a week)
Staff qualifications teachers	Introduced in 2010 – preschool leaders in the pre-school year to have a minimum of a Level 5 qualification (on Ireland's National Framework of Qualifications). Pre-school teachers are required to hold a national degree in childcare / education equivalent to level 4 on the EFQ, which is a specialised vocational degree. Before September 2012, it was also possible to work as pre-school practitioner without this degree level, as long as the person had a qualification in the field of ECEC
Quality and curriculum frameworks	Síolta - the quality framework for early years' services (0-6 years), looks at all aspects of quality Aistear - the curriculum framework for early years (0-6 years), focuses on the child's learning outcomes, built around the themes of well-being, identity and belonging, communicating and exploring and thinking. Flexible and can accommodate a range of different pedagogical approaches within the framework.

Sources: (Child and Family Agency 2014; Directorate-General for Internal Policies 2013)

Norway	
Context of legislation changes /or reforms	Over a decade of reforms have led to very high participation and much reduced costs for Kindergarten in Norway. Under the 2003 Kindergarten Agreement (*Barnheageforliket*), parties across the political spectrum committed to the expansion of quality kindergarten places to achieve full coverage for 0-5 year olds. The Kindergarten Act of 2005 and *White Paper* No. 16 (2006-2007), "No one left behind: Early interventions for lifelong learning" made significant changes to quality and alignment with schooling. Integrated ECEC provision and schooling under the Ministry of Education and Research in 2006. A legal entitlement to a place in kindergarten from the age of one was introduced in 2009.

Governance and program delivery	The Ministry of Education and Research has responsibility for funding and monitoring Kindergarten. Under decentralised governance the municipalities implement the policy. Municipalities own half of Norway's kindergartens and oversee all public and private kindergartens in their districts.
Program information	*Barnehager* (kindergartens) and *Familienbarnehager* (Family Day Care) offer regular half-day or full-day, full year services for children aged 0-5 years. *Åpne barnehager* (open kindergartens) are part-time, drop-in centres for children and parents/care-givers who participate in programmes with the child
Funding arrangements	Parental fees for kindergartens and Family Day Care are capped at NOK 2 405 per month (2014) and account for 15 per cent of costs on average, government funding covering 85 per cent. Open kindergartens require no or very low fees. Government funding for Kindergarten (0-5 years) was NOK 38 billion/1.4 per cent of GDP in 2012. In the national budget for 2015 introduced a nation-wide subsidy schemes for low-income families from 1 May 2015 - families will pay a maximum of 6 per cent of their income for a place in kindergarten, free core hours in kindergarten extended from 1 August 2015 to all 4 and 5-year-olds from low income families. Public expenditure on pre-primary - approximately $US4000 per child (OECD 2011 data)
Age of participation	Children 1-2 years: 79.8%; children 3-5 years: 96.6% in 2013
Class size	Max 30
Ratios	One kindergarten teacher per 7-9 children under the age of 3 and one kindergarten teacher per 16-18 children over the age of 3 when children attend for more than six hours per day.
Hours	Centres offer half day and full day programs. There is a legal right to access 41 hours of education per week.
Educator team	Kindergartens are staffed with pedagogical leaders (*pedagogiske ledere*) and assistants. The evaluation of the training for kindergarten teachers has led to a new framework plan and a new structure of kindergarten teacher education, implemented in August 2013
Staff qualifications teachers	A three-year tertiary degree in kindergarten teacher education, or equivalent pedagogical degree at tertiary level, with additional education focusing on working with children There are exemptions from qualification requirements if there is a lack of applicants - only 37.5% of staff were trained kindergarten teachers in 2013.
Staff qualifications Assistants	A four-year vocational training at upper secondary level as childcare and youth workers

Curriculum frameworks	The Framework Plan for the Content and Tasks of Kindergartens was implemented in 2006 – follows the socio-pedagogic tradition of ECEC in Nordic countries (central focus on children's well-being and interests, social equality, and democracy).
Quality monitoring and/or evaluation	In 2012, kindergartens were included in the portfolio of the Directorate for Education and Training (*Utdanningsdirektoratet*), under the Ministry of Education and Research. The directorate is responsible for the evaluation of the education system through the National Quality Assessment System.

Source: (Engel et al. 2015; OECD 2014a)

France	
Context of legislation changes /or reforms	The école maternelle is part of a long history - state provision began in the 1830s as a way of protecting the poorest children from a lack of development and from squalor or depravity. In 1989, every child from the age of 3 years old was officially given the right to a preschool place (although 90 per cent of 3 year olds were already attending by 1980 after expansion policies of the 1960s and 1970s).
Governance and program delivery	The école maternelle is part of the national education system, and responsibilities are shared between the State and the local authorities. The ministère de la jeunesse, de l'éducation nationale et de la recherche (Ministry of Youth, National Education, and Research) is the governing department (ECEC is under another Ministry). Preschools are fully integrated into the primary school of the national education system, with the same guiding principles, opening hours, and administration as elementary schools. They generally operate in separate buildings on the school site.
Program information	Pre-school (école maternelle) is a universal, free education program with access from age 3. There are three levels of preschool: petite section (little section) for 3-year-olds, moyenne section (middle section) for 4-year-olds and grande section (large section) for 5-year-olds. Voluntary, but considered the foundation of the education system.
Funding arrangements	Fully state funded, no fees to parents France invest around 1.2% of GDP in early childhood education, fourth largest proportionate investment among OECD countries as at 2011 Estimated expenditure per child over 3 years per year $US6600 (OECD 2011)
Age of participation	100 per cent of 3-6 year olds and approximately 35 per cent of 2 year olds are attending preschool
Class size/ Ratios	There are no national regulations for staff-child ratios though in general The number of children per class has decreased over the years: from 42.9 children per class on average in 1960 to 30 in 1980, and 25.5 in 2001-2002. In ZEPs (zones d'éducation prioritaire), schools receive additional funds in order to reduce the child-staff ratios.
Hours	26 hours per week from (school days during the school year)
Educator team	Teachers and assistants with early childhood education

Staff qualifications Instituteurs	Until the early 1990s, preschool teachers (instituteurs) completed two years of post-baccalaureate training at the École Normale which included specialised training in early childhood education – now qualifications are much higher (see Professeurs below)
Professeurs des écoles	Recruitment by public exam Licence (3 year college degree) + training at IUFM (teacher training institute – typically 1 year including eight weeks practical). Qualified to teach children aged 2-11 years. 36 weeks of professional development over the teacher's career
ATSEM (agent territorial specialisé des écoles maternelles)	Early childhood CAP - certificate in early childhood
Curriculum frameworks	Before 2015/16 - One national curriculum, five domains of activities: (1) developing oral language and an introduction to writing; (2) learning how to work together; (3) acting and expressing emotions and thoughts with one's body; (4) discovering the world; and (5) imagining, feeling, and creating. The curriculum is organised around three overlapping cycles that bridge children's learning from preschool to primary school, and it defines competencies that children are expected to meet by the end of the école maternelle. A new curriculum due to be implemented over 2015/16 incorporating a more play-based approach.
Quality monitoring and/or evaluation	An inspector in charge of the primary schools evaluates each teacher through observations and discussions about once every three to four years.

Sources: (Fagnani 2014; OECD 2004, 2014a)

China	
Context of legislation changes /or reforms	China's national education strategic plan states that "human resources are the foremost of all resources for our nation's economic development, and education is the main channel to develop human resources" and extending preschool education is a key element of that plan. The document sets a target of 80 per cent participation in two years of preschool by 2020 (from a base of 65 per cent in 2009) and outlines a general commitment to universal preschool access.
Governance	The National Population and Family Planning Commission is responsible for raising the capability of the population. Its mandate extends from family planning to young children's development from birth to age 3. The Ministry of Education sets policy for and oversees the implementation of pre-primary education for children ages 3–6, sets curricular standards, drafts laws and regulations, and monitors and evaluates pre-primary education. Education departments at the provincial, municipal, county, and

	district levels operate and finance public kindergartens, approve and oversee private kindergartens, set the level of fees charged by public and private kindergartens, provide preservice and in-service teacher education, collect statistics, and inspect kindergartens.
Program information	There are mainly three types of early childhood education and care institutions in China. Nurseries are for children birth to 3 years old, kindergartens are for children of 3 to 6 years old. Mobile and seasonal kindergartens are provided in more remote areas. There is a shortage of provision outside of urban areas.
Funding arrangements	Pre-primary education accounts for 1.3-1.5 per cent of China's education budget. Services are delivered by a range of private and for-profit providers. About 68 per cent of kindergartens are private, enrolling about 47 per cent of students. Pre-primary education is funded by the state and by parents. In 2012, monthly fees ranged from RMB130 (US$19) to RMB3,000 (US$441) (average rural income is RMB5,153 (US$758) The low end covers mostly food and learning materials. The more expensive kindergartens also provide air conditioning and Chinese-English bilingual education. Parents pay an additional fee to cover equipment and building costs. There are regional differences, with Shanghai, for example, guaranteeing early education places to all children, with fee waivers for low-income children and subsides for public and private preschools.
Age of participation	The enrolled rate of children aged 3 to 5 years in kindergarten was 44.6 per cent, 55.6 per cent was in cities and townships, and 35.6% was in rural areas which account for about 70 per cent of the total population.
Ratios	In 2010, the student-to-teacher ratio was 9:1 in cities, 16:1 in county towns, and 28:1 in rural areas. Qualified teachers were also unevenly distributed across cities, towns, and rural areas.
Hours	Kindergarten is mostly full time
Staff qualifications ECE	6.13 per cent of early childhood educators have bachelor degrees and 43.02 per cent had two or three-year college educations. More than half of educators have no professional training. Lifting educator quality is a key strategic priority for China.
Quality and curriculum frameworks	A range of curricular approaches are used in China, from formal, whole group instruction to approaches influenced by Montessori or Reggio Emilia. There is significant regional difference. Some regions, like Hong Kong and Shanghai, have a recommended or mandated early years' curriculum frameworks (Curriculum Development Council 2006). The Shanghai curriculum is "predominantly play-based, focused on story-telling, physical activity, and other forms of enrichment. Reading, writing, and arithmetic are explicitly banned, because policymakers believe that teaching these subjects to 3-year-olds will dampen their love of learning" (Driskell 2015). Some regions have comprehensive quality measures. For example, the Shanghai Education Commission grades all kindergartens based on adherence to the national curriculum, compliance with health and safety procedures, and the qualifications of teachers.
Quality monitoring and/or evaluation	The Regulations on Kindergarten Management and Rules on Kindergarten Routines provide the legal basis kindergartens, clarifying the responsibilities and obligations assumed by the governments, societies, and concerned departments, and also clarifying the administrative system with respect to responsibilities of local authorities and management at different levels.

Source: (Bing Wu, Eming Young & Cai 2012; Brookings Institute 2013; Driskell 2015; Ministry of Education 2010; Zhu 2009)

Korea	
Context of legislation changes /or reforms	The introduction of new funding arrangements and a national curriculum in 2012 was a step towards bridging the 'education' and 'care' gap in early childhood education in Korea. Prior to the introduction of the Nuri Curriculum, there was a strong separation between childcare (age 0-5) and kindergarten (age 3-5) settings (which operate in a mixed public/private market), with different funding arrangements and sources for children in each sector. Currently, all children aged 3-5 experience a shared curriculum and are funded to attend by the local Office of Education. The objective of this policy was to increase equity in educational opportunities.
Governance	The Ministry of Education is responsible for governance of kindergartens and the Ministry of Health and Welfare is responsible for childcare centres. There is a split between public and private provision of kindergarten and childcare.
Program information	
Funding arrangements	All children receive a flat subsidy to cover the cost of early childhood education (for 3-5 year olds) regardless of family income, although costs differ between provinces. Children attending public services receive a higher rate of subsidy. In 2014, the government spent around. 5.3 trillion won on kindergarten and 9.64 trillion won on childcare. Since 2009, the early childhood education budget has been raised 4.3 times and childcare budget 2.4 times. Expenditure on ECEC services between 2010 and 2014 has been increased from 0.52% to 1.01% of overall GDP.
Age of participation	Children attend preschool programs from age 3 to age 5, with around 91 per cent of all children attending.
Ratios	Varies by province. In case of Seoul, Age 3(1:18), Age 4(1:24), Age 5(1:28), Mixed age class(1:23)
Hours	3 to 5 hours per day
Staff qualifications ECE	Kindergarten teachers are required to complete a 4 year degree or two years of training at college and a requirement to ass the National Teacher Exam, with a minimum of 240 hours on-job training. Childcare teachers are required to complete a 2-year tertiary education, or a 1-year vocational training program. A policy objective for Korea is aligning the qualification requirements between the two sectors. Half of all kindergarten teachers have a 4 year university degree, compared to 30 per cent for childcare teachers.
Quality and curriculum frameworks	The Nuri Curriculum is play-based and child-centred. The curriculum can be flexibly applied and focuses on 5 key outcomes:

	▪ To develop physical skills and form lifelong healthy habits ▪ To communicate well with others ▪ To build up self-esteem and be collaborative with others ▪ To stimulate children's interest in aesthetics and creativity and encourage them to have experience in art ▪ To have curiosity about the world and understanding their surroundings in scientific ways
Quality monitoring and/or evaluation	Separate quality monitoring and accreditation systems operate between the Ministry of Education and the Ministry of Health and Welfare. The Korea Institute of Child Care and Education reports that quality monitoring processes are not sufficiently rigorous to ensure high quality across the nation.

Source: Asia Pacific Regional Network for Early Childhood (2016); Korea Institute of Child Care and Education (2013, 2015a, 2015b, 2015c); Na (2013)

Appendix C: State of the evidence base

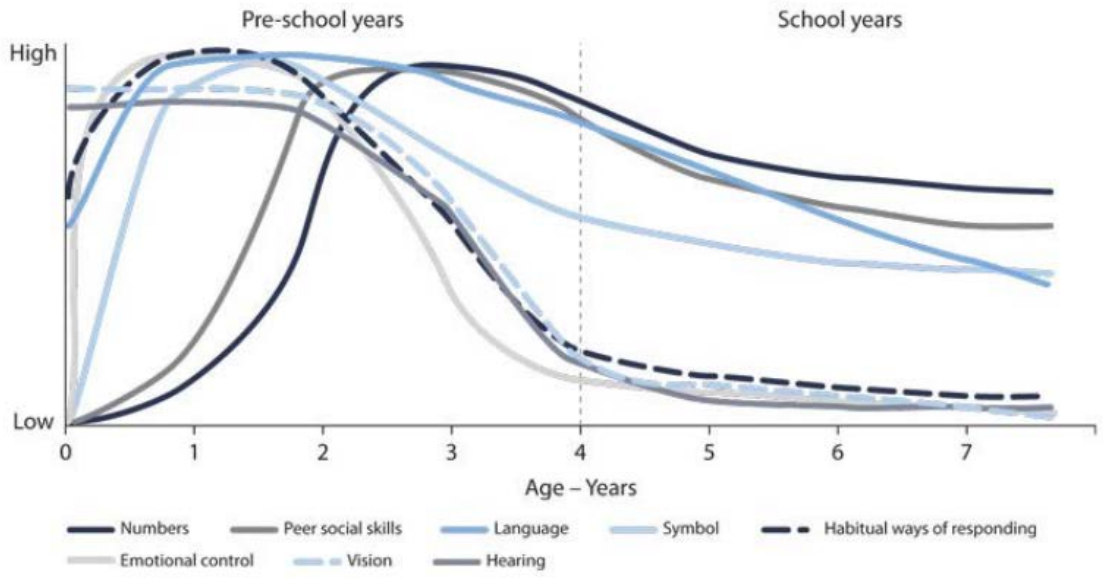
To understand what the available evidence can (and cannot) tell policy-makers about the impact of 3-year-old preschool, it is important to understand the nature of the evidence base – both in terms of how children learn and develop, and on the effects of preschool on a range of important outcomes.

There has been an explosion of research on early childhood brain development and the role that children's relationships with others play in their learning and development (Centre on the Developing Child at Harvard University 2010, 2011; National Association for the Education of Young Children 2012; National Scientific Council on the Developing Child 2004a, 2004b, 2007, 2010, 2015).

This research highlights the potential for preschool programs to engage children at the age when their brains are most receptive to learning critical foundational skills. Neuroscience shows that children are primed to learn things at certain ages and typically learn and develop in a certain sequence. Analysis of the patterns shows peak brain activity at very early ages, well before 5 or 6 years of age when formal schooling commences (Figure C1).

This broader literature on child development highlights both the potential of 3-year-old preschool programs to provide effective, developmentally appropriate learning opportunities at a critical age, and the importance of high-quality provision at this age.

Figure C1: Sensitive periods in early brain development (Education and Health Standing Committee 2012)



Regarding the intervention literature evaluating the impact of preschool, there are four broad bodies of evidence available. Together, these bodies of evidence – that span single, small-scale studies with a specific focus through to national and community-wide impact studies – provide a patchwork of findings, with evidence from a range of contexts and circumstances. Although impacts differ in type and magnitude (and robustness), there are consistent messages about the impact of quality and the potential for longer duration to have a greater impact. The broad bodies of evidence include:

- **Demonstration projects**: A handful of landmark studies from the 1970s and 1980s – such as HighScope Perry Preschool and the Abecedarian Project – delivered very intensive and comprehensive preschool and family support initiatives to highly disadvantaged families in the United States. Long-term follow up from these randomised controlled trials has found substantial impacts on a range of key outcomes and significant returns on investment (Emerson, Fox & Smith 2015). However, these were very intensive early-education programs, delivered in very specific socio-economic and cultural conditions. They have highlighted the potential of quality early education to change children's trajectories, but are not necessarily directly transferrable to modern Australian contexts.

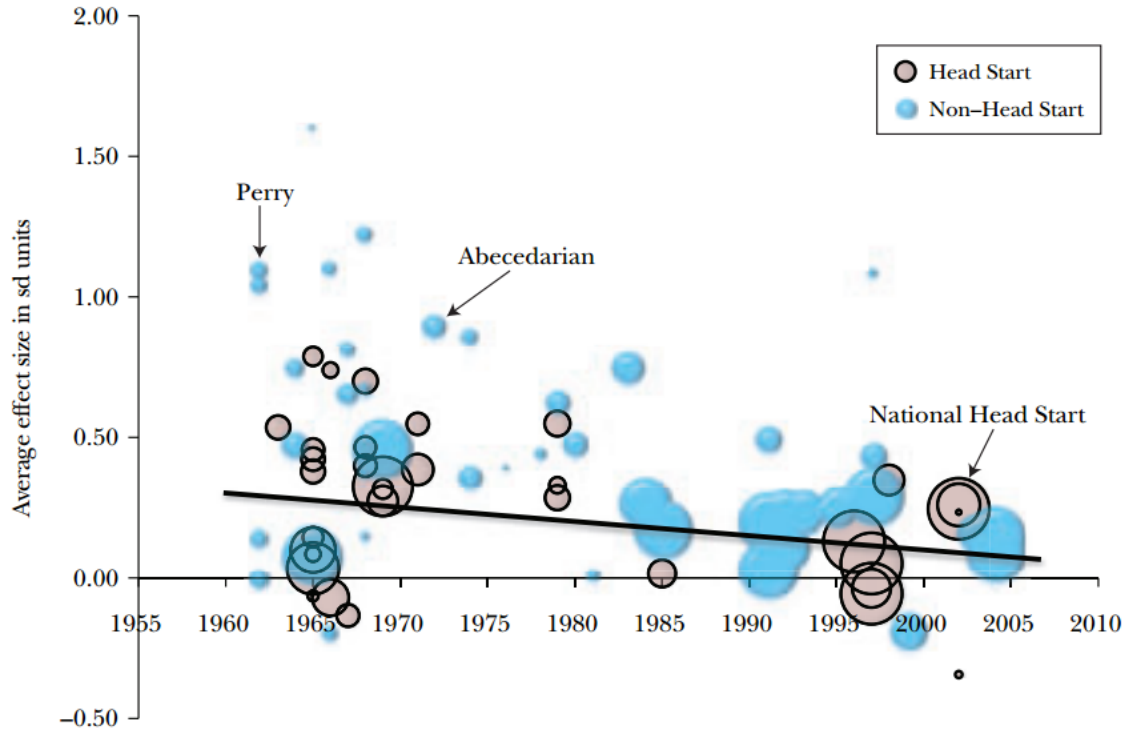
> "Younger children have greater neural plasticity. The critical period for developing a range of cognitive (e.g., inhibitory control) and language (e.g., vocabulary) skills, which are the building blocks of later social and academic capacities, begins even earlier than the age of 3 and continue throughout childhood and adolescence"
>
> Domitrovich et al. (2013)

- **European social platforms**: Many European nations introduced high-quality universal preschool for children from birth to school entry in the mid-20th century, and now have firmly embedded cultures of preschool attendance. Studies have used regional variances in implementation and design to estimate the longer-term impacts and have found population-level impacts on educational attainment and workforce participation (Gambaro, Stewart & Waldfogel 2014, p. 4).
- **Smaller scale studies**: There are a number of studies, of variable levels of methodological rigour, examining stand-alone preschool programs and specific elements of preschool delivery (i.e. literacy programs). These often have small sample sizes or target very specific cohorts. Some of these use experimental or quasi-experimental methods, and therefore provide comparatively reliable data, but they do not necessarily provide strong guidance about the impact system-wide preschool programs.
- **Modern large-scale delivery models**: There are a handful of large datasets from the United States examining large-scale initiatives such as HeadStart and state-wide scale-up of 'pre-k' programs that have been used to measure the impact of modern, regular delivery of preschool. These studies have generally identified moderate short-term impacts on cognitive and behavioural outcomes, although the cognitive impacts have not consistently been maintained into early primary school (Zaslow, Anderson, et al. 2016). The Effective Provision of Pre-school Education (EPPE) and Effective Pre-school, Primary and Secondary education (EPPSE) evaluations in the UK are also important large-scale studies of modern preschool delivery, and they found significant short, medium and long-term impacts for high-quality early education (Taggart et al. 2015).

None of the community-wide models of preschool provision have achieved impacts nearly as large as Perry Preschool or Abecedarian (Figure C2), with this relative decline in the scale of impact of preschool attributed to the quality and intensity of the program delivered, as well as improvements in social conditions more broadly (i.e. reductions in poverty and improved maternal education) and an increase in the quality of care received by control groups (Duncan & Magnuson 2013a).

However, the majority of studies find positive impacts, ranging in scale from small to moderate, with the largest impacts found with the most disadvantaged children.

Figure C2: Average impact of early child care programs in the US at end of treatment (Duncan & Magnuson 2013b)



Across all of these studies, there are a number of factors that impact how to interpret and apply the findings:

- **Many studies include 3 and 4 year olds and do not necessarily disaggregate by age** – so determining the specific effects of preschool for 3 year olds is challenging.
- **Impact is measured in very different ways across studies** –what constitutes a 'positive impact' is different across studies. Using different cognitive and 'non cognitive' measures makes it difficult to aggregate findings.
- **Impact measures tend to privilege cognitive outcomes over social and emotional outcomes** – even though there is growing evidence that it is the impact of preschool on broader capabilities such as resilience, emotional regulation, social skills and relationships that generate the strong long-term impacts of preschool (Heckman 2008; Heckman & Kautz 2012, 2013; Heckman, Stixrud & Urzua 2006; Kautz et al. 2014; Reynolds 2010)
- **All studies highlight the critical importance of the quality of the program** – but most studies measure quality differently, often in very imprecise ways, and even the best available validated measurement instruments are imperfect. Many studies use structural elements as proxy measures of quality, even though it is generally agreed that process quality elements (educator-child interactions) are the key ingredient to impact.
- **More studies have focused on target cohorts** – the large-scale datasets and body of smaller-scale evaluations in the US, in particular, have often focused on disadvantaged children, meaning that there is a stronger evidence-base.
- **There are very few long-term follow ups** – the power of the demonstration projects comes through the decades of follow up (with return on investment ratios increasing exponentially

across the life course), but the majority of other studies follow children to early primary at best (where cognitive impacts appear to fade). Modern studies with longer-term follow up (like EPPE/EPPSE) have found positive impacts on graduation rates.

The ecological context, in which outcomes are influenced by a child's home life, social networks and community surrounds (Bronfenbrenner 1979), further complicates the interpretation and generalisability of findings from studies in specific locations or communities. Large studies seeking to describe 'average' impacts can fail to expose the nuances of just who is impacted and if program quality varies across sites.

Although there is inconsistency in the evidence base, the association between quality and impact is undisputed and the findings regarding the impact of high quality provision are relatively consistent.[24]

[24] Those who argue against the introduction of universal preschool often do so on the basis of the challenge of achieving high quality at scale (Armor 2014; Cascio & Whitmore Schanzenbach 2013b; Whitehurst 2013).

Appendix D: Jurisdictional policy and funding arrangements for 3 year old preschool

State or territory	% 3yo in programs delivered by an ECT	Policy and funding arrangements
New South Wales	38.2%	New South Wales has a substantially higher proportion of 3-year-old children attending preschool programs, in part because of a history of employing more early childhood teachers in preschool and Long Day Care settings. Under NSW's funding model, 3 year olds attending community preschools are eligible for the same per-child subsidy rate as 4 year olds if they are Aboriginal or Torres Strait Islander or hold a Health Care Card (NSW Government 2016). Some community preschools charge fees for non-subsidised 3 year olds. A review of the impact of the new funding model found that overall enrolments of target cohort children increased by 2 per cent between 2013 and 2014, and enrolments of Aboriginal children and children from low-income families increased by 5 per cent (NSW Department of Education 2016c). The Supporting Children with Additional Needs program is targeted at children with disability aged 3-5 and supports access to early education and care and preschool (NSW Government 2016). Preschool grants made to Long Day Care centres are only for children in the year before school, not 3 year olds.
Victoria	7.1%[25]	The Early Start Kindergarten program provides up to 15 hours of free or low cost preschool (delivered by an ECT) to 3-year-old Aboriginal children and 3-year-old children who have been in contact with child protection or referred to the

[25] Victorian data for preschool programs not provided in long day care centres only include 3 year old children who have been approved to attend funded 4 year old kindergarten programs, and so do not include children in other programs for 3 year olds (Steering Committee for the Review of Government Service Provision 2016a)

		early intervention service, ChildFIRST. The programs are delivered in a mixed-age group or as part of a year before school program (Victorian Department of Education and Early Childhood Development 2016; Victorian Department of Education and Training 2016a). Established in 2010, the program has been relatively successful in boosting participation of Aboriginal children (from 258 in 2010 to 462 in 2014), although state-wide data indicates that it appears to be less effective in engaging the estimated 2000 children eligible under the child protection measure (with only 329 participating in 2014, up from 205 in 2010) (Victorian Child and Adolescent Monitoring System 2016).[26] In Victoria, 75 per cent of local councils operate some form of preschool program for 3 year olds (MAV 2015). There appears to be no information available on the types of programs operating or the number of children participating, although a 2009 government report estimated that there were around 1000 preschool programs operating in Victoria for 3 year olds. These programs had a median session length of 2.75 hours, operated across a range of settings, and were mostly funded through parent fees (Victorian Department of Education and Early Childhood Development 2009). It is unclear how many children accessed these services.
Queensland	15.7%	Where spaces are available in the 4 year old kindergarten program, parents can access a kindergarten program for their 3 year old. However, 3 year old children are not eligible for state government subsidies so the out-of-pocket cost is high. Queensland has a few providers of fee-based dedicated 3 year old kindergarten programs. These services usually also offer the funded four year kindergarten program.
South Australia	16.6%	All Aboriginal children and children under guardianship of the Minister (i.e. in child protection) are funded to attend a preschool program once they turn 3. All children are able to start their 'year before school' program one term, for one session a week, if they attending a government preschool. This is intended to provide an introduction to preschool. Children with additional needs may access up to two terms of preschool prior to commencing in their eligible year of preschool if a preschool has the capacity within existing resources.

[26] Note: To avoid double counting enrolments, where children are eligible as both Aboriginal or Torres Strait Islander and known to Child Protection, the grant is applied as an Aboriginal Early Start Kindergarten grant and counted once (Victorian Department of Education and Training 2015b, p. 96).

Western Australia	21.5%	In WA, 3 year old kindergarten programs are largely privately provided (either through Long Day Care centres, community agencies, local government or non-government schools). A large number of non-government schools in WA offer a 3 year old program to children in their local community(Catholic Education Office Western Australia 2016). The relatively new KindiLink programme provides Aboriginal 3 year olds with supported playgroup sessions for six hours per week. Kindilink is jointly delivered by an early childhood teacher and an Aboriginal assistant. They work with families to support children's learning. It is free and operates for six hours per week in 37 public schools which have a high number and proportion of Indigenous enrolments (AEDC 2015).
Tasmania	5.0%	Tasmania has a cross-sectoral policy on admitting highly gifted 3.5 year olds and children transferring from interstate into funded 'year before school' programs, which are largely co-located with primary schools (Tasmanian Department of Education 2015). There is currently a proposal to lower the school entry age to 4.5 years, which may result in expanded access to preschool for 3.5-year-old children. Tasmania's Launching into Learning program provides resources to all government schools to develop initiatives with families and communities to support early learning (birth to 4), with a curriculum underpinned by the EYLF and a focus on engaging other local services to support child learning and family wellbeing (Tasmanian Department of Education 2013; Tasmanian Government n.d.).
Northern Territory	14.3%	The NT provides free preschool for all 3 year olds in remote and very remote communities, an initiative primarily targeted at Aboriginal children. A key action in the NT's 'Great Start Great Future' strategic plan for early childhood is "investigating the options for expanding 3-year old preschool to all vulnerable and disadvantaged children in the Northern Territory" (Northern Territory Government 2016).
Australian Capital Territory	19.0%	The ACT Government also funds free Koori preschool programs for Aboriginal and Torres Strait Islander children aged 3-5 years in the ACT. The ACT has a number of community established and run(fee-based) 'playschools' that provide programs for 3 year olds that may be delivered by an Early Childhood teacher. Some government and non-government schools also run 3-year-old programs.

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