Key Facts and Figures

### Key Facts

- Childhood development lays a critical foundation for long-term outcomes in health, learning, behaviour and wellbeing.

- Children with developmental vulnerabilities and delays are more likely to develop chronic health, learning, behavioural and mental health problems. In the long-term this may result in chronic health conditions and increased risk of hospitalisation; increased contact with the criminal justice system; higher likelihood of unemployment and lower remuneration levels when employed; higher risk of homelessness; likelihood of personal relationship difficulties.

- Early intervention can improve a child’s developmental trajectory to mitigate the challenges associated with developmental vulnerabilities and conditions.

- The economic costs of not halving rates of developmental vulnerability in Australia is likely to curb GDP growth by 10% over the next 60 years.

### Key Figures

- **1 in 5** (22%) children in Australia are developmentally vulnerable on one or more domain when they start school (at the age of 5).

- **42%** of Indigenous children are vulnerable on one or more domain - almost double the rate of non-Indigenous children.

- Children in rural, regional and remote areas are more likely to be developmentally vulnerable than children in metropolitan areas – **27%** of all children in outer regional, remote and very remote areas compared to 21% in towns and cities.

- Children living in Very Remote areas are **twice as likely** as those living in Major Cities to be developmentally vulnerable.

- More than **1 in 6** (16.2%) children and adolescents aged 4-17 in rural areas have mental health problems. The highest prevalence is in Outer Regional areas (19% of children and adolescents).

- **32%** of children in regional, rural or remote NSW are unable to access the health services they need.

- Allied health workers in rural and remote areas service a population at least **5 times greater** than their metropolitan counterparts.

- Royal Far West receives an average of **56 referrals per month** from NSW alone for its Paediatric Development Program to assess and diagnose children with complex developmental, behavioural and mental health conditions.

- Each year, Royal Far West receives almost **1,000 referrals** to its integrated allied health services for support with developmental conditions.
Summary

The physical, emotional and social development attained in childhood lays a critical foundation and sets a trajectory for long-term outcomes in health, learning, behaviour and wellbeing\(^1\). Delays or vulnerabilities in development are linked with poor educational outcomes; functional disability; chronic mental health problems; and a higher risk of unemployment, personal relationship difficulties, contact with the criminal justice system, and homelessness\(^2\).

On a national scale, supporting childhood development can reduce costs in education, health, criminal justice, and welfare, while increasing income earned and taxes paid. Analysis suggests the economic costs of not halving Australia’s current rate of childhood developmental vulnerability is likely to curb Australian GDP growth by 10% over the next 60 years\(^3\).

Despite its critical importance, childhood development does not get the attention or understanding that it should. With more than 1 in 5 children (22%) across Australia starting school with a developmental vulnerability (a rate that is almost doubled for Indigenous children (42%))\(^4\) and 1 in 7 (13.9%) children and adolescents experiencing a recent mental health condition\(^5\), it is clear that too many children fall through the cracks with unidentified and untreated developmental vulnerabilities, delays and disabilities, and are left unable to meet their potential.

These issues are worse in rural, regional and remote areas. The more remote the region in which a child lives, the more likely they are to be developmentally vulnerable – outside major cities and towns, 27% of children are developmentally vulnerable on one or more domain, compared to 21% in cities and towns\(^6\) - and almost one in five (19%) children and adolescents in outer regional areas have experienced recent mental health problems\(^7\).

These issues are worse again in the most disadvantaged communities, many of which are in rural areas, where roughly a third of children are developmentally vulnerable on one or more domains – a rate that has worsened since measurements were started in 2009. As developmental vulnerability is linked with poorer long-term social and economic outcomes, this can lead to sustained inter-generational disadvantage for many families in these communities.

With the right support and/or access to early intervention services, developmental vulnerabilities and delays can be prevented or overcome. Children can then achieve ‘typical’ development and reset their trajectory to meet their full potential. However, there are several key obstacles preventing any real improvements to supporting childhood development in regional, rural and remote Australia:

1. A **lack of awareness and understanding** among parents, teachers and some medical practitioners of issues surrounding development and how to best support typical childhood development.
2. A **lack of leadership** on childhood development by government, which translates into an under-resourced and fragmented system that does not provide “whole-of-child” support.
3. A **lack of access to services** for early identification, intervention and treatment, particularly in country areas, where there are well-documented health workforce shortages.

---

\(^1\) AG 2015, *AEDC National Report*
\(^2\) URBIS 2015 *Invest now, save later - The economics of promotion, prevention and early intervention in mental health*
\(^3\) AEC Group 2016. Centre for Child Health & Learning – Business Case
\(^5\) AG 2015 *The Australian Child and Adolescent Survey of Mental Health and Wellbeing*
\(^6\) Analysis of 2015 AEDC data – see Appendix 1
\(^7\) AG 2015 *The Australian Child and Adolescent Survey of Mental Health and Wellbeing*
To address this issue and effectively support childhood development, Australian children need integrated, coordinated, child-centred services that support them and their families, with specific strategies for regional, rural and remote communities. Tailored, community-led approaches are likely to provide the most sustainable option for ensuring country children get the support they need to promote optimum development, including timely identification and intervention, and avenues for ongoing treatment and support.

**Recommendations**

1. **Government leadership:**
   - 1.1 Make Supporting Childhood Development a National Priority.
   - 1.2 Develop a National Strategy to Support Childhood Development, with commitment from the Commonwealth and each State and Territory.

2. **Government funding:**
   - 2.1 Increase the proportion of funding directed to preventative and early intervention services.
   - 2.2 Fund universal developmental “school readiness” programs for four year-olds, with a particular focus on disadvantaged communities.

3. **Break down silos:**
   - 3.1 Establish a cross-government strategy to ensure coordinated and collaborative development and implementation of policies and programs that support childhood development.
   - 3.2 Invest in delivery of integrated health, education and social services to support children with identified developmental concerns or emerging conditions.

4. **Community-led approach:**
   - 4.1 Invest in community-led, “whole of community” capacity building to support childhood development in disadvantaged communities.
   - 4.2 Increase investment in collective impact models for rural and remote communities.

5. **Increase service access in rural communities:**
   - 5.1 Develop a clear strategy on the delivery of tele-health services in regional, rural and remote areas, including tele-allied health.
   - 5.2 Direct funding to support delivery of tele-allied health for children in regional, rural and remote areas.
   - 5.3 Invest in innovative approaches to increasing access to allied health support to support childhood development.

6. **Capacity building and support:**
   - 6.1 Increase professional development and peer-support for rural and regional early childhood educators and teachers to build capacity around supporting typical development and identifying children with additional needs, including developmental conditions.
   - 6.2 Improve early identification and referral pathways for developmental support in rural primary care settings.

7. **Increase Awareness:**
   - 7.1 Run awareness campaigns on childhood development targeting parents, early childhood educators, teachers, and primary care clinicians in rural, regional and remote areas, including culturally appropriate campaigns for Indigenous and CALD communities.
Background

Childhood development

Childhood – the period of life from birth to the age of 12 years old – is a critical time for learning and development that sets the foundation for long-term outcomes. Early childhood development relates to how well a child is tracking in their development over this period and is increasingly recognised as a key predictor of outcomes in behaviour, learning, health and wellbeing. Environment is critical to childhood development. The younger the child, the more vulnerable their brain is to environmental influences. Adverse experiences in the early years are particularly damaging and shape development of young children's brains in ways that have long lasting effects. Severe and sustained stress (e.g. from chronic abuse, early neglect, trauma) in the early years is toxic for the growing brain and impairs development.

Optimum childhood development requires health, nutrition, security and safety, responsive caregiving, and early learning, ideally delivered by the family and supported by the community. Young people develop primarily through relationships, so in the early years the family or care-givers are the critical input to development. Environmental influences impact significantly on both childhood development and family functioning – personal support networks (i.e. friends and family), social capital (degree of connectedness in the community), and social infrastructure (access to quality services and facilities) are all important to well-functioning families, and therefore critical ingredients to childhood development.

Developmental concerns that are not addressed in the early years tend to continue and increase throughout childhood, often resulting in poorer educational attainment. Research shows that children who start school significantly behind their peers can never close the gap, while the consequences of early school failure are increased likelihood of truancy, drop out, and unhealthy or delinquent behaviours.

Left unchecked, developmental vulnerabilities also have the capacity to develop into chronic health, behavioural and mental health conditions such as Attention Deficit Hyperactivity Disorder (ADHD), conduct disorders, sensory processing disorders, anxiety and depressive illnesses. Untreated, these childhood mental health and behavioural problems have been shown to have profound longstanding social and economic consequences in adulthood. These include increased contact with the criminal justice system, reduced levels of employment and often lower remuneration levels when employed, homelessness and personal relationship difficulties.

---

8 AG, 2015. AEDC National Report
9 ARACY 2006 The Importance of the Early Years
10 Black et al. 2017. Early Childhood Development coming of age: science through the life course
11 ARACY 2006 The Importance of the Early Years
12 Engle and Blackman 2008 The Effect of Poverty on Child Development and Educational Outcomes
13 McKenzie and Da Costa 2015 Early Childhood Development in Australia: Challenging the System
14 URBIS 2015 Invest now, save later - The economics of promotion, prevention and early intervention in mental health
Developmental vulnerability and disorders in Australia's children

In Australia, the primary tool measuring early childhood development is the Australian Early Development Census (AEDC) – a national measure of Australian children’s development in the first full-time year of schooling (at approximately age 5). First measured in 2009, the AEDC occurs every three years, with the most recent census undertaken in 2015.

The AEDC covers five key domains linked to child health, education and social outcomes, including:

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

According to the 2015 AEDC, 22 per cent of children in Australia are developmentally vulnerable on one or more domain when they start school (more than 1 in 5), and 11 per cent are vulnerable on two or more domains (more than 1 in 10). Indigenous children are almost twice as likely as non-Indigenous children to be developmentally vulnerable (42 per cent) and the more remote the region in which a child lives, the more likely they are to be developmentally vulnerable. Children living in Very Remote areas in Australia (ARIA 5) in 2015 were twice as likely as those living in Major Cities (ARIA 1) to be developmentally vulnerable on one or more domain(s) and three times more likely to be developmentally vulnerable on two or more domains.

There has been almost no change in the rates of developmental vulnerability measured between 2012 and 2015, except a small improvement in developmental vulnerability of Indigenous children (from 43.2 to 42.1% vulnerable on one or more domain). In fact, in some areas there is a widening gap, such as in disadvantaged communities and for children in Outer Regional, Remote and Very Remote communities, relative to children in Major Cities (AEDC 2015 report). Since the first collection of AEDC data in 2009, the gap between children living in cities versus those living in regional and remote areas has not closed and since 2012, there has been an increase in the proportion of children in Inner Regional, Remote, and Very Remote areas who are developmentally vulnerable.

Further to this, the period 2009 to 2015, the gap between the proportion of developmentally vulnerable children in the most disadvantaged areas, relative to the least disadvantaged areas, widened across all five domains. This was also the case for the proportion of children vulnerable on one or more domain(s), and the proportion of children vulnerable on two or more domains. See the table in Appendix 1 for details.

In addition to the high rates of developmental vulnerability, there is an increasing prevalence of diagnosed behavioural and mental health conditions among Australian children. The most recent survey on the mental health and wellbeing of adolescents and young children states approximately 1 in 7 (13.9%) of the 4-17 year-olds surveyed were assessed as having mental disorders in the previous 12 months. ADHD was the most common mental disorder in children and adolescents (7.4%), followed by anxiety disorders (6.9%), major depressive disorder (2.8%) and conduct disorder (2.1%). Almost one third (30.0% or 4.2% of all 4-17 year-olds) of children and adolescents with a disorder had two or more mental disorders at some time in the previous 12 months. There is a greater prevalence of disorders in regional and remote areas, with the highest prevalence in outer regional areas (19%)16. See Appendix 2 for details.

---

15 “For children who were developmentally vulnerable on one or more domain(s), the gap between Major Cities and Very Remote areas has widened from 22.9 per cent in 2009 to 23.4 per cent in 2012 and to 26.0 percent in 2015.” – 2015 AEDC Report

16 AG 2015 The Australian Child and Adolescent Survey of Mental Health and Wellbeing
Royal Far West can confirm the high rates of developmental vulnerability and disorders in rural and remote communities through individual program data. For example, the RFW Healthy Kids Bus Stop (HKBS) program delivers a comprehensive health and developmental screening for children aged 3-5 years old (pre-school age). The average rate of referrals from the HKBS screening is 78%, including 7% of those referrals to RFW for complex needs. That means almost 4 out of every 5 children screened in these rural communities are referred for additional assessment or treatment.

Royal Far West receives an average of 56 new referrals each month to its Paediatric Development Program (PDP) from GPs and paediatricians in rural NSW seeking assessment and diagnosis of children with complex developmental, behavioural and mental health conditions (see Appendix 3 for RFW program information and data tables). Including the technology-based Telecare and Windmill disability support programs along with the PDP, Royal Far West receives almost 1,000 new referrals each year (945 referrals in 2016).

Children in rural, regional and remote areas

As identified in the AEDC data, children in non-metropolitan areas are more likely to be developmentally vulnerable than children in metropolitan areas as rates of developmental vulnerability increase with remoteness. Analysis of the data shows that outside of major cities and towns (in outer regional, remote and very remote areas), 27% of children are developmentally vulnerable, compared to 21.3% in metropolitan areas (major cities and inner regional) (see Table 2 in Appendix 1 for figures).

In addition to the higher rates of developmental vulnerability, children in non-metropolitan areas also tend to have poorer educational outcomes, including lower levels of attendance, engagement, and transition to further study\(^{17}\). Research undertaken by the Centre for Community Child Health (CCCH) on behalf of Royal Far West also identifies features common to a high proportion of children living in rural and remote areas\(^{18}\), including:

- They experience disproportionately higher rates of poverty, with a poverty rate 25% higher than in urban areas.
- They are more likely to be Indigenous - while less than 5% of the total population of Australia’s children are Indigenous, in remote areas Indigenous children account for 38% of all children in remote areas and up to 50% or more of the population of children in very remote communities.
- They are more likely to be living in unemployed households, with single parent families, and in families where the mother has a low educational attainment.
- They are more likely to experience social exclusion and isolation, with rates of social exclusion more than 4 times higher for children in remote areas compared to metropolitan areas.
- They are more likely to be exposed to domestic violence and have contact with child protection services, are less likely to attend pre-school and are more likely to need additional assessments for learning impairment.

Each of these factors are associated with increased risk of poorer long-term health and wellbeing outcomes, and when exposed to multiple risk factors, the likelihood of poor outcomes increases dramatically. There are also increasing numbers children in non-metropolitan areas from culturally and linguistically diverse (CALD) backgrounds with large numbers of migrants and humanitarian entrants settling in rural and regional areas over the last several years. Children from CALD backgrounds can face additional challenges that can impact on development and wellbeing\(^{19}\), including:

\(^{17}\) CESE 2013 *Rural and remote education: Literature Review*
\(^{18}\) CCCH 2017 *Reporting the Health and Development of Children in Rural and Remote Australia*
\(^{19}\) KidsMatter fact sheet *Why culture matters for children’s development and wellbeing*
• The complications and stress of migration and resettlement, which may contribute to social isolation, anxiety, and loneliness.
• Overcoming the barriers of language and cross-cultural communication, which is challenging for all members of the family. AEDC research also shows linguistically diverse children who were not yet proficient in English at school entry show greater developmental vulnerability and a heightened risk of poorer outcomes.
• Effects of trauma when migration is prompted by particularly stressful experiences, such as for refugees. Trauma-affected children may exhibit a number of challenging social, emotional or behavioural responses; can have difficulty learning new skills; and their development can be affected.
• Discrimination and racism is regularly experienced by members of minority groups, such as CALD population. It can create undue stress and social disadvantage and increase children’s sense of difference and vulnerability.
• Parenting across cultures can create specific challenges for children, who find differences in the values and expectations of them at home and in the broader community, particularly at school or pre-school.

Early Intervention

Early intervention can promote development, wellbeing and community participation through specialised support and services for young children with developmental delays or disabilities, and their families. Effective early intervention can maximise developmental and health outcomes and reduce functional limitations so that children who are developmentally vulnerable or delayed may be able to “catch up” to their peers and regain an optimal developmental trajectory.

Early intervention requires early identification of developmental issues, and a comprehensive assessment for diagnosis. A comprehensive assessment also enables parents and professionals to better match the intervention and support to the child and family’s needs. Good quality early intervention programs lead to improved psychosocial and health outcomes in the long-term and are particularly effective with children from disadvantaged backgrounds.

Early intervention is most effective if delivered across all environments that children access, including the home, child care, and other educational settings. To support Indigenous and CALD communities, intervention should be culturally appropriate to suit the needs and preferences of families.

Ideally, a system of early intervention can provide integrated and coordinated services to promote the child’s growth and development and support families during the critical early years. This may include health (particularly allied health), education and social services. Recent research into improvements to child development at the local government level suggest that community-led approaches are most effective to achieve positive outcomes.

---

20 AEDC Research Snapshot Early developmental outcomes of Australian children from diverse language backgrounds at school entry
21 RACP 2013 Position Statement - Early Intervention for Children with Developmental Disabilities
23 ARACY 2006
Importance of addressing childhood development

Considering the long-term effects of childhood development, it is an issue of national significance with impacts across the national economy. Addressing developmental vulnerabilities and delays in children can reduce costs in education (for learning and support services), the health system (e.g. prevention of chronic conditions), criminal justice, and welfare system, and it would increase income earned and taxes paid. As a predictor of future outcomes and successes, childhood development is a key ingredient of the future labour market and the nation’s human capital, particularly in a world increasingly reliant on technological-based information and knowledge industries.

Research shows that early childhood development can have enormous impacts on the national economy. For example, a Canadian study and economic analysis of early childhood development anticipates that a reduction of developmental vulnerability from 29% to 10% for children starting school in one Canadian province would result in an increase of that province’s GDP of more than 20 per cent\(^26\). Based on this analysis, the economic costs of not halving Australia’s rate of developmental vulnerability is likely to curb Australian GDP growth by 10% over the next 60 years\(^27\).

“The early vulnerability rate is a canary in the coal mine predicting the future quality of our country’s labour supply.”\(^28\)

Supporting childhood development is also integral to addressing disadvantage. The AEDC data demonstrate a clear correlation between disadvantaged communities and early childhood developmental vulnerability. According to the 2015 AEDC, children living in the most socio-economically disadvantaged locations are twice as likely as those from the least disadvantaged areas to be developmentally vulnerable on one or more domain(s) and three times more likely to be developmentally vulnerable on two or more domains. As children who start school developmentally delayed are more likely to be set on a trajectory for poorer outcomes in life (e.g. lower educational attainment, chronic health concerns, likelihood for criminal behaviour, poor employment, housing and food insecurity etc.), this becomes a cycle of disadvantage. Early intervention that addresses developmental concerns has the power to break that cycle.

Intervening early in the life course is most effective, and the right intervention can positively alter the child’s long term trajectory, achieve significant savings, and potentially reduce the risk of secondary health and psychosocial complications\(^29\). There is a clear economic argument for investing in early intervention, with growing evidence and economic analysis demonstrating that childhood interventions, particularly for disadvantaged young children, are more effective than interventions that come later in life (See Figure 12)\(^30\).

\(^{26}\) Kershaw et al, 2010. *The Economic Costs of Early Vulnerability in Canada*
\(^{27}\) AEC Group 2016. *Centre for Child Health & Learning – Business Case*
\(^{28}\) Kershaw et al, 2010.
\(^{29}\) RACP 2013
\(^{30}\) Heckman 2007 *The Productivity Argument For Investing In Young Children*
Key issues

Inadequate leadership from government/fragmentation (System-wide Challenges?)

Despite previous government reforms agreed to by all Australian governments, there is a lack of tangible action on childhood health, development and wellbeing. Previous work, such as the National Strategy for Early Childhood Development (the National Strategy), has laid a foundation, and set a 2020 Vision of:

“Australia has world class early childhood development services that form a cohesive, accessible and nationally recognisable system. There is a core universal provision linked to a range of targeted and intensive services. Services are delivered in a mixed market and providers have the flexibility to respond to local and individual need. There is a strong focus on promotion, prevention, early detection and early intervention in children’s developmental pathways. Services are delivered by an appropriately qualified and inter-disciplinary workforce according to robust quality assurance processes.”

However, there has been little follow up on the implementation of this Strategy and no coordinated effort to adequately evaluate and resource the measures outlined to ensure Australia’s children are being supported to reach their full potential. More recently, in 2015, the Australian Health Ministers Advisory Council (AHMAC) developed a new framework - Healthy, Safe and Thriving: National Strategic Framework for Child and Youth Health – that identifies the key strategic priorities for child and youth health in Australia for the next ten years. There is no implementation plan outlined for “The Framework”, which specifies:

Action on improving the health of children and young people is a multi-agency and multi-government responsibility. For national action to be effective, it must be supported by all levels of government. Under the Framework, the Australian, state and territory governments will work together and through their jurisdictions to ensure that the strategic priorities are implemented.

As a policy area, early childhood relates to social welfare, education, employment and health. With no Federal Minister for Early Childhood, it is fragmented and managed across different portfolios, which means little real leadership in this area. Early Childhood Education sits within the Education portfolio; policies on maternal and infant health are managed within Health; and child protection, disabilities, and family support services are managed within Social Services portfolios. This fragmentation is repeated at all levels across the early childhood development sector, creating obstacles for families and children seeking to access services.

The current system drives “territorial” behaviour between organisations who must compete for a limited pool of funds to ensure their survival. This territorialism can result in a lack of information sharing as organisations compete with one another, and are less likely to collaborate, entrenching the fragmentation.

Childhood development is not recognised or valued highly enough for its own sake. Arguments to resource the policy area often link its value to adults – such as early childcare allowing parents to return to the workforce.

_Issues with early identification_

At the time of development in 2009, the National Strategy identified as a priority reform area: _the timely assessment, referral and early intervention for children and families with complex needs_. However, anecdotal evidence from Royal Far West client families and rural and regional health stakeholders suggests that there are still inadequate systems in place to identify and provide intervention to children with complex needs, particularly in rural areas. There are still gaps and shortfalls, even in the current system.

For example, advice from one NSW Local Health District suggested that many children in regional areas do not complete all the designated health checks outlined in their NSW Health Child Personal Health Record (or “Blue Book”), which prompted the development and introduction of the RFW _Healthy Kids Bus Stop_ program to deliver comprehensive health and developmental screenings to children in rural communities. Data from the HKBS demonstrates that high numbers of children are identified with previously unrecognised condition – of 892 children screened from 2014-15, 78% were referred to at least one health service for further intervention. This included 7% referred to Royal Far West with complex, multidisciplinary concerns (see Appendix 2 for more information on the HKBS).

One of the issues is that parents are often left with the responsibility of identifying any emerging conditions or possible problems; however, parents are often not adequately informed or best equipped to identify concerns, particularly with their first child. The HKBS found that in many cases where children had a problem flagged, the parent explicitly stated they did not have any concerns in that area.

It is often the case that primary school teachers are the first to identify a child’s issue, and RFW receives a significant number of referrals first initiated by teachers. This places significant additional pressure on teachers to act as a referral point, and many teachers are not adequately equipped to take on this role. This is particularly the case in in rural and remote settings where teachers are often less experienced and have less peer support. For example, analysis of NSW data shows that on average, teachers working in rural and remote schools have only 7 years’ experience compared with the average in metropolitan schools of 12.9 years’ experience. There is also high turnover in rural and remote schools with teachers spending an average of 4.7 years in remote areas compared to 7.1 years in metropolitan areas

---

33 CESE 2013 _Rural and remote education: Literature review_
Lack of access to early intervention services

Early intervention in rural communities is complicated by a lack of availability and/or access to appropriate services. There is a well-documented shortage of health workers in rural and remote areas (e.g., in NSW the number of medical and other health care service employed per 1,000 persons in rural areas was 11.8 compared to 13.2 for the state) and previously, NSW Health data has identified 32% of children in rural and regional areas have difficulty accessing the health services they need\(^\text{34}\).

In rural, regional and remote areas there are significant and well-documented issues around the availability of health workforce, particularly with allied health workers, and even more so for those that specialise in paediatric services. In 2006, there were 64 allied health workers per 100,000 population in rural and remote areas compared to 354 per 100,000 in major cities\(^\text{35}\). Therefore, allied health workers in rural and remote areas service a population at least 5 times greater than their metropolitan counterparts.

Where local services are available “locally”, families may have to travel up to 100km or more each way to reach the service provider. Alternatively, health professionals may be required to offer more mobile services, and the significant travel distances and times associated with this can have a negative impact on service capability. Allied health and paediatric health services are often only available on a sessional basis, sometimes only once a month, which can translate to longer wait time and less access. It also impacts on the quality of the service provided with limited opportunity for the health professional to get to know the client and offer sustained intervention\(^\text{36}\).

There is often a gap in paediatric services, with many health services needing to service the whole community. Where available, paediatric services, including paediatricians, are often provided in hospitals and even then, long travel times is a common issue for patients. Paediatric disability services in rural and remote locations are also challenging to source and are often missing as an option on local health directories\(^\text{37}\).

School-aged children may be able to access educational supports through schools; however, the challenge is providing support to children with mild to moderate issues who may need additional support in the classroom but are not eligible for additional funding support due to a lack of formal diagnosis. Again, it is often left up to teachers to provide additional supports within the classroom to meet the needs of all children in the class. With growing classroom sizes and little formal training on supporting children with additional needs, many children “slip through the cracks” and do not receive the intervention they need to achieve their full potential.

Strategies for improving childhood development in rural, regional and remote Australia

Tackling childhood development in rural, regional and remote Australia will require a multi-faceted approach that includes government leadership, policy shifts, system change, and investment in new approaches on-the-ground. The current system to support children’s health and development is geared predominantly towards delivering direct interventions for diagnosed conditions once they appear. Yet, the evidence shows that early intervention and prevention has the capacity to deliver more sustained and sustainable improvements. Investing in systems for early identification of developmental vulnerabilities, and increasing awareness and understanding of childhood development among parents, are integral to enabling early intervention.

---

34 NSW MOH 2012 2009-2010 Summary Report from the NSW Child Health Survey
35 AIHW 2009 Health and community services labour force 2006
36 CCCH 2017, Reporting the Health and development of Children in Rural and Remote Australia
37 CCCH 2017, Reporting the Health and development of Children in Rural and Remote Australia
One of the key issues identified is the fragmentation and siloed approach of current systems. A public health approach that looks at ways to address the underlying causes of problems may be one way to transcend the 'silos' within which services traditionally operate by establishing systems of collaboration that address long-term underlying issues and prevent future problems arising. The evidence indicates that interventions implemented through the combined efforts of health, nutrition, education, and social protection sectors are effective at improving early child development\textsuperscript{38}.

To create change in the community, it is critical to engage the local community as a meaningful partner in identifying goals and strategies. Building capacity around how to support child development and involving communities in the co-design or co-production of services is more likely to deliver effective and sustainable outcomes. Place-based or collective impact approaches offer one way of doing this. These involve stakeholders engaging in a collaborative process to address issues as they are experienced within a geographic location, and are designed specifically areas that are experiencing many challenges, such as disadvantaged rural communities.

For Indigenous populations, evidence shows that policies and initiatives should be co-designed with the local Indigenous community. Service delivery should be culturally appropriate, outcomes-focused, invest time and resources into community consultations, apply a strengths-based approach, and support Indigenous and non-Indigenous staff. Moreover, initiatives work best when they are targeting a specific issue that demands coordination across organisations: that is, they must be ‘fit-for-purpose’\textsuperscript{39}. Key to success is to work with agencies to build capacity to support child development, using existing resources, at their own pace, and the inclusion of Aboriginal health workers in the multidisciplinary team to ensure the provision of a culturally appropriate child health service.

To overcome issues of access to services, there are a number of service delivery models that can offer potential solutions. In populations where size does not enable a full range of services, additional support can be delivered via fly-in-fly-out (FIFO)/ drive-in-drive-out (DIDO) services, including:

- specialist outreach services;
- hub-and-spoke or outreach arrangements for various allied health and specialist programs, such as women’s health educator or mobile dental service;
- ‘orbiting staff’ who spend significant periods of time (12 months or more) in one or two specific communities, self-regulate stress levels and work elsewhere for periods, then return to the same communities where orientation is not required;
- long-term shared positions, such as month-on/month-off, where the same practitioners service the same communities; and
- short-term locum or agency staff who move from place to place or as a one off.

Technology has huge potential to address issues of access to services for children and families in rural, regional and remote Australian communities. Tele-health services (delivered by RFW as Tele-care) can help overcome workforce shortages in remote and/or rural areas, reduce waiting times to enable children to access to services earlier, reduce time and costs associated with travel for families, and enable remote consultation, training and support for local health and other support service professionals.

\textsuperscript{38} CCCH 2017, Reporting the Health and development of Children in Rural and Remote Australia
\textsuperscript{39} CCCH 2017 Reporting the Health and Development of Children in Rural and Remote Australia
Tele-care can be used to address a number of health and developmental concerns in children, including speech and communication; occupational therapy; mental health; obesity, autism spectrum disorders; and addressing literacy and numeracy. A number of studies have found that tele-practice with children and their families is as effective (or even more effective) than traditional face-to-face interventions. One particularly important aspect of tele-care is not simply the ability to extend the reach of evidence-based care, but also the ability to enhance the ecological validity of care by treating child problems in children's natural setting, such as the home or school.

Action across these levels goes well beyond what a single organisation can achieve, and necessarily involves multiple sectors and levels of government, as well as non-government services. One of the most important aspects to this will be recognition from the highest levels of government and understanding throughout the community that childhood development is critically important to the nation and we must do more to support Australia’s children to reach their potential.

---

40 Ibid.
41 Ibid.
Recommendations

RFW makes the following recommendations:

1 **Government leadership:**
   1.1 Make Supporting Childhood Development a National Priority.
   1.2 Commit to reduce rates of developmental vulnerability as measured in the AEDC.
   1.3 Develop a National Strategy to Support Childhood Development, with commitment from the Commonwealth and each State and Territory.

2 **Government funding:**
   2.1 Increase the proportion of funding directed to preventative and early intervention services.
   2.2 Fund universal developmental “school readiness” programs for four year-olds, with a particular focus on disadvantaged communities.
   2.3 Develop a strategy for school funding that supports access to allied health assessment and treatment for children in the classroom.

3 **Break down silos:**
   3.1 Establish a cross-government strategy to ensure coordinated and collaborative development and implementation of policies and programs that support childhood development.
   3.2 Invest in delivery of integrated health, education and social services to support children with identified developmental concerns or emerging conditions.

4 **Community-led approach:**
   4.1 Increase collaboration in local communities through community-led, “whole of community” programs for supporting childhood development in disadvantaged communities.
   4.2 Increase investment in collective impact models for rural and remote communities.

5 **Increase service access in rural communities:**
   5.1 Develop a clear strategy on the delivery of tele-health services in regional, rural and remote areas, including tele-allied health.
   5.2 Direct funding to support delivery of tele-allied health for children in regional, rural and remote areas.
   5.3 Invest in innovative approaches to increasing access to allied health support to support childhood development.

6 **Capacity building and support:**
   6.1 Increase professional development and peer-support for rural and regional early childhood educators and teachers to build capacity around supporting typical development and identifying children with additional needs, including developmental conditions.
   6.2 Improve early identification and referral pathways for developmental support in rural primary care settings.

7 **Increase Awareness:**
   7.1 Implement awareness campaigns on childhood development targeting parents, early childhood educators, teachers, and primary care clinicians in rural, regional and remote areas.
REFERENCES

- AIHW 2009 Health and community services labour force 2006
- Centre for Community Child Health (CCCH) 2017. Reporting the Health and Development of Children in Rural and Remote Australia.
Appendices

Appendix 1. AEDC results for children vulnerable on one or more domain(s) and two or more domains (2009, 2012, 2015).

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Number of children with valid scores (one or more domain(s))</th>
<th>Developmentally vulnerable on one or more domain(s) (%)</th>
<th>Number of children with valid scores (two or more domains)</th>
<th>Developmentally vulnerable on two or more domains (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>Australia</td>
<td>246,421</td>
<td>272,282</td>
<td>286,041</td>
<td>23.6</td>
</tr>
<tr>
<td>Geographic location</td>
<td>Major Cities</td>
<td>169,114</td>
<td>187,837</td>
<td>199,649</td>
<td>22.5</td>
</tr>
<tr>
<td></td>
<td>Inner Regional</td>
<td>46,886</td>
<td>50,948</td>
<td>52,593</td>
<td>23.9</td>
</tr>
<tr>
<td></td>
<td>Outer Regional</td>
<td>23,704</td>
<td>26,232</td>
<td>26,555</td>
<td>26.9</td>
</tr>
<tr>
<td></td>
<td>Remote</td>
<td>3,962</td>
<td>4,441</td>
<td>4,392</td>
<td>31.0</td>
</tr>
<tr>
<td></td>
<td>Very Remote</td>
<td>2,729</td>
<td>2,824</td>
<td>2,852</td>
<td>45.3</td>
</tr>
<tr>
<td>Socio-economic status</td>
<td>Quintile 1 (most disadvantaged)</td>
<td>50,623</td>
<td>53,467</td>
<td>53,764</td>
<td>32.1</td>
</tr>
<tr>
<td></td>
<td>Quintile 2</td>
<td>46,913</td>
<td>51,442</td>
<td>53,100</td>
<td>26.1</td>
</tr>
<tr>
<td></td>
<td>Quintile 3</td>
<td>47,502</td>
<td>52,566</td>
<td>56,242</td>
<td>23.0</td>
</tr>
<tr>
<td></td>
<td>Quintile 4</td>
<td>48,724</td>
<td>55,383</td>
<td>59,575</td>
<td>20.1</td>
</tr>
<tr>
<td></td>
<td>Quintile 5 (least disadvantaged)</td>
<td>51,893</td>
<td>58,808</td>
<td>62,305</td>
<td>16.7</td>
</tr>
<tr>
<td>Indigenous background</td>
<td>Indigenous</td>
<td>11,190</td>
<td>14,011</td>
<td>15,874</td>
<td>47.4</td>
</tr>
<tr>
<td></td>
<td>Non-Indigenous</td>
<td>235,231</td>
<td>258,271</td>
<td>270,167</td>
<td>22.4</td>
</tr>
</tbody>
</table>

Table 1
### 2015 Data – extrapolated for rural/regional/remote figures

<table>
<thead>
<tr>
<th>Geography</th>
<th>Number of children with valid scores (one or more domain(s))</th>
<th>Developmentally vulnerable on one or more domain(s) (%)</th>
<th>Number of children vulnerable one or more domain (approx.)*</th>
<th>Number of children with valid scores (two or more domain(s))</th>
<th>Developmentally vulnerable on two or more domain(s) (%)</th>
<th>Number of children vulnerable two or more domain (approx.)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities</td>
<td>199,649</td>
<td>21.0</td>
<td>41926</td>
<td>200,064</td>
<td>10.2</td>
<td>20407</td>
</tr>
<tr>
<td>Inner Regional</td>
<td>52,593</td>
<td>22.4</td>
<td>11781</td>
<td>52,689</td>
<td>11.7</td>
<td>6165</td>
</tr>
<tr>
<td>Outer Regional</td>
<td>26,555</td>
<td>25.2</td>
<td>6692</td>
<td>26,584</td>
<td>13.3</td>
<td>3536</td>
</tr>
<tr>
<td>Remote</td>
<td>4,392</td>
<td>27.5</td>
<td>1208</td>
<td>4,412</td>
<td>15.4</td>
<td>679</td>
</tr>
<tr>
<td>Very Remote</td>
<td>2,852</td>
<td>47.0</td>
<td>1340</td>
<td>2,867</td>
<td>31.8</td>
<td>912</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>286041</strong></td>
<td><strong>22%</strong></td>
<td><strong>62947</strong></td>
<td><strong>286616</strong></td>
<td><strong>11.1%</strong></td>
<td><strong>31814</strong></td>
</tr>
<tr>
<td><strong>TOTAL Major Cities – Inner Regional</strong></td>
<td><strong>252242</strong></td>
<td><strong>21.3%</strong></td>
<td><strong>53,707</strong></td>
<td><strong>252753</strong></td>
<td><strong>10.5%</strong></td>
<td><strong>26572</strong></td>
</tr>
<tr>
<td><strong>TOTAL Inner Regional – Very Remote</strong></td>
<td><strong>86392</strong></td>
<td><strong>24.3%</strong></td>
<td><strong>21021</strong></td>
<td><strong>86552</strong></td>
<td><strong>13.0%</strong></td>
<td><strong>11292</strong></td>
</tr>
<tr>
<td><strong>TOTAL Outer Regional – Very Remote</strong></td>
<td><strong>33799</strong></td>
<td><strong>27.3%</strong></td>
<td><strong>9240</strong></td>
<td><strong>33863</strong></td>
<td><strong>15.1%</strong></td>
<td><strong>5127</strong></td>
</tr>
</tbody>
</table>

* Numbers extrapolated from existing data in table, rather than sourced from AEDC official statistics.
Appendix 2 – Prevalence of mental disorders by remoteness

The following data is from the Australian Government’s 2015 Report on the Survey of Child and Adolescent Mental Health and Wellbeing:

Table 2-7: 12-month prevalence of mental disorders among 4-17 year-olds by area of residence and sex

<table>
<thead>
<tr>
<th>Area of residence</th>
<th>Males (%)</th>
<th>Females (%)</th>
<th>Persons (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater capital cities</td>
<td>14.2</td>
<td>11.0</td>
<td>12.6</td>
</tr>
<tr>
<td>Rest of state</td>
<td>19.6</td>
<td>12.4</td>
<td>16.2</td>
</tr>
</tbody>
</table>

Based on the ABS classification Greater Capital City Statistical Area (GCCSA).

Table 4-6: 12-month prevalence of anxiety disorders among 4-17 year-olds by area of residence

<table>
<thead>
<tr>
<th>Area of residence</th>
<th>Social phobia (%)</th>
<th>Separation anxiety (%)</th>
<th>Generalised anxiety (%)</th>
<th>Obsessive-compulsive (%)</th>
<th>Any anxiety disorder (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater capital cities</td>
<td>2.1</td>
<td>3.9</td>
<td>2.1</td>
<td>0.7</td>
<td>6.3</td>
</tr>
<tr>
<td>Rest of state</td>
<td>2.7</td>
<td>4.8</td>
<td>2.3</td>
<td>1.1</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Based on the ABS classification Greater Capital City Statistical Area (GCCSA).

Table 5-6: 12-month prevalence of ADHD among 4-17 year-olds by area of residence

<table>
<thead>
<tr>
<th>Area of residence</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater capital cities</td>
<td>6.7</td>
</tr>
<tr>
<td>Rest of state</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Based on the ABS classification Greater Capital City Statistical Area (GCCSA).

Table 5-16: 12-month prevalence of mental disorder among 4-17 year-olds by remoteness area

<table>
<thead>
<tr>
<th>Remoteness area</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities of Australia</td>
<td>12.9</td>
</tr>
<tr>
<td>Inner Regional Australia</td>
<td>14.8</td>
</tr>
<tr>
<td>Outer Regional Australia</td>
<td>19.0</td>
</tr>
<tr>
<td>Remote Australia or Very Remote Australia</td>
<td>14.0</td>
</tr>
</tbody>
</table>
Table S-22: 12-month prevalence of major depressive disorder among 4-17 year-olds by remoteness area

<table>
<thead>
<tr>
<th>Remoteness area</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities of Australia</td>
<td>2.7</td>
</tr>
<tr>
<td>Inner Regional Australia</td>
<td>2.8</td>
</tr>
<tr>
<td>Outer Regional Australia</td>
<td>3.3</td>
</tr>
<tr>
<td>Remote Australia or Very Remote Australia</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Table S-27: 12-month prevalence of anxiety disorders among 4-17 year-olds by remoteness area

<table>
<thead>
<tr>
<th>Remoteness area</th>
<th>Social phobia (%)</th>
<th>Separation anxiety (%)</th>
<th>Generalised anxiety (%)</th>
<th>Obsessive-compulsive (%)</th>
<th>Any anxiety disorder (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities of Australia</td>
<td>2.2</td>
<td>3.9</td>
<td>2.1</td>
<td>0.9</td>
<td>6.4</td>
</tr>
<tr>
<td>Inner Regional Australia</td>
<td>3.0</td>
<td>5.2</td>
<td>2.5</td>
<td>0.9</td>
<td>8.1</td>
</tr>
<tr>
<td>Outer Regional Australia</td>
<td>1.7</td>
<td>4.4</td>
<td>1.6</td>
<td>np</td>
<td>7.7</td>
</tr>
<tr>
<td>Remote Australia or Very Remote Australia</td>
<td>np</td>
<td>3.9</td>
<td>np</td>
<td>np</td>
<td>5.3</td>
</tr>
</tbody>
</table>

np Not available for publication because of small cell size, but included in totals where applicable.

Table S-32: 12-month prevalence of ADHD among 4-17 year-olds by remoteness area

<table>
<thead>
<tr>
<th>Remoteness area</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities of Australia</td>
<td>7.0</td>
</tr>
<tr>
<td>Inner Regional Australia</td>
<td>7.8</td>
</tr>
<tr>
<td>Outer Regional Australia</td>
<td>10.0</td>
</tr>
<tr>
<td>Remote Australia or Very Remote Australia</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Table S-37: 12-month prevalence of conduct disorder among 4-17 year-olds by remoteness area

<table>
<thead>
<tr>
<th>Remoteness area</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities of Australia</td>
<td>1.6</td>
</tr>
<tr>
<td>Inner Regional Australia</td>
<td>3.0</td>
</tr>
<tr>
<td>Outer Regional Australia</td>
<td>2.6</td>
</tr>
<tr>
<td>Remote Australia or Very Remote Australia</td>
<td>np</td>
</tr>
</tbody>
</table>

np Not available for publication because of small cell size, but included in totals where applicable.
Appendix 3 – Royal Far West program information

Paediatric Development Program (PDP)

The Royal Far West (RFW) Paediatric Developmental Program (PDP) provides an integrated, multidisciplinary health and wellbeing service for children with complex developmental concerns and their families. The PDP is offered to children and families from rural and remote NSW. The PDP addresses conditions such as Autism Spectrum Disorders (ASD), Global Developmental Delay, Learning Difficulties, Intellectual Disability (ID), Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), speech and language disorders, physical and motor coordination problems, and mental health conditions including anxiety and depression.

Children are referred into the PDP by rural paediatricians and GPs. Children attend the RFW Manly facility for a five-day admission with an accompanying parent or carer, and reside onsite in RFW’s accommodation facility, Drummond House. For their initial assessment and diagnosis admission children may be accompanied by their whole family unit (both parents and any siblings).

RFW offers unique service with an integrated education, medical and allied health model. Over a five-day admission, children attend targeted appointments with clinicians from a range of disciplines including but not limited to, paediatrics, speech pathology, occupational therapy, clinical psychology, social work, nursing, dietetics, orthoptics and dentistry. They are also enrolled in and attend the Royal Far West School (RFWS), where they undergo a range of education assessments and development of integrated health and education care plans.

At the end of the five-day visit, RFW aims to provide an initial assessment of the child’s needs and a care plan for treatment. However, many children referred into the RFW PDP have complex needs involving a wide range of developmental concerns and require more than one admission to RFW to obtain a complete Assessment. Following Assessment, children may remain in the RFW PDP for treatment or therapy in cases where there is inadequate access to support services in their local community.

Telecare

RFW Telecare offers a range of health, development and specialised education programs across multiple disciplines, providing assessment and therapy via video technology to support children and families in rural, regional and remote communities.

RFW works with children, families, teachers and other local professionals directly in the school setting via video-link, offering weekly or fortnightly assessment and therapy sessions to individuals and groups in the areas of:

- speech, language & communication
- fine & gross motor skills
- sensory processing & regulation
- mild to moderate mental health issues (anxiety, stress, depression)
- conduct disorders
- behavioural & social issues
RFW also provides tele-consulting services to rural practitioners in the areas of:

- Paediatrics
- Psychiatry
- Early intervention capacity building.

**Windmill**

The Royal Far West ‘Windmill Program’ offers a range of services to support children with mild to moderate disabilities which are delivered on site at the Royal Far West health and wellbeing campus in Manly. The program has been developed in response to major gaps in the provision of early intervention services outside of city areas, which can often create barriers for children and their families in accessing the support they need, particularly specialist allied health services.

The Windmill Program offers support around speech pathology, occupational therapy, psychology, special education and social work, delivered by a multi-disciplinary team, and tailored to meet the needs of individual children.

### Royal Far West referral data – 2016 calendar year

<table>
<thead>
<tr>
<th>New Referrals Received (Number)</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>TOTAL</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDP</td>
<td>32</td>
<td>72</td>
<td>72</td>
<td>53</td>
<td>67</td>
<td>57</td>
<td>56</td>
<td>56</td>
<td>65</td>
<td>36</td>
<td>54</td>
<td>55</td>
<td>675</td>
<td>56.3</td>
</tr>
<tr>
<td>Telecare</td>
<td>7</td>
<td>2</td>
<td>14</td>
<td>19</td>
<td>23</td>
<td>10</td>
<td>60</td>
<td>50</td>
<td>35</td>
<td>13</td>
<td>5</td>
<td>3</td>
<td>241</td>
<td>20.1</td>
</tr>
<tr>
<td>Windmill</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>29</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>44</td>
<td>75</td>
<td>88</td>
<td>72</td>
<td>93</td>
<td>68</td>
<td>116</td>
<td>110</td>
<td>103</td>
<td>52</td>
<td>62</td>
<td>62</td>
<td>945</td>
<td>78.8</td>
</tr>
</tbody>
</table>

**Healthy Kids Bus Stop**

The Healthy Kids Bus Stop (HKBS) is a community-based, whole-of-child multidisciplinary health and development screening, assessment and pathway to care for children aged 3 – 5 years. It aims to support early detection of needs and provide an effective, integrated pathway to care for children with developmental needs living in rural and remote areas.

*Excerpt from RFW 2014-15 HKBS Final Report*

Seventy-eight percent (696 of 891) of children who attended the HKBS were referred to at least one health service. A total of 1,516 referrals were made. Figure 4 below shows the distribution of referrals per health discipline.
Eighty-seven percent (236 of 270) of Aboriginal children were referred and 75% (466 of 621) of non-Aboriginal children were referred. Aboriginal children accounted for 35.5% (539) of referrals, with an average of 2.28 referrals per child. Non-Aboriginal children accounted for 64.4% (977) of referrals and received on average 2.12 referrals.

Children with complex developmental needs were referred to the RFW Paediatric Development Program (PDP) when they were unable to access local services, and/or were seen to benefit from a multidisciplinary assessment. Referral to RFW’s PDP made up 7% of total referrals, with 45% of those RFW referrals being for Aboriginal children.

![Figure 4: Number of referrals by discipline](image)