

Western Australian Child Development Atlas

List of Indicators

Document Control

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1	Megan Ansell Scott Sims Megan Bell	June 2018
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Table of Contents

1. Pregnancy and Births	4
1.1. Children born low birthweight.....	4
1.2. Proportion of children born to teenage mothers	5
2. Physical Health.....	6
2.1. Chronic conditions in children and young people	6
2.2. Disabilities in children and young people	8
2.3. Alcohol and drug related injuries in children and young people.....	10
3. Mental Health	13
3.1. Mental illness diagnoses in children and young people	13
3.2. Proportion of births to mothers with a mental illness diagnosis.....	15
3.3. Proportion of children/young people with a substance abuse disorder	17
3.4. Emergency Department presentations that were mental health related in children and young people	19
3.5. Emergency Department presentations for deliberate self-harm in children and young people	21
4. Education	23
4.1. Children developmentally vulnerable or at risk on the Australian Early Development Census domains.....	23
4.2. Developmental vulnerability on 1 or more/2 or more Australian Early Development Census domains.....	25
4.3. Developmentally 'on track' on all five Australian Early Development Census domains	27
4.4. Attendance at an educational institution (children aged 0-4 years)	29
5. Mortality	30
5.1. Infant mortality	30
5.2. Child mortality.....	32
6. Demographic and Social	34
6.1. Proportion of low income households.....	34
6.2. Proportion of occupied private dwellings with no internet connection.....	36
6.3. Proportion of people unemployed	37
6.4. Language other than English spoken at home.....	39
7. Service Use.....	41
7.1. Rate of Emergency Department presentations in children/young people.....	41
7.2. Number of logged calls to Ngala parenting helpline service	42
7.3. Average age of child at the time a call was made to Ngala parenting helpline.....	43
7.4. Average call length to Ngala parenting helpline.....	44

1. Pregnancy and Births

1.1.Children born low birthweight

<i>Indicator</i>	Children born low birthweight
<i>Policy Context</i>	<p>Infants are considered low birthweight if they are born weighing less than 2,500 grams¹. This can be related to birth before 37 weeks of completed gestation (preterm low birthweight), growth restriction in the uterus (low birthweight for gestational age) or a combination of both^{1,2}. Low birthweight is associated with increased risk of poor health, disability and death in infancy and, increased risk of health problems later in life¹⁻³. It can therefore be used as an indicator of the health of infants at birth and understood as a determinant of their ongoing wellbeing².</p> <p>The likelihood of an infant being born low birthweight because of preterm birth is increased by multiple birth (twins and higher), maternal Indigenous status, maternal smoking during pregnancy, maternal residence in remote area and maternal age (under 20 or over 40)^{2,4}.</p> <p>On an individual level, low birthweight is a risk factor for physical and neurological disabilities and increased vulnerability to illness and disease throughout the lifespan².</p> <p>Since low birthweight is associated with a range of maternal and infant health factors it can be used to evaluate and improve pre and postnatal care for mothers and babies^{1,2}.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Institute of Health and Welfare. Canberra ACT. Mothers and Babies Reports, 2018. [cited 2018 May 16]. Available from: https://www.aihw.gov.au/reports-statistics/population-groups/mothers-babies/reports 2. Australian Institute of Health and Welfare. Canberra ACT. Mothers and Babies Overview, 2018 [cited 16 May 2018]. Available from: https://www.aihw.gov.au/reports-statistics/population-groups/mothers-babies/overview 3. Stanford Children's Health. Palo Alto, CA. Low Birthweight. 2018 [cited 16 May 2018]. Available from: http://www.stanfordchildrens.org/en/topic/default?id=low-birthweight-90-P02382 4. Goldenberg RL, Culhane JF, Iams JD, Romero R. Epidemiology and causes of preterm birth. The Lancet, 2008; 371(9606):75-84. https://doi.org/10.1016/S0140-6736(08)60074-4
<i>Data source</i>	Midwives Notification System, Birth Registrations.
<i>Numerator</i>	Babies (live born) weighing less than 2500 grams at birth
<i>Denominator</i>	All live births
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with count values 1 to 4 and where population is less than 50 have been suppressed.
<i>Notes</i>	Includes children born in Western Australia only.

1.2. Proportion of children born to teenage mothers

<i>Indicator</i>	Children born to teenage mothers
<i>Policy Context</i>	<p>Mothers aged under 20 years are classified as teenage mothers¹. There are a range of risk factors associated with a maternal age under 20, for both mother and baby¹.</p> <p>Young mothers are at a higher risk of social stigma and are more likely to experience barriers to engagement in education and employment^{1,2}. They are also more likely to live in areas with low socioeconomic status, as well as in remote or regional areas^{1,3}. Teenage mothers tend to have higher rates of smoking during pregnancy and diabetes^{1,3}. Further, the stigma and disadvantage associated with being a young mother can exacerbate the typical challenges associated with motherhood².</p> <p>The higher incidence of disadvantage and social stigma experienced by mothers of this age group is associated with a range of negative health consequences for both mother and baby¹⁻³. Babies born to teenage mothers are at an increased risk of morbidity and mortality¹. They are more likely to be born pre-term and low birthweight for gestational age and to have poorer ongoing emotional, behavioural and cognitive outcomes than their peers¹.</p> <p>Though not all teenage pregnancies are unintended, many are in Australia³. Therefore, rates of teenage pregnancy are also related to sexual education and contraceptive use³.</p> <p>The combination of these factors means that understanding teenage pregnancy rates by region has important implications for policy in a range of fields including clinical care, health promotion and education^{2,3}. For example, prior policy recommendations regarding supporting teenage mothers and preventing unintended pregnancies include providing sufficient health education, reducing stigma and, ensuring non-judgemental and appropriate antenatal and postnatal care is accessible to young mothers^{2,3}.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Institute of Health and Welfare. Canberra ACT. Teenage Mothers in Australia 2015. https://www.aihw.gov.au/reports/mothers-babies/teenage-mothers-in-australia-2015/contents/table-of-contents 2. McArthur M, Barry E. Younger mothers: Stigma and support. ACU Canberra: Institute of Child Protection Studies Research to Practice Series. 2018; 3. http://www.acu.edu.au/_data/assets/pdf_file/0011/589673/Practice_Series_3_Sept2013_YoungerMothers.pdf 3. Marino J, Lewis L, Bateson D, Hickey M, Skinner S. Teenage mothers. Australian Family Physician, 2016; 45(10):712. https://www.racgp.org.au/afp/2016/october/teenage-mothers/
<i>Data source</i>	Midwives Notification System, Birth Registrations
<i>Numerator</i>	Number of live births to mothers aged 13-19 years
<i>Denominator</i>	All live births
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with a numerator 1-4 have been suppressed. Indicators have been grouped into 5 year intervals due to low counts.
<i>Notes</i>	Includes children born in Western Australia only.

2. Physical Health

2.1. Chronic conditions in children and young people

<i>Indicator</i>	Chronic conditions (grouped, not by diagnosis)
<i>Policy Context</i>	<p>Chronic diseases are conditions with persistent effects that usually have complex causality, a long developmental period, a prolonged course and result in functional impairment or disability¹. Examples of chronic diseases are diabetes, cardiovascular conditions and respiratory diseases. Chronic diseases currently pose the greatest burden of ill health in Australia having a significant personal and community burden as well as substantial economic costs (healthcare expenses and reduced productivity)¹.</p> <p>Having a chronic condition in childhood threatens the trajectory of typical development and is associated with increased risk of disability, hospitalisation, premature mortality and psychological problems as well as poorer physical and psychosocial outcomes in adulthood²⁻⁵. Notably, the limitations that chronic illness places on development (e.g. cognitive limitations, social limitations and emotional distress) can impact a child's school readiness which affects their academic achievement and therefore has ramifications for long term health and wellbeing³. There is evidence that the way chronic illnesses impact the social and emotional development and academic achievement of children is shared across the range of conditions and their severities^{3,6}.</p> <p>Identifying the incidence of chronic diseases geographically can inform policy that aims to improve the health outcomes of children in the state for the lifespan¹⁻³.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Institute of Health and Welfare. Canberra ACT. Chronic Disease Overview. 2017 [cited 2018 May 8]. Available from: https://www.aihw.gov.au/reports-statistics/health-conditions-disability-deaths/chronic-disease/overview 2. Australian Institute of Health and Welfare. Canberra ACT. Selected Chronic Diseases Among Australian Children. 2017 [cited 2018 May 8]. Available from: https://www.aihw.gov.au/reports/chronic-disease/selected-chronic-diseases-among-australia-s-childr/contents/table-of-contents 3. Bell M, Bayliss D, Glauert R, Harrison A, Ohan J. Chronic illness and developmental vulnerability at school entry. <i>Pediatrics</i>, 2016; 137(5). https://doi.org/10.1542/peds.2015-2475 4. Gledhill J, Rangel L, Garralda E. Surviving chronic physical illness: Psychosocial outcome in adult life. <i>Archives of Disease in Childhood</i>, 2000; 83(2):104-10. http://dx.doi.org/10.1136/adc.83.2.104 5. Stam H, Hartman E, Deurloo J, Groothoff J, Grootenhuis M. Young adult patients with a history of pediatric disease: Impact on course of life and transition into adulthood. <i>Journal of Adolescent Health</i>, 2006; 39(1):4-13. https://doi.org/10.1016/j.jadohealth.2005.03.011 6. Stein RE, Jessop DJ. What diagnosis does not tell: The case for a noncategorical approach to chronic illnesses in childhood. <i>Social Science & Medicine</i>, 1989; 29(6):769-778. https://doi.org/10.1016/0277-9536(89)90157-3
<i>Data source</i>	Hospital Morbidity Data Collection, Emergency Department Data Collection, Western Australian Cancer Registry

<i>Numerator</i>	Number of diagnoses of chronic conditions from population aged 0-18 years																																																																										
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<i>Unit of measure</i>	Per 10,000 population																																																																										
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<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Includes public and private hospital records only. Private specialist and GP information not included. Untreated/undiagnosed chronic illness also not captured.</p> <p>Chronic conditions identified using the following ICD classification codes:</p> <table border="1"> <thead> <tr> <th>CHRONIC CONDITIONS</th> <th>ICD-10 Codes</th> <th>ICD-9 Codes</th> </tr> </thead> <tbody> <tr> <td rowspan="7">Cardiovascular Conditions</td> <td>I05-I09</td> <td>393-398</td> </tr> <tr> <td>I25</td> <td>401-405</td> </tr> <tr> <td>I50</td> <td>414</td> </tr> <tr> <td>I10-I15</td> <td>416</td> </tr> <tr> <td>I27, I31, I34-I37, I39, I44, I45, I51</td> <td>425</td> </tr> <tr> <td></td> <td>428</td> </tr> <tr> <td>I60-I69</td> <td>430-438</td> </tr> <tr> <td rowspan="5">Cancers *Use Cancer Registry flag primarily</td> <td>C00-C96</td> <td>140-195</td> </tr> <tr> <td>D37-D48</td> <td>196-198</td> </tr> <tr> <td>Z51.1</td> <td>199</td> </tr> <tr> <td>Z85</td> <td>200-208</td> </tr> <tr> <td></td> <td>209 235 238-239</td> </tr> <tr> <td rowspan="2">Diabetes</td> <td rowspan="2">E10-E14</td> <td>250</td> </tr> <tr> <td>775.1</td> </tr> <tr> <td rowspan="4">Respiratory Diseases</td> <td>J45</td> <td>491</td> </tr> <tr> <td>J43</td> <td>492</td> </tr> <tr> <td>J41-J42</td> <td>493</td> </tr> <tr> <td>J44</td> <td>496</td> </tr> <tr> <td rowspan="4">Musculoskeletal Diseases</td> <td>M08-M09</td> <td>714.3</td> </tr> <tr> <td>M15-M19</td> <td>714.4</td> </tr> <tr> <td>M80-M85</td> <td>715</td> </tr> <tr> <td></td> <td>733.00-733.09</td> </tr> <tr> <td rowspan="4">Chronic Kidney Disease</td> <td rowspan="4">N11 N18 N19</td> <td>403</td> </tr> <tr> <td>582</td> </tr> <tr> <td>585</td> </tr> <tr> <td>590.0</td> </tr> <tr> <td>Oral Diseases</td> <td>K00-K14</td> <td>520-529</td> </tr> <tr> <td rowspan="5">Chronic Otitis Media</td> <td rowspan="5">H65.2-H65.4 H66.1-H66.3 H66.9</td> <td>381.1</td> </tr> <tr> <td>381.2</td> </tr> <tr> <td>381.3</td> </tr> <tr> <td>382.1</td> </tr> <tr> <td>382.2</td> </tr> <tr> <td></td> <td></td> <td>382.3</td> </tr> <tr> <td></td> <td></td> <td>382.9</td> </tr> </tbody> </table>		CHRONIC CONDITIONS	ICD-10 Codes	ICD-9 Codes	Cardiovascular Conditions	I05-I09	393-398	I25	401-405	I50	414	I10-I15	416	I27, I31, I34-I37, I39, I44, I45, I51	425		428	I60-I69	430-438	Cancers *Use Cancer Registry flag primarily	C00-C96	140-195	D37-D48	196-198	Z51.1	199	Z85	200-208		209 235 238-239	Diabetes	E10-E14	250	775.1	Respiratory Diseases	J45	491	J43	492	J41-J42	493	J44	496	Musculoskeletal Diseases	M08-M09	714.3	M15-M19	714.4	M80-M85	715		733.00-733.09	Chronic Kidney Disease	N11 N18 N19	403	582	585	590.0	Oral Diseases	K00-K14	520-529	Chronic Otitis Media	H65.2-H65.4 H66.1-H66.3 H66.9	381.1	381.2	381.3	382.1	382.2			382.3			382.9
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2.2. Disabilities in children and young people

<i>Indicator</i>	Proportion of children/young people with a disability (grouped, not by diagnosis)
<i>Policy Context</i>	<p>A disability is defined as any impairment that impacts an individuals' daily tasks or 'core activities' (communication, self-care or mobility) and has lasted, or is likely to last, more than 6 months¹. Disability encompasses physical, intellectual, psychiatric, sensory and neurological conditions or a combination of these². The severity of a disability can range from mild (needs no help and has no difficulty with core activities but uses aids or has impairments in other areas) to profound (unable to do or always needs help with core activities)¹. In 2012, 7% of children aged 0-17 in Australia were experiencing disability³.</p> <p>Around two thirds (67%) of Australian children with a disability require assistance with daily activities (e.g. communication, mobility, self-care). Many children with disabilities have learning and social difficulties at school⁴. In addition to challenges faced by the child, disability impacts the entire family unit. The assistance and care (both formal and informal) of a child with disability often results in parents and/or carers having reduced income, increased expenses, poorer emotional and physical wellbeing and strained relationships⁴. Significant evidence has supported the effectiveness of early intervention for children with developmental disabilities⁴.</p> <p>Across the life span, having a disability is associated with poorer health behaviours and adverse health outcomes⁵. Further, disability is associated with poorer social engagement and education. These outcomes could be related directly to the disability itself or a result of limited access (due to an individual's disability) to appropriate information, services and support that foster wellbeing. People with disability have higher rates of mental illness, psychological distress, arthritis, smoking and a range of other health conditions than the general population⁵.</p> <p>Given the challenges and needs of children with disability and their families, understanding the proportion of children with disability in particular geographical regions can assist policy makers and service providers in decision making to improve outcomes.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Bureau of statistics. Canberra ACT. 4430.0 - Disability, Ageing and Carers, Australia: Summary of Findings. 2015 [cited 2018 May 15]. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/mf/4430.0 2. Government of Western Australia. Disability Services Act 1993, Government of Western Australia. 3. Australian Bureau of Statistics. Canberra ACT. 4427.0 - Young People with Disability, 2012 [cited 2018 May 15]. Available from: http://www.abs.gov.au/ausstats%5Cabs@.nsf/0/FCF8C781B2CB45AFCA257CC9001442E3?OpenDocument 4. Australian Bureau of Statistics. Canberra ACT. 4102.0 - Australian Social Trends. 2012 [cited 2018 May 15]. Available from: http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Feature_s10Jun+2012 5. Australian Institute of Health and Welfare. Canberra ACT. Australia's Health. No. 15. Cat.no. AUS 199. 2016 [cited 2018 May 15]. Available from:

	<p>https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/summary</p> <p>6. Mackenbach JP. Oxford Textbook of Global Public Health. Socioeconomic inequalities in health in high-income countries: The facts and the options. 2015. https://doi.org/10.1093/med/9780199661756.001.0001</p>																		
<i>Data source</i>	Hospital Morbidity Data Collection, Emergency Department Data Collection																		
<i>Numerator</i>	Number of hospitalisations related to disabilities from population aged 0-18 years																		
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<i>Unit of measure</i>	Per 10,000 population																		
<i>Geography</i>	SA2, SA3, LGA																		
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<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Includes public and private inpatient records and public outpatient records only. Private outpatient and GP information not included.</p> <p>Disability groupings were identified using the following ICD classification codes:</p> <table border="1"> <thead> <tr> <th>DISABILITY GROUPING</th> <th>ICD-9 Codes</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr> <td>Intellectual disability</td> <td>317-319</td> <td>F70-F79</td> </tr> <tr> <td>Down syndrome</td> <td>758.0</td> <td>Q90</td> </tr> <tr> <td>Congenital malformations</td> <td>740-759 (excluding 758)</td> <td>Q00-Q99 (excluding Q90)</td> </tr> <tr> <td>Cerebral palsy</td> <td>343</td> <td>G80</td> </tr> <tr> <td>Autism</td> <td>299.0</td> <td>F84.0 F84.1</td> </tr> </tbody> </table>	DISABILITY GROUPING	ICD-9 Codes	ICD-10 Codes	Intellectual disability	317-319	F70-F79	Down syndrome	758.0	Q90	Congenital malformations	740-759 (excluding 758)	Q00-Q99 (excluding Q90)	Cerebral palsy	343	G80	Autism	299.0	F84.0 F84.1
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2.3. Alcohol and drug related injuries in children and young people

<i>Indicator</i>	Children/young people with alcohol and other drug related injuries
<i>Policy Context</i>	<p>Alcohol, tobacco and cannabis are the substances most frequently used by young people¹. Common alcohol and drug related health problems experienced by young people are road traffic injuries, assault, depression and self-harm, brain damage, overdose and blood borne disease (e.g. hepatitis C)². These adverse health outcomes or injuries place a burden on communities and the health system. Young males have significantly higher rates of alcohol and drug use and related injuries than females³.</p> <p>In addition to the initial injury or problem, young people admitted to hospital for alcohol or other drug related injuries also have higher suicide risk than their peers⁴. Further, though not all alcohol and drug related injuries are experienced by people with a substance use disorder, it is reasonable to assume that a substantial portion are. Thus, it is relevant to note that substance use disorders are among the most common mental health disorders experienced by young people in Australia and the fourth highest contributor to the burden of disease in this age group^{4,5}.</p> <p>There is evidence that substance abuse can be reduced by addressing relevant risk factors such as early exposure to a substance or poor mental health, and by increasing protective factors such as early patterns of healthy behaviours^{7,8}. Being able to understand patterns of injury related to drug and alcohol use according to geographical area therefore has the advantage of allowing policy makers and service providers to make informed choices about targeted interventions to improve outcomes. Using this data alongside other social information (such as unemployment and income) could be especially important as a range of social factors are risk factors associated with alcohol and drug abuse⁸.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. White V, Bariola E. Australian secondary school students' use of tobacco, alcohol, and over-the counter and illicit substances in 2011. Cancer Council of Victoria, 2012 [cited 2018 May 23]. Available from: http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/BCBF6B2C638E1202CA257ACD0020E35C/\$File/National%20Report_FINAL_ASSAD_7.12.pdf 2. Department of Health, Western Australia. Injury prevention in Western Australia: A Review of state-wide activity for Selected Injury Areas. Perth; Chronic Disease Prevention Directorate. 2015 [cited 2018 May 23]. Available from: https://ww2.health.wa.gov.au/Reports-and-publications/Injury-Prevention-in-Western-Australia-A-Review-of-Statewide-Activity-for-Selected-Injury-Areas 3. Australian Institute of Health and Welfare. Canberra ACT. Young Australians: Their health and wellbeing, 2011. Cat. no. PHE 140. [cited 2018 May 23]. Available from: https://www.aihw.gov.au/reports/children-youth/young-australians-their-health-and-wellbeing-2011/contents/table-of-contents 4. Kmietowicz Z. Young people with injuries from alcohol, drugs, or violence show increased suicide risk. British Medical Journal, 2017; 357. Available from: https://doi.org/10.1136/bmj.j2589

	<p>5. Gore F, Bloem J, Patton G, Ferguson J, Joseph V, Coffey C, et al. Global burden of disease in young people aged 10-24 years: A systematic analysis. <i>The Lancet</i>, 2011; 377(9783): 2093-2102. https://doi.org/10.1016/S0140-6736(11)60512-6</p> <p>6. Australian Institute of Health and Welfare. Canberra ACT. Impact of alcohol and illicit drug use on the burden of disease and injury in Australia: Australian Burden of Disease Study 2011. [cited 2018 May 29]. Available from: https://www.aihw.gov.au/reports/burden-of-disease/impact-alcohol-illicit-drug-use-on-burden-disease/contents/table-of-contents</p> <p>7. Bränström R, Sjöström E, Andréasson S. Individual, group and community risk and protective factors for alcohol and drug use among Swedish adolescents. <i>European Journal of Public Health</i>, 2007; 18(1):12-8. https://doi.org/10.1093/eurpub/ckm038</p> <p>8. Hawkins JD, Catalano RF, Miller JY. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. <i>Psychological Bulletin</i>, 1992; 112(1):64. http://dx.doi.org/10.1037/0033-2909.112.1.64</p>																																		
<i>Data source</i>	Hospital Morbidity Data Collection, Emergency Department Data Collection																																		
<i>Numerator</i>	Number of alcohol and other drug related injury admissions from population aged 0-18 years																																		
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<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Includes individuals presenting to public and private hospitals only. GP records not included.</p> <p>Alcohol and other drug related injuries were identified using the following ICD classification codes:</p> <table border="1"> <thead> <tr> <th>ICD-9 Codes</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr><td>305.0</td><td>E24.4</td></tr> <tr><td>291</td><td>F10</td></tr> <tr><td>303</td><td>G31.2</td></tr> <tr><td>357.5</td><td>G62.1</td></tr> <tr><td>425.5</td><td>G72.1</td></tr> <tr><td>535.3</td><td>I42.1</td></tr> <tr><td>571.0</td><td>K29.2</td></tr> <tr><td>571.1</td><td>K70</td></tr> <tr><td>571.2</td><td>K85.2</td></tr> <tr><td>571.3</td><td>K86.0</td></tr> <tr><td>760.71</td><td>O35.4</td></tr> <tr><td>790.3</td><td>P04.3</td></tr> <tr><td>E860</td><td>Q86.0</td></tr> <tr><td>E950.9</td><td>R78.0</td></tr> <tr><td>V57.89</td><td>T50.6</td></tr> <tr><td>V57.9</td><td>T51</td></tr> </tbody> </table>	ICD-9 Codes	ICD-10 Codes	305.0	E24.4	291	F10	303	G31.2	357.5	G62.1	425.5	G72.1	535.3	I42.1	571.0	K29.2	571.1	K70	571.2	K85.2	571.3	K86.0	760.71	O35.4	790.3	P04.3	E860	Q86.0	E950.9	R78.0	V57.89	T50.6	V57.9	T51
ICD-9 Codes	ICD-10 Codes																																		
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V65.42	X45
V79.1	X65
V70.4	Y15
V11.3	Y90
V15.9	Z50.2
255 AND E860	Z71.4
255 AND 305.0	Z72.1
255 AND 303	G40.5
331.7 AND 303	Z04.0
359.4 AND E860	Z86.4
577.0 AND E860	
577.1 AND E860	
655.4 AND E860	
655.4 AND 303	
E980.5 AND 303	
E980.5 AND 305.0	
E980.9 AND 303	
E980.9 AND 305.0	

3. Mental Health

3.1. Mental illness diagnoses in children and young people

<i>Indicator</i>	Children/young people with a mental illness diagnosis
<i>Policy Context</i>	<p>A mental illness is a clinically diagnosable disorder that impairs an individuals' cognitive, emotional and/or social abilities¹. There are various types and severities of mental illnesses.</p> <p>In a large-scale survey conducted in 2015, 13.9% of Australian children aged between 4 and 17 were assessed as having had a mental health disorder in the last 12 months². The most common mental illnesses in children and adolescents were ADHD, anxiety disorders, major depressive disorder and conduct disorders². These illnesses place a significant personal burden on individuals in this age group as well as the health system in general. The rates of mental illness in this age group should also be understood as an important indicator of future health and demand for services because various studies have shown that many adults with mental illnesses had their first onset of symptoms in childhood.</p> <p>Mental health is related to a range of social factors such as economic disadvantage, poor housing, a lack of social support and access to health services². As such, understanding the proportion of mental illness in young people by geographical area can be utilised to ensure policy and services are meeting the needs of young people in their communities. Examining proportions of mental illness alongside other demographic factors (e.g. unemployment) for certain geographic areas can help policy makers and providers understand where mental illness in young people could be better addressed.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Government: Department of Health. 1.4 - National Mental Health Plan 2003-2008. [cited 2018 Jun 4]. Available from: http://www.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-n-infopri2-toc~mental-pubs-n-infopri2-pt1~mental-pubs-n-infopri2-pt1-4 2. Australian Bureau of Statistics. Canberra ACT. 4326.0 - National Survey of Mental Health and Wellbeing: Summary of Results. 2007 [cited 2018 Jun 4]. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/mf/4326.0
<i>Data source</i>	Mental Health Information System, Hospital Morbidity Data Collection, Emergency Department Data Collection
<i>Numerator</i>	Number of mental illness diagnoses from population aged 0-18
<i>Denominator</i>	Population aged 0-18
<i>Unit of measure</i>	Per 10,000 population
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with count values 1 to 4 and where population is less than 50 have been suppressed
<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Includes public and private inpatient records and public outpatient records only. Private outpatient and GP information not included. Untreated/undiagnosed mental illness also not captured.</p>

Mental illness diagnoses were identified using the following ICD classification codes:

ICD-9 Codes	ICD-10 Codes
290-319	F01-F99
E950-E959	R44-R46
E980-E989	R48
V11	X60-X84
V15.4	Y10-Y34
V40	Z00.4
V58.6	Z03.2
V60-V62	Z04.6
V65.42	Z09.3
V66.3	Z13.3
V67.3	Z50.2
V69.5	Z50.3
V69.8	Z50.4
V70.1	Z54.3
V70.2	Z56
V71.0	Z59-Z65
V79	Z70
	Z71.4
	Z71.5
	Z71.6
	Z71.9
	Z72
	Z73
	Z86.4
	Z86.5
	Z91.4
	Z91.5
	Z91.8

3.2. Proportion of births to mothers with a mental illness diagnosis

<i>Indicator</i>	Proportion of births to mothers with a mental illness diagnosis
<i>Policy Context</i>	<p>A mental illness is a clinically diagnosable disorder that impairs an individuals' cognitive, emotional and/or social abilities¹. There are various types and severities of mental illnesses. It is estimated that around half of the Australian adult population will experience a mental illness in their lifetime and that approximately 1 in 5 adults have experienced a mental illness in the last 12 months².</p> <p>The most common mental illnesses experienced by mothers in this period are major depression, bipolar disorder and anxiety disorders³. Children whose mothers have a perinatal mental health disorder (22 completed weeks of gestation to 1 year after birth) are at increased risk of developmental and psychological disturbances such as; depression and anxiety, emotional regulation problems, poorer social behaviour, insecure attachment, increased behaviour problems and impaired physical and cognitive development^{3,4}. This likely results from a combination of genetic inheritance and environmental risk factors associated with a parent having a mental illness^{5,6}.</p> <p>In addition to biological and psychological factors, mental health is related to a range of social factors such as economic disadvantage, poor housing, a lack of social support and access to health services². Therefore, understanding the number of births to mothers with a mental illness in particular geographic regions, especially when examined alongside information about social factors, can inform policy to help improve perinatal mental health care.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Government: Department of Health. 1.4 - National Mental Health Plan 2003-2008. [cited 2018 Jun 4]. Available from: http://www.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-n-infopri2-toc~mental-pubs-n-infopri2-pt1~mental-pubs-n-infopri2-pt1-4 2. Australian Bureau of Statistics. Canberra ACT. 4326.0 - National Survey of Mental Health and Wellbeing: Summary of Results. 2007 [cited 2018 Jun 4]. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/mf/4326.0 3. O'Hara M, Wisner K. Perinatal mental illness: Definition, description and aetiology. Best Practice & Research Clinical Obstetrics & Gynaecology. 2014; 28(1):3-12. https://doi.org/10.1016/j.bpobgyn.2013.09.002 4. Stein A, Pearson R, Goodman S, Rapa E, Rahman A, Mccallum M, et al. Effects of perinatal mental disorders on the fetus and child. The Lancet, 2014; 384(9956). https://doi.org/10.1016/S0140-6736(14)61277-0 5. Reupert A, Maybery D, Kowalenko N. Children whose parents have a mental illness: Prevalence, need and treatment. The Medical Journal of Australia, 2013; 199(3):7-9. https://doi.org/10.5694/mja11.11200 6. Maybery D, Ling L, Szakacs E, Reupert A. Children of a parent with a mental illness: Perspectives on need. Australian e-Journal for the Advancement of Mental Health, 2005; 4(2):78-88. https://doi.org/10.5172/jamh.4.2.78
<i>Data source</i>	Mental Health Information System, Hospital Morbidity Data Collection, Emergency Department Data Collection
<i>Numerator</i>	Live births to mothers who had a mental illness diagnosis 12 months prior to, or 12 months post, the child's birth
<i>Denominator</i>	All live births

<i>Unit of measure</i>	Per cent (%)																																																														
<i>Geography</i>	SA2, SA3, LGA																																																														
<i>Data confidentiality</i>	Areas with count values 1 to 4 and where population is less than 50 have been suppressed																																																														
<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Does not capture mothers with mental illness diagnosis seen only in private outpatient clinic or by GP. Also does not capture untreated/undiagnosed mental illness.</p> <p>Mental illness diagnoses for mothers were identified using the following ICD classification codes:</p> <table border="1"> <thead> <tr> <th>ICD-9 Codes</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr><td>290–319</td><td>F01-F99</td></tr> <tr><td>E950-E959</td><td>O99.3</td></tr> <tr><td>648.3</td><td>G30</td></tr> <tr><td>648.4</td><td>R44-R46</td></tr> <tr><td>E980-E989</td><td>R48</td></tr> <tr><td>V11</td><td>X60-X84</td></tr> <tr><td>V15.4</td><td>Y10-Y34</td></tr> <tr><td>V40</td><td>Z00.4</td></tr> <tr><td>V58.6</td><td>Z03.2</td></tr> <tr><td>V60-V62</td><td>Z04.6</td></tr> <tr><td>V65.42</td><td>Z09.3</td></tr> <tr><td>V66.3</td><td>Z13.3</td></tr> <tr><td>V67.3</td><td>Z50.2</td></tr> <tr><td>V69.5</td><td>Z50.3</td></tr> <tr><td>V69.8</td><td>Z50.4</td></tr> <tr><td>V70.1</td><td>Z54.3</td></tr> <tr><td>V70.2</td><td>Z56</td></tr> <tr><td>V71.0</td><td>Z59-Z65</td></tr> <tr><td>V79</td><td>Z70</td></tr> <tr><td></td><td>Z71.4</td></tr> <tr><td></td><td>Z71.5</td></tr> <tr><td></td><td>Z71.6</td></tr> <tr><td></td><td>Z71.9</td></tr> <tr><td></td><td>Z72</td></tr> <tr><td></td><td>Z73</td></tr> <tr><td></td><td>Z86.4</td></tr> <tr><td></td><td>Z86.5</td></tr> <tr><td></td><td>Z91.4</td></tr> <tr><td></td><td>Z91.5</td></tr> <tr><td></td><td>Z91.8</td></tr> </tbody> </table>	ICD-9 Codes	ICD-10 Codes	290–319	F01-F99	E950-E959	O99.3	648.3	G30	648.4	R44-R46	E980-E989	R48	V11	X60-X84	V15.4	Y10-Y34	V40	Z00.4	V58.6	Z03.2	V60-V62	Z04.6	V65.42	Z09.3	V66.3	Z13.3	V67.3	Z50.2	V69.5	Z50.3	V69.8	Z50.4	V70.1	Z54.3	V70.2	Z56	V71.0	Z59-Z65	V79	Z70		Z71.4		Z71.5		Z71.6		Z71.9		Z72		Z73		Z86.4		Z86.5		Z91.4		Z91.5		Z91.8
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3.3. Proportion of children/young people with a substance abuse disorder

Indicator	Proportion of children/young people with a substance abuse disorder
<p><i>Policy Context</i></p>	<p>A substance abuse disorder involves a pattern of substance use that results in an impairment or distress in daily activities¹. For example, individuals with a substance abuse disorder commonly have repeatedly failed to stop using the substance, used more than planned, experienced craving for or withdrawal from the substance and/or, continued to use a substance despite its negative impact on their lives¹. ‘Substance’ can refer to: alcohol, caffeine, cannabis, hallucinogens, inhalants, opioids, sedatives, hypnotics, anxiolytics, stimulants, tobacco, and other or unknown substances¹. Alcohol, tobacco and cannabis are the substances most frequently used by young people².</p> <p>Substance abuse disorders are among the most common mental health disorders experienced by young people in Australia and the fourth highest contributor to the burden of disease in this age group^{3,4}.</p> <p>There is evidence that substance abuse can be reduced by addressing relevant risk factors such as early exposure to a substance or poor mental health, and by increasing protective factors such as early patterns of healthy behaviours^{5,6}. Being able to understand rates of substance abuse disorder within geographical area therefore has the advantage of allowing policy makers and service providers to make informed choices when working to improve outcomes. Using this data alongside other social information (such as unemployment and income) could be especially important as a range of social factors are risk factors associated with alcohol and drug abuse⁶.</p>
<p><i>References</i></p>	<ol style="list-style-type: none"> 1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5®). American Psychiatric Pub; 2013. 2. White V, Bariola E. Australian secondary school students' use of tobacco, alcohol, and over-the counter and illicit substances in 2011. Cancer Council of Victoria, 2012. Available from: http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/BCBF6B2C638E1202CA257ACD0020E35C/\$File/National%20Report_FINAL_ASSAD_7.12.pdf 3. Gore F, Bloem J, Patton G, Ferguson J, Joseph V, Coffey C, et al. Global burden of disease in young people aged 10-24 years: A systematic analysis. The Lancet, 2011; 377(9783): 2093-2102. https://doi.org/10.1016/S0140-6736(11)60512-6 4. Australian Institute of Health and Welfare. Canberra ACT. Impact of alcohol and illicit drug use on the burden of disease and injury in Australia: Australian Burden of Disease Study 2011. Available from: https://www.aihw.gov.au/reports/burden-of-disease/impact-alcohol-illicit-drug-use-on-burden-disease/contents/table-of-contents 5. Bränström R, Sjöström E, Andréasson S. Individual, group and community risk and protective factors for alcohol and drug use among Swedish adolescents. European Journal of Public Health, 2007; 18(1):12-8. https://doi.org/10.1093/eurpub/ckm038 6. Hawkins JD, Catalano RF, Miller JY. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. Psychological Bulletin, 1992; 112(1):64. http://dx.doi.org/10.1037/0033-2909.112.1.64

<i>Data source</i>	Hospital Morbidity Data Collection , Emergency Department Data Collection								
<i>Numerator</i>	Number of hospitalisations for substance abuse disorder from population aged 0-18 years								
<i>Denominator</i>	Population aged 0-18 years								
<i>Unit of measure</i>	Per 10,000 population								
<i>Geography</i>	SA2, SA3, LGA								
<i>Data confidentiality</i>	Areas having count values 1 to 4 and where population is less than 50 have been suppressed.								
<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Includes individuals presenting to public and private hospitals only. GP records and untreated/undiagnosed substance abuse not included.</p> <p>Substance abuse disorder related hospitalisations were identified using the following ICD classification codes:</p> <table border="1"> <thead> <tr> <th>ICD-9 Codes</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr> <td>291</td> <td>F10-F19</td> </tr> <tr> <td>292</td> <td>F55</td> </tr> <tr> <td>303-305</td> <td></td> </tr> </tbody> </table>	ICD-9 Codes	ICD-10 Codes	291	F10-F19	292	F55	303-305	
ICD-9 Codes	ICD-10 Codes								
291	F10-F19								
292	F55								
303-305									

3.4. Emergency Department presentations that were mental health related in children and young people

<i>Indicator</i>	Emergency Department presentations that were mental health related in children and young people
<i>Policy Context</i>	<p>Mental health disorders are the most common chronic conditions experienced by young people in the developed world and are a significant burden to public health in Australia^{1,2}. Additionally, many mental health disorders of adulthood have their onset in childhood or adolescence³.</p> <p>In recent years, the number of young people presenting to emergency departments with mental health conditions has steadily increased⁴. The most common nature of presentation is for intentional self-harm⁴. Other common presentations are for substance abuse, and mood, behavioural, or emotional disorders⁴.</p> <p>Understanding the proportion of paediatric presentations to ED that are because of mental health has important implications for policy and service delivery⁴. Geographic statistics can provide insight into where hospitals need to be better equipped to effectively deal with mental health presentations and where non-hospital services have not been sufficient to meet the needs of individuals experiencing mental health conditions. They can also indicate where mental health and health service education may be lacking, leading individuals to present to an emergency department rather than an alternative service that may be better suited to their needs.</p> <p>Understanding the prevalence of mental health emergency department presentations in young people is therefore useful for informing effective policy to improve the outcomes of young people across the state.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Erskine H, Moffitt T, Copeland W, Costello E, Ferrari A, Patton G et al. A heavy burden on young minds: The global burden of mental and substance use disorders in children and youth. <i>Psychological Medicine</i>, 2015; 45(7):1551-63. https://doi.org/10.1017/S0033291714002888 2. Lawrence D, Hafekost J, Johnson S, Saw S, Buckingham W, Sawyer M et al. Key findings from the second Australian Child and Adolescent Survey of Mental Health and Wellbeing. <i>Australian & New Zealand Journal of Psychiatry</i>, 2016; 50(9):876-86. https://doi.org/10.1177/0004867415617836 3. Kessler R, Berglund P, Demler O, Jin R, Merikangas K, Walters E. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. <i>Archives of General Psychiatry</i>, 2005; 62(6):593-602. https://doi.org/10.1001/archpsyc.62.6.593 4. Hiscock H, Neely R, Lei S, Freed G. Paediatric mental and physical health presentations to emergency departments, Victoria, 2008-15. <i>Medical Journal of Australia</i>, 2018. https://doi.org/10.5694/mja17.00434
<i>Data source</i>	Emergency Department Data Collection
<i>Numerator</i>	Number of Emergency Department presentations that were mental health related from population aged 10-18 years
<i>Denominator</i>	Number of Emergency Department presentations from population aged 10-18 years
<i>Unit of measure</i>	Per cent (%)

<i>Geography</i>	SA2, SA3, LGA						
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed						
<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Presentation deemed to be mental health related if any of the following mental health-related diagnostic codes were recorded:</p> <table border="1"> <thead> <tr> <th>ICD-9 Codes</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr> <td>290-319</td> <td>F01-F99</td> </tr> <tr> <td>E950-E959</td> <td></td> </tr> </tbody> </table>	ICD-9 Codes	ICD-10 Codes	290-319	F01-F99	E950-E959	
ICD-9 Codes	ICD-10 Codes						
290-319	F01-F99						
E950-E959							

3.5. Emergency Department presentations for deliberate self-harm in children and young people

<i>Indicator</i>	Emergency Department presentations for deliberate self-harm in children and young people
<i>Policy Context</i>	<p>Mental health disorders are the most common chronic conditions experienced by young people in the developed world and are a significant burden to public health in Australia^{1,2}. In recent years, the number of young people presenting to emergency departments with mental health conditions has steadily increased³. The most common nature of presentation is for deliberate self-harm³.</p> <p>Deliberate self-harm refers to an intentional act of causing physical injury to oneself, without the intention for the injury to cause death⁴. However, deliberate self-harm can lead to accidental fatality⁴. Presentations to Emergency Departments for deliberate self-harm may indicate more life-threatening forms of self-injury. There is also an increased risk of completed suicide following presentation to hospital for deliberate self-harm⁵.</p> <p>Understanding the proportion of paediatric presentations to ED that are because of deliberate self-harm has important implications for policy and service delivery³. Geographic statistics can provide insight into where outpatient mental health services may need to focus prevention and intervention efforts to meet the needs of individuals experiencing acute mental illness, particularly around the prevention of suicide.</p> <p>Understanding the prevalence of deliberate self-harm emergency department presentations in young people is therefore useful for informing effective policy to improve the outcomes of young people across the state.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Erskine H, Moffitt T, Copeland W, Costello E, Ferrari A, Patton G et al. A heavy burden on young minds: The global burden of mental and substance use disorders in children and youth. <i>Psychological Medicine</i>, 2015; 45(7):1551-63. https://doi.org/10.1017/S0033291714002888 2. Lawrence D, Hafekost J, Johnson S, Saw S, Buckingham W, Sawyer M et al. Key findings from the second Australian Child and Adolescent Survey of Mental Health and Wellbeing. <i>Australian & New Zealand Journal of Psychiatry</i>, 2016; 50(9):876-86. https://doi.org/10.1177/0004867415617836 3. Hiscock H, Neely R, Lei S, Freed G. Paediatric mental and physical health presentations to emergency departments, Victoria, 2008-15. <i>Medical Journal of Australia</i>, 2018. https://doi.org/10.5694/mja17.00434 4. Lauw M, How CH, Loh C. Deliberate self-harm in adolescents. <i>Singapore Medical Journal</i>. 2015;56(6):306-309. https://doi.org/10.11622/smedj.2015087 5. Hawton K, Zahl D, & Weatherall R. Suicide following deliberate self-harm: Long-term follow-up of patients who presented to a general hospital. <i>British Journal of Psychiatry</i>. 2003; 182(6), 537-542. https://doi.org/10.1192/bjp.182.6.537
<i>Data source</i>	Emergency Department Data Collection
<i>Numerator</i>	Number of Emergency Department presentations with a primary presenting self-inflicted injury from population aged 10-18 years

<i>Denominator</i>	Number of Emergency Department presentations from population aged 10-18 years																						
<i>Unit of measure</i>	Per cent (%)																						
<i>Geography</i>	SA2, SA3, LGA																						
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed																						
<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Presentation deemed to be deliberate self-harm if any of the following ICD codes were recorded:</p> <table border="1"> <thead> <tr> <th>Description</th> <th>ICD-9</th> <th>ICD-10</th> </tr> </thead> <tbody> <tr> <td>Self-harm</td> <td>E950-E958</td> <td>X60-X84</td> </tr> <tr> <td>Sequelae of intentional self-harm</td> <td>E959</td> <td>Y87.0</td> </tr> <tr> <td>Personal history of self-harm</td> <td>V15.4</td> <td>Z91.5</td> </tr> <tr> <td>Suicidal ideations</td> <td>V62.8</td> <td>R45.8</td> </tr> <tr> <td>Event of undetermined event</td> <td>E980-E988</td> <td>Y10-Y34</td> </tr> <tr> <td>Sequelae of events of undetermined intent</td> <td>E989</td> <td>Y87.2</td> </tr> </tbody> </table>		Description	ICD-9	ICD-10	Self-harm	E950-E958	X60-X84	Sequelae of intentional self-harm	E959	Y87.0	Personal history of self-harm	V15.4	Z91.5	Suicidal ideations	V62.8	R45.8	Event of undetermined event	E980-E988	Y10-Y34	Sequelae of events of undetermined intent	E989	Y87.2
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4. Education

4.1.Children developmentally vulnerable or at risk on the Australian Early Development Census domains

<i>Indicator</i>	Children developmentally vulnerable on the Australian Early Development Census domains.
<i>Policy Context</i>	<p>The Australian Early Development Census (AEDC) is a national measure of early childhood development, collected for children commencing their first year of compulsory education (Pre-Primary in Western Australia)¹. Since 2009, the AEDC has been collected every three years across public, private, and independent schools in Australia^{1,2}.</p> <p>All children included in the AEDC are scored on five domains of development that are associated with predictors of good social, health and educational outcomes into adulthood¹. These domains are 1) Physical health and wellbeing, 2) Social competence, 3) Emotional maturity, 4) Language and cognitive skills and 5) Communication skills and general knowledge^{1,2}. These domains of development are considered to provide a snapshot of a child's level of school readiness, which is an important predictor of ongoing educational and occupational achievement^{3,4}. Children are classified as 'developmentally vulnerable' on a domain if they score below the 10th percentile (based on national data), and 'developmentally at risk' on a domain if they score between the 11th and 25th percentile¹. Hence 'developmentally vulnerable or at risk' comprises children who scored on the 25th percentile or below.</p> <p>Fostering the different areas of early development connected to each of the five domains may require differing policies and services. The AEDC data on developmental vulnerability across each of the five domains can therefore be used as an indicator of the wellbeing of children in a given region and used to inform policy and planning to improve health and education outcomes^{1,2}.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Department of Education and Training. Australian Early Development Census National Report 2015: A snapshot of early childhood development in Australia. Canberra ACT. 2016 [cited 2018 Jun 4]. Available from: https://www.aedc.gov.au/resources/detail/2015-aedc-national-report 2. Department of Education and Training. About the AEDC. Canberra ACT. 2018. Available from: https://www.aedc.gov.au/about-the-aedc 3. Hertzman C, Power C, Matthews S, Manor O. Using an interactive framework of society and life course to explain self-rated health in early adulthood. <i>Social Science & Medicine</i>, 2001; 53(12):1575-85. https://doi.org/10.1016/S0277-9536(00)00437-8 4. Davies S, Janus M, Duku E, Gaskin A. Using the Early Development Instrument to examine cognitive and non-cognitive school readiness and elementary student achievement. <i>Early Childhood Research Quarterly</i>, 2016; 35:63-75. https://doi.org/10.1016/j.ecresq.2015.10.002
<i>Data source</i>	Australian Early Development Census (2009, 2012, 2015)
<i>Numerator</i>	Children developmentally vulnerable on selected domain
<i>Denominator</i>	Children with a valid AEDC score on selected domain
<i>Unit of measure</i>	Per cent (%)

<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	<p>Suppression of AEDC data occurs when one or more of the following have not been met:</p> <ul style="list-style-type: none"> • Fewer than fifteen children in an area had valid AEDC scores • Fewer than two teachers had completed AEDC instruments for children in that location; • AEDC instruments were completed for less than 80% of all non 'special needs' children. <p>Additional minor suppressions have been applied where necessary to preserve confidentiality of related suppressed cells</p>
<i>Notes</i>	Indicators are available for each of the five AEDC domains, by gender and for each of the census years (2009, 2012, and 2015).

4.2. Developmental vulnerability on 1 or more/2 or more Australian Early Development Census domains

<i>Indicator</i>	Children developmentally vulnerable on 1 or more/2 or more Australian Early Development Census domains
<i>Policy Context</i>	<p>The Australian Early Development Census (AEDC) is a national measure of early childhood development, collected for children commencing their first year of compulsory education (Pre-Primary in Western Australia)¹. Since 2009, the AEDC has been collected every three years across public, private, and independent schools in Australia^{1,2}.</p> <p>All children included in the AEDC are scored on five domains of development that are associated with predictors of good social, health and educational outcomes into adulthood¹. These domains are (1) Physical health and wellbeing, (2) Social competence, (3) Emotional maturity, (4) Language and cognitive skills and (5) Communication skills and general knowledge^{1,2}. These domains of development are considered to provide a snapshot of a child's level of school readiness, which is an important predictor of ongoing educational and occupational achievement^{3,4}. Children are classified as 'developmentally vulnerable' on a domain if they score below the 10th percentile (based on national data)¹.</p> <p>The overall number of children who are developmentally vulnerable on any one or more/2 or more of the five domains can act as an indicator of how well early childhood development is being supported generally in a region. The AEDC data on children who are developmentally vulnerable across any one or more/2 or more of five domains can therefore be used as an indicator of the health and wellbeing of children in each region and used to inform policy and planning to improve outcomes^{1,2}.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Department of Education and Training. Australian Early Development Census National Report 2015: A snapshot of early childhood development in Australia. Canberra ACT. 2016. Available from: https://www.aedc.gov.au/resources/detail/2015-aedc-national-report 2. Department of Education and Training. About the AEDC. Canberra ACT. 2018. Available from: https://www.aedc.gov.au/about-the-aedc 3. Hertzman C, Power C, Matthews S, Manor O. Using an interactive framework of society and life course to explain self-rated health in early adulthood. <i>Social Science & Medicine</i>, 2001; 53(12):1575-85. https://doi.org/10.1016/S0277-9536(00)00437-8 4. Davies S, Janus M, Duku E, Gaskin A. Using the Early Development Instrument to examine cognitive and non-cognitive school readiness and elementary student achievement. <i>Early Childhood Research Quarterly</i>, 2016; 35:63-75. https://doi.org/10.1016/j.ecresq.2015.10.002
<i>Data source</i>	Australian Early Development Census (2009, 2012, 2015)
<i>Numerator</i>	Children developmentally vulnerable on one or more/two or more domains
<i>Denominator</i>	Children with a valid AEDC score
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA

<i>Data confidentiality</i>	<p>Suppression of AEDC data occurs when one or more of the following have not been met:</p> <ul style="list-style-type: none"> • Fewer than fifteen children in an area had valid AEDC scores • Fewer than two teachers had completed AEDC instruments for children in that location; • AEDC instruments were completed for less than 80% of all non 'special needs' children. <p>Additional minor suppressions have occurred where necessary to preserve confidentiality of related suppressed cells</p>
<i>Notes</i>	<p>Indicators are available by gender and for each of the census years (2009, 2012, and 2015).</p>

4.3. Developmentally 'on track' on all five Australian Early Development Census domains

<i>Indicator</i>	Children developmentally 'on track' on all five Australian Early Development Census domains
<i>Policy Context</i>	<p>The Australian Early Development Census (AEDC) is a national measure of early childhood development, collected for children commencing their first year of compulsory education (Pre-Primary in Western Australia)¹. Since 2009, the AEDC has been collected every three years across public, private, and independent schools in Australia^{1,2}.</p> <p>All children included in the AEDC are scored on five domains of development that are associated with predictors of good social, health and educational outcomes into adulthood¹. These domains are (1) Physical health and wellbeing, (2) Social competence, (3) Emotional maturity, (4) Language and cognitive skills and (5) Communication skills and general knowledge^{1,2}. These domains of development are considered to provide a snapshot of a child's level of school readiness, which is an important predictor of ongoing educational and occupational achievement^{3,4}. Children are classified as 'developmentally vulnerable' on a domain if they score below the 10th percentile (based on national data)¹. Children are classified as developmentally 'on track' if they score above the 25th percentile (based on national data) on each of the five domains¹.</p> <p>The overall number of children who are developmentally on track across all five domains can act as an indicator of how well early childhood development is being supported generally across the state. The AEDC data on children who are developmentally on track can therefore be used as an indicator of the health and wellbeing of children in a given region and used to inform policy and planning to improve outcomes^{1,2}.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Department of Education and Training. Australian Early Development Census National Report 2015: A snapshot of early childhood development in Australia. Canberra ACT. 2016. Available from: https://www.aedc.gov.au/resources/detail/2015-aedc-national-report 2. Department of Education and Training. About the AEDC. Canberra ACT. 2018. Available from: https://www.aedc.gov.au/about-the-aedc 3. Hertzman C, Power C, Matthews S, Manor O. Using an interactive framework of society and life course to explain self-rated health in early adulthood. <i>Social Science & Medicine</i>, 2001; 53(12):1575-85. https://doi.org/10.1016/S0277-9536(00)00437-8 4. Davies S, Janus M, Duku E, Gaskin A. Using the Early Development Instrument to examine cognitive and non-cognitive school readiness and elementary student achievement. <i>Early Childhood Research Quarterly</i>, 2016; 35:63-75. https://doi.org/10.1016/j.ecresq.2015.10.002
<i>Data source</i>	Australian Early Development Census (2009, 2012, 2015)
<i>Numerator</i>	Children developmentally on track on five domains
<i>Denominator</i>	Children with a valid AEDC score
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA

<i>Data confidentiality</i>	<p>Suppression of AEDC data occurs when one or more of the following have not been met:</p> <ul style="list-style-type: none"> • Fewer than fifteen children in an area had valid AEDC scores • Fewer than two teachers had completed AEDC instruments for children in that location; • AEDC instruments were completed for less than 80% of all non 'special needs' children. <p>Additional minor suppressions have occurred where necessary to preserve confidentiality of related suppressed cells</p>
<i>Notes</i>	<p>Indicators are available by gender and for each of the census years 2009, 2012, and 2015.</p>

4.4.Attendance at an educational institution (children aged 0-4 years)

<i>Indicator</i>	Attendance at educational institution (children aged 0-4 years)
<i>Policy Context</i>	<p>Educational institutions for children aged 0-4 years are structured, play-based learning programs delivered by degree-qualified teachers for children in the years leading up to full-time schooling¹. Preschool participation increases school readiness, which is associated with better ongoing educational attainment and achievement as well as life outcomes more generally²⁻⁴. Children from disadvantaged families are less likely to be enrolled in preschool and tend to have lower attendance rates⁵.</p> <p>Given the association between educational attainment and health outcomes across the lifespan, preschool participation levels can be used as an early indicator of child development and vulnerability to poor health outcomes. Therefore, it can be utilised by policy makers to reveal where children may be at risk of having poorer outcomes and to allocate resources and services to areas where they may be required to ensure healthy child development.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Bureau of statistics. Canberra ACT. Preschool Education, Australia, 2016, cat. no. 4240.0 2017 [cited 29 May 2018]. Available from: http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4240.0Explanatory%20Notes12016?OpenDocument 2. Rosier K, McDonald M. Promoting positive education and care transitions for children. Melbourne: Australian Institute of Family Studies; 2011 [cited 2018 Jun 11]. Available from: https://aifs.gov.au/cfca/publications/promoting-positive-education-and-care-transitions-children 3. Hertzman C, Power C, Matthews S, Manor O. Using an interactive framework of society and life course to explain self-rated health in early adulthood. Social Science & Medicine, 2001; 53(12):1575-85. https://doi.org/10.1016/S0277-9536(00)00437-8 4. Davies S, Janus M, Duku E, Gaskin A. Using the Early Development Instrument to examine cognitive and non-cognitive school readiness and elementary student achievement. Early Childhood Research Quarterly, 2016; 35:63-75. https://doi.org/10.1016/j.ecresq.2015.10.002 5. Commissioner for Children and Young People. "It's like a big circle trap." Discussion paper on Children and Young People's vulnerability. 2018 [cited 26 June 2018]. Available from: https://www.cryp.wa.gov.au/media/2961/report-vulnerability-discussion-paper-march-2018.pdf
<i>Data source</i>	Census of Population and Housing, Australian Bureau of Statistics T13 and T03 - ABS TSP Census DataPacks
<i>Numerator</i>	Number of children aged 0-4 years attending educational institution
<i>Denominator</i>	Total number of children aged 0-4 years
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	Data are presented separately for the 2006, 2011, and 2016 Census years.

5. Mortality

5.1. Infant Mortality

<i>Indicator</i>	Infant Mortality
<i>Policy Context</i>	<p>Infant mortality refers to the number of deaths of infants (aged 0-1) in any given year per 1000 live births¹. The most common causes of death before one year of age are conditions originating in the perinatal period and congenital conditions². Other common causes of death in this period are Sudden Infant Death Syndrome, injury and accidental threats to breathing².</p> <p>Known risks associated with incidence of infant mortality include social and economic factors such as low income, unemployment, teenage motherhood, and mother's education^{3,4}. As such, infant mortality can be used as an indicator of the general wellbeing of a population and as an indicator of the accessibility, quality, and performance of the health system in maternal and perinatal health⁵.</p> <p>As infant mortality is associated with both social and economic factors and healthcare quality and access it can be used by policy makers and health providers to give insight into the health of mothers and babies as well as the broader population in a region. Therefore, combined with other factors, infant mortality can be used to inform policy, strategy and intervention to support child health and development.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Institute of Health and Welfare. Canberra ACT. Australia's Health. How Healthy Are Australia's Children? 2016. https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/summary 2. Australian Institute of Health and Welfare. Canberra ACT. Deaths in Australia. 2017. https://www.aihw.gov.au/reports/life-expectancy-death/deaths-in-australia/contents/life-expectancy 3. Gracey M, King M. Indigenous Health Part 1: Determinants and Disease Patterns. Lancet, 2009; 374(9683):65-75. https://doi.org/10.1016/S0140-6736(09)60914-4 4. Marmot M. Health in an unequal world: Social circumstances, biology and disease. Clinical Medicine, 2006; 6(6):559. https://www.ncbi.nlm.nih.gov/pubmed/17228555 5. Australian Institute of Health and Welfare. Canberra ACT. Infant Mortality: Mortality rate for infants less than 1 year of age. 2017. http://analytics.aihw.gov.au/Viewer/VisualAnalyticsViewer_guest.jsp?reportPath=%2FAIHW%2FReleasedPublic%2FCHI%2FReports%2F2017&reportName=Infant%20mortality&reportViewOnly=true&viewerMode=modern&commentsEnabled=false&propertiesEnabled=false&appSwitcherDisabled=true
<i>Data source</i>	Registry of Births, Deaths, and Marriages
<i>Numerator</i>	Number of deaths among infants (aged <1 year)
<i>Denominator</i>	Number of live births
<i>Unit of measure</i>	Per 1,000 live births
<i>Geography</i>	SA3

<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	Because of small numbers of deaths each year, data are presented in 5-year (total population) groupings.

5.2. Child mortality

<i>Indicator</i>	Child mortality (all causes)
<i>Policy Context</i>	<p>Child mortality refers to the number of deaths of children in any given year per 100,000 population. The primary causes of mortality vary between different stages of childhood.</p> <p>The majority of deaths between the ages of 0 and 5 years of age occur within the first year of life, with the highest risk of death being in the first month⁴. The main causes of death between the ages of 0 and 5 years include conditions originating in the perinatal period, congenital diseases, Sudden Infant Death Syndrome, injury related to traffic accidents, drowning and accidental threats to breathing, and cancer¹.</p> <p>In addition to the personal consequences of the death of a child on individuals in Western Australian communities, child mortality can be used as an indicator of the health of a population due to its association with a range of social and economic factors^{2,4,5}. Child mortality is associated with social and economic disadvantage, access to health care, nutrition, hygiene, sanitation, maternal education, unemployment, community awareness of child mortality risk factors, and immunisation programs^{2,4,5}.</p> <p>Child mortality is an important indicator for health providers and policy makers to inform policy, strategy, and intervention, providing insight into the health of young children as well as the broader population¹. The importance of child mortality statistics is amplified by the knowledge that many of the causes of death in this period, such as traffic accidents or accidental drowning, are preventable¹.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Institute of Health and Welfare. Canberra ACT. Australia's Health How healthy are Australia's children? 2016 [cited 2018 May 15]. Available from: https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/summary 2. Australian Institute of Health and Welfare. Canberra ACT. Infant Mortality: Mortality rate for infants less than 1 year of age. 2017. [cited 2018 May 15]. http://analytics.aihw.gov.au/Viewer/VisualAnalyticsViewer_guest.jsp?reportPath=%2FAIHW%2FReleasedPublic%2FCHI%2FReports%2F2017&reportName=Infant%20mortality&reportViewOnly=true&viewerMode=modern&commentsEnabled=false&propertiesEnabled=false&appSwitcherDisabled=true 3. United Nations Population Division. New York: United Nations. Levels and Trends in Child Mortality Report 2017 [cited 2018 May 15]. Available from: http://www.un.org/en/development/desa/population/publications/mortality/child-mortality-report-2017.shtml 4. Australian Institute of Health and Welfare. Canberra ACT. Deaths in Australia. 2017 [cited 2018 May 15]. Available from: https://www.aihw.gov.au/reports/life-expectancy-death/deaths-in-australia/contents/life-expectancy 5. Australian Institute of Health and Welfare. Canberra ACT. Making progress: The health, development and wellbeing of Australia's children and young people. 2008 [cited 2018 May 15]. Available from: https://www.aihw.gov.au/reports/children-youth/making-progress-the-health-development-and-wellb/contents/table-of-contents

<i>Data source</i>	Registry of Births, Deaths, and Marriages
<i>Numerator</i>	Number of deaths among children aged 0–4 years
<i>Denominator</i>	Population aged 0–4 years
<i>Unit of measure</i>	Per 100,000 population
<i>Geography</i>	SA3
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	Because of small numbers of deaths each year, data are presented in 5-year (total population) groupings

6. Demographic and Social

6.1. Proportion of low income households

<i>Indicator</i>	Proportion of low income households (ABS)
<i>Policy Context</i>	<p>Low income households are households that are in the lowest 18% of equivalised disposable household income (EDHI)¹. EDHI refers to the amount of money, after tax and other deductions, which is available; divided by the number of household members converted to equivalised adults (weighted according to age)¹. It is used as an indicator of the economic resources available to a household¹.</p> <p>Low income is an important social determinant of health and wellbeing, and a good indicator of disadvantage (a significant risk factor for poorer health outcomes throughout the lifespan)²⁻⁴. Low income acts as a health determinant because it can negatively impact a range of living and working conditions like housing standards, access to quality healthcare, availability nutritious food, educational attainment, exposure to stress and options for healthy pursuits such as sports clubs⁴⁻⁶. Further, children from low income households can have lower school readiness (associated with poorer health outcomes across the lifespan) due to financial stress impacting family relationships and reduced family ability to invest in advantageous experiences such as preschool or playgroups⁷.</p> <p>Further, low income households tend to be concentrated in particular suburbs and neighbourhoods⁸. The accumulation of people living with fewer financial resources in particular geographical areas can further exacerbate disadvantage as these areas tend to have less community resources, reduced neighbourhood safety, poorer services (e.g. education, health care, public transport) and lower social cohesion⁸.</p> <p>Considering the relationship between child development and disadvantage, understanding which areas of the state have a greater proportion of low income households can guide policy and strategy to invest in the improvement of the living conditions of children to improve public health across the lifespan⁶.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Bureau of statistics. Canberra ACT. Household Income and Income Distribution Australia 2015-16, cat. no.6523.0. 2017. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/6523.0~2015-16~Main%20Features~Key%20Findings~1 2. Tough P. Helping children succeed: What works and why. Random House; 2016. [cited 22 May 2018]. Available from: http://www.paultough.com/helping/pdf/Helping-Children-Succeed-Paul-Tough.pdf?pdf=hcs-pdf-web 3. Zubrick S, Williams A, Silburn S, Vimpani G. Indicators of Social and Family Functioning. Commonwealth of Australia; Department of Family and Community Services. 2000. Available from: https://www.dss.gov.au/sites/default/files/documents/indicators_of_social_and_family_functioning_full_report.pdf 4. Australian Institute of Health and Welfare. Canberra ACT. Australia's health 2016; Australia's health series no. 15. Cat. no. AUS 199. 2016 [cited 2018 Jun 11]. Available from: https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/summary

	<p>5. Braveman P, Gottlieb L. The social determinants of health: It's time to consider the causes of the causes. Public Health Reports, 2014; 129(1):19-31. https://doi.org/10.1177/003335491412915206</p> <p>6. Braveman P, Barclay C. Health disparities beginning in childhood: A life-course perspective. Pediatrics, 2009; 124(Supplement 3):163-75. https://doi.org/10.1542/peds.2009-1100D</p> <p>7. Rosier K, McDonald M. Promoting positive education and care transitions for children. Melbourne: Australian Institute of Family Studies. 2011 [cited 2018 Jun 11]. https://aifs.gov.au/cfca/publications/promoting-positive-education-and-care-transitions-children</p> <p>8. Pawson H, Hulse K, Cheshire L. Addressing concentrations of disadvantage in urban Australia. Australian Housing and Urban Research Institute. Melbourne. 2015 [cited 2018 Jun 12]. https://www.ahuri.edu.au/research/final-reports/247</p>
<i>Data source</i>	Census of Population and Housing, Australian Bureau of Statistics T22 - ABS TSP Census DataPacks (couple families) T23 - ABS TSP Census DataPacks (single parent)
<i>Numerator</i>	Number of low income households (single parent and couple families)
<i>Denominator</i>	Total number of households
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	<p>Data are presented separately for the 2006, 2011, and 2016 Census years.</p> <p>Two indicators represent low income families:</p> <ul style="list-style-type: none"> • Couple families < \$1000 income per week • Single parent families < \$1000 income per week.

6.2. Proportion of occupied private dwellings with no internet connection

<i>Indicator</i>	Proportion of occupied private dwellings with no internet connection
<i>Policy Context</i>	<p>Private dwellings are classified as having no internet connection if no individual in the house has access to the internet through any device (including a mobile or smart phone)¹. Low income households and those located in non-metropolitan or regional areas are less likely to have access to the internet¹.</p> <p>In contemporary society having access to the internet means greater access to social connections as well as material and social resources. This includes access to health services and health information as well as other resources and social connections that contribute to health and wellbeing (such as education institutions and support networks)^{1,2}. As such, not having an internet connection in the home is considered an indicator of disadvantage because it signals a lack of resources or ability to participate fully in society^{1,2}.</p> <p>Disadvantage is a significant risk factor for poorer health outcomes for children both in early development and throughout the lifespan^{3,4}. Further, as the internet functions as a primary source of information and social connection, parents who do not have internet connection may not.</p> <p>In light of the relationship between child development and disadvantage, understanding which areas have a greater proportion of households experiencing disadvantage, through indicators such as internet connection, can guide policy and strategy to ensure areas that may require additional support to foster child development receive it.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Bureau of statistics. Canberra ACT. Household use of Information Technology, 2016-17, cat. no. 8146.0. 2018 [cited 22 May 2018]. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/mf/8146.0 2. Australian Bureau of Statistics. Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2011, cat. no. 2033.0.55.001 http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2033.0.55.001main+features100052011 3. Tough P. Helping children succeed: What works and why. Random House; 2016. [cited 22 May 2018]. Available from: http://www.paultough.com/helping/pdf/Helping-Children-Succeed-Paul-Tough.pdf?pdf=hcs-pdf-web 4. Zubrick S, Williams A, Silburn S, Vimpani G. Indicators of Social and Family Functioning. Commonwealth of Australia; Department of Family and Community Services. 2000 [cited 2018 Jun 11]. Available from: https://www.dss.gov.au/sites/default/files/documents/indicators_of_social_and_family_functioning_full_report.pdf
<i>Data source</i>	Census of Population and Housing, Australian Bureau of Statistics G37 - ABS GCP Census DataPacks
<i>Numerator</i>	Number of occupied private dwellings with no internet connection
<i>Denominator</i>	Total number of private dwellings
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	Data only presented from the 2016 Census

6.3. Proportion of people unemployed

<i>Indicator</i>	Proportion of people unemployed
<i>Policy Context</i>	<p>Individuals are classified as unemployed if they have not worked more than one hour in the reference week; have actively looked for work in the past 4 weeks; and, are available to start work in the reference week¹. People who are unemployed are less likely to have an adequate income and more likely to have poor health and wellbeing outcomes and higher stress^{2,3}. Parental unemployment (and the related consequences for parent health) is also associated with poorer health outcomes for children such as higher rates of chronic illness, psychosomatic symptoms, and psychological problems throughout their lifespan⁴⁻⁶.</p> <p>Unemployment is also considered an indicator of household disadvantage which is a significant risk factor for poorer health outcomes for children both in development and throughout the lifespan^{7,8}. There are a range of socioeconomic factors that connect disadvantage to poorer health outcomes⁸. These include direct causes such as exposure to more pollution or poor housing, as well as more indirect pathways such as higher social acceptability of poor health behaviours including smoking, fast food consumption or violence; lower educational attainment; and greater exposure to stressors^{9,10}.</p> <p>Further, disadvantage tends to be concentrated in particular suburbs and neighbourhoods¹¹. The accumulation of people living with fewer resources in particular geographical areas can further exacerbate disadvantage as these areas tend to have less community resources, reduced neighbourhood safety, poorer services (e.g. education, health care, public transport) and lower social cohesion¹¹.</p> <p>As unemployment is related to parent and child health it is an important factor to consider in relation to child development. Rates of unemployment can inform policy makers and services of areas where lifestyle factors and disadvantage may be having an adverse impact on child development and assist them to distribute resources appropriately.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Bureau of statistics. Canberra ACT. Australian Labour Market Statistics, July 2014, cat. no. 6105.0. [cited 22 May 2018]. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/6105.0Feature%20Article53July%202014 2. Mathers C, Schofield D. The health consequences of unemployment: The evidence. <i>The Medical Journal of Australia</i>, 1998; 168(4):178-82. https://www.mja.com.au/journal/1998/168/4/health-consequences-unemployment-evidence 3. Mörk E, Sjögren A, Svaleryd H. Parental unemployment and child health. <i>CESifo Economic Studies</i>, 2014; 60(2):366-401. https://doi.org/10.1093/cesifo/ifu016 4. Morrell S, Taylor R, Kerr C. Jobless. Unemployment and young people's health. <i>The Medical Journal of Australia</i>, 1998; 168(5):236-40. https://www.mja.com.au/journal/1998/168/5/unemployment-and-young-peoples-health 5. Christoffersen MN. A follow-up study of long-term effects of unemployment on children: Loss of self-esteem and self-destructive behavior among adolescents. <i>Childhood</i>, 1994; 2(4):212-20. https://doi.org/10.1177/090756829400200405

	<p>6. Pedersen CR, Madsen M, Köhler L. Does financial strain explain the association between children's morbidity and parental non-employment? <i>Journal of Epidemiology & Community Health</i>, 2005; 59(4):316-21. http://dx.doi.org/10.1136/jech.2003.013839</p> <p>7. Tough P. <i>Helping children succeed: What works and why</i>. Random House; 2016. Available from: http://www.paultough.com/helping/pdf/Helping-Children-Succeed-Paul-Tough.pdf?pdf=hcs-pdf-web</p> <p>8. Zubrick S, Williams A, Silburn S, Vimpani G. <i>Indicators of Social and Family Functioning</i>. Commonwealth of Australia; Department of Family and Community Services. 2000 [cited 2018 Jun 11]. Available from: https://www.dss.gov.au/sites/default/files/documents/indicators_of_social_and_family_functioning_full_report.pdf</p> <p>9. Braveman P, Gottlieb L. The social determinants of health: It's time to consider the causes of the causes. <i>Public Health Reports</i>, 2014; 129(1):19-31. https://doi.org/10.1177/00333549141291S206</p> <p>10. Braveman P, Barclay C. Health disparities beginning in childhood: A life-course perspective. <i>Pediatrics</i>, 2009; 124(Supplement 3):163-75. https://doi.org/10.1542/peds.2009-1100D</p> <p>11. Pawson H, Hulse K, Cheshire L. <i>Addressing concentrations of disadvantage in urban Australia</i>. Australian Housing and Urban Research Institute. Melbourne. 2015 [cited 2018 Jun 12]. Available from: https://www.ahuri.edu.au/research/final-reports/247</p>
<i>Data source</i>	Census of Population and Housing, Australian Bureau of Statistics T33 - ABS TSP Census DataPacks
<i>Numerator</i>	Number of unemployed persons
<i>Denominator</i>	Total number of persons
<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed Does not take account of hidden unemployment (labour force participation) or underemployment.
<i>Notes</i>	Data are presented separately for the 2006, 2011, and 2016 Census years.

6.4. Language other than English spoken at home

<i>Indicator</i>	Main language other than English spoken at home
<i>Policy Context</i>	<p>Households are classified as having a main language other than English spoken at home if the primary language of communication between residents and regular visitors is one other than English (including sign language)¹. Having a main language other than English spoken at home can be an indicator of lower English proficiency and understanding¹.</p> <p>In Australia, having low English proficiency and understanding can limit a person's ability to effectively participate in society (including accessing support, social networks, and services), which affects all members of the household and is a social determinant of health^{1,2}. Further, people who speak a main language other than English can be reluctant to access health services due to cultural difference, experiences or perceptions of discrimination and concerns about misunderstanding, leading to disparities in health³.</p> <p>Children from culturally and linguistically diverse households can also have lower school readiness than their peers because of lower English proficiency in learning or conversation and increased vulnerability to bullying⁴. School readiness is extremely important due to its association with ongoing academic achievement and life outcomes⁴.</p> <p>Therefore, geographical areas that have a high proportion of households speaking a main language other than English in the home can be understood as vulnerable to having poorer child development outcomes. Accordingly, information about home language statistics and child development can be used to help policy makers understand where extra resources may be required to ensure children from culturally and linguistically diverse households have appropriate resources and services to support good health and development.</p>
<i>References</i>	<ol style="list-style-type: none"> 1. Australian Bureau of statistics. Canberra ACT. Main Language Other Than English Spoken at Home, Language Standards 2016. [cited 2018 Jun 19], cat. no. 1200.0.55.005. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1200.0.55.005~2016~Main%20Features~Main%20Language%20Other%20Than%20English%20Spoken%20at%20Home~4 2. Australian Institute of Health and Welfare. Canberra ACT. Australia's Health 2016; Australia's Health Series no. 15. Cat. no. AUS 199. [cited 2018 Jun 11]. Available from: https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/summary 3. Sanagavarapu P, Perry B. Concerns and expectations of Bangladeshi parents as their children start school. Australian Journal of Early Childhood, 2005; 30(3):45. https://www.questia.com/library/journal/1G1-136342087/concerns-and-expectations-of-bangladeshi-parents-as 4. Henderson S, Kendall E. Culturally and linguistically diverse peoples' knowledge of accessibility and utilisation of health services: Exploring the need for improvement in health service delivery. Australian Journal of Primary Health, 2011; 17(2):195-201. https://doi.org/10.1071/PY10065
<i>Data source</i>	Census of Population and Housing, Australian Bureau of Statistics T10 - ABS TSP Census DataPacks
<i>Numerator</i>	Number of households with language other than English spoken at home
<i>Denominator</i>	Total number of households

<i>Unit of measure</i>	Per cent (%)
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	Data are presented separately for the 2006, 2011, and 2016 Census years.

7. Service Use

7.1. Rate of Emergency Department presentations in children/young people

<i>Indicator</i>	Rate of Emergency Department presentations in children/young people
<i>Policy Context</i>	<p>Emergency department presentations provide information about who received care in Australia's public and private hospital departments. There are a range of possible reasons that some regions may have a greater proportion of children and young people presenting to an emergency department than others.</p> <p>Areas where primary health services are less accessible (due to cost, geographic proximity, lack of awareness, or attitudinal factors) tend to have greater proportions of emergency department presentations due to higher rates of people seeking help at hospital for problems that would ideally be addressed in a primary care setting¹.</p> <p>Therefore, proportions of hospital presentations, in combination with other indicators, can be used to help policy makers understand which regions may require greater access to primary services to provide sufficient and appropriate healthcare to children and young people.</p>
<i>References</i>	<p>1. Australian Institute of Health and Welfare. Canberra ACT. Emergency Department Care 2016–17: Australian Hospital Statistics, 2017 [cited 2018 May 30]. Available at: https://www.aihw.gov.au/reports/hospitals/ahs-2016-17-emergency-department-care/contents/table-of-contents</p>
<i>Data source</i>	Emergency Department Data Collection
<i>Numerator</i>	Number of Emergency Department presentations from population aged 0-18 years
<i>Denominator</i>	Population aged 0-18 years
<i>Unit of measure</i>	Per 1,000 population
<i>Geography</i>	SA2, SA3, LGA
<i>Data confidentiality</i>	Areas with count values 1 to 4 and where population is less than 50 have been suppressed.
<i>Notes</i>	<p>Emergency Department data available from 2002 onwards only.</p> <p>Data are mapped according to the home address of the patient, and not the address of the hospital.</p> <p>Rates have been separated into three separate age groups: 0-4, 5-9 and 10-18 years old.</p>

7.2. Number of logged calls to Ngala parenting helpline service

<i>Indicator</i>	Number of logged calls to Ngala parenting helpline service
<i>Policy Context</i>	<p>Ngala is an organisation that supports families, parents and carers to navigate parenting children (from before pregnancy up to having children 18 years of age) through a range of services across Western Australia¹. Ngala's parenting helpline is its main point of contact for parents and carers with parenting concerns. It functions both to provide free parenting advice and support and to refer families and individuals on to other relevant resources and services¹.</p> <p>Parents may require assistance to gain reliable information about parenting and navigate the challenges it involves. If an area has a high number of calls this may indicate a higher level of need for parenting support, a lack of sufficient services and resources to provide this support or a combination of both these things.</p>
<i>References</i>	1. Ngala. Parenting, Family, Children and Youth Support. Kensington WA; Ngala; 2018 [cited 22 May 2018]. Available from: https://www.ngala.com.au/
<i>Data source</i>	Ngala helpline administrative data
<i>Numerator</i>	Number of logged calls made by parents to helpline
<i>Denominator</i>	Not applicable
<i>Unit of measure</i>	Frequency (N)
<i>Geography</i>	SA3
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	Indicators presented as total calls for each year between 1999-2016

7.3. Average age of child at the time a call was made to Ngala parenting helpline

<i>Indicator</i>	Average age of child at the time a call was made to Ngala helpline service
<i>Policy Context</i>	<p>Ngala is an organisation that supports families, parents and careers to navigate parenting children (from before pregnancy up to having children 18 years of age) through a range of services across Western Australia¹. Ngala's parenting helpline is its main point of contact for parents and carers with parenting concerns. It functions both to provide free parenting advice and support and to refer families and individuals on to other relevant resources and services¹.</p> <p>The support parents require varies at different stages of their children's lives. For example, parents of infants could require advice about sleep and feeding whereas parents of teenagers may be looking for assistance with relationships, behaviour management and education. The average age of children at the time calls were made to Ngala can therefore provide insight into the type of support parents are currently seeking in different geographical areas.</p>
<i>References</i>	1. Ngala. Parenting, Family, Children and Youth Support. Kensington WA; Ngala; 2018 [cited 22 May 2018]. Available from: https://www.ngala.com.au/
<i>Data source</i>	Ngala helpline administrative data
<i>Numerator</i>	Sum of ages for all children at time of call
<i>Denominator</i>	Total number of calls
<i>Unit of measure</i>	Age in weeks
<i>Geography</i>	SA3
<i>Data confidentiality</i>	Areas with a denominator less than 5 have been suppressed
<i>Notes</i>	Age represents the age of the child the call relates to

7.4. Average call length to Ngala parenting helpline

<i>Indicator</i>	Service Data: Average call length to Ngala helpline service
<i>Policy Context</i>	<p>Ngala is an organisation that supports families, parents and carers to navigate parenting children (from before pregnancy up to having children 18 years of age) through a range of services across Western Australia¹. Ngala's parenting helpline is its main point of contact for parents and carers with parenting concerns. It functions both to provide free parenting advice and support and to refer families and individuals on to other relevant resources and services¹.</p> <p>Based on the assumption that the amount of time a caller requires is associated with the amount of assistance needed, the length of calls to the Ngala helpline can be used as an indicator of the complexity of issues callers are presenting with and their level of need. Therefore, combined with other indicators, the average length of calls to Ngala for particular areas can be used to indicate the level of parenting assistance required in particular regions.</p>
<i>References</i>	1. Ngala. Parenting, Family, Children and Youth Support. Kensington WA; Ngala; 2018 [cited 22 May 2018]. Available from: https://www.ngala.com.au/
<i>Data source</i>	Ngala helpline administrative data
<i>Numerator</i>	Sum of call length (in minutes)
<i>Denominator</i>	Total number of calls
<i>Unit of measure</i>	Minutes
<i>Geography</i>	SA3
<i>Data confidentiality</i>	Areas with a numerator less than 5 have been suppressed
<i>Notes</i>	Call length represents the total duration of a help line call in minutes.