Western Australian Child Development Atlas

List of Indicators

Document Control

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1. Pregnancy and Births

1.1. Children born low birthweight

Indicator	Low birth weight, born alive < 2500g
Policy Context	Infants are considered low birthweight if they are born weighing less than 2,500 grams[1]. 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 life[1-3]. It can therefore be used as an indicator of the health of infants at birth and understood as a determinant of their ongoing wellbeing[2]. 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]. On an individual level, low birthweight is a risk factor for physical and neurological disabilities and increased vulnerability to illness and disease throughout the lifespan[2]. Since low birthweight is associated with a range or maternal and infant health factors it can be used to evaluate and improve pre and postnatal care for mothers and babies[1, 2].
References	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
Data source	Compiled by Telethon Kids Institute based on Midwives Notification System, Department of Health Western Australia
Numerator	Babies (live born) weighing less than 2500 grams at birth
Denominator	All live births
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed.

	Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	Includes children born in Western Australia only

1.2.Children born to teenage mothers

Indicator	Births to mothers aged 15-19
Policy Context	Mothers aged under 20 years are classified as teenage mothers[1]. There are a range of risk factors associated with a maternal age under 20, for both mother and baby[1]. 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 motherhood[2]. 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 baby[1-3]. Babies born to teenage mothers are at an increased risk of morbidity and mortality[1]. 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 peers[1]. Though not all teenage pregnancies are unintended, many are in Australia[3]. Therefore, rates of teenage pregnancy are also related to sexual education and contraceptive use[3]. 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].
References	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/
Data source	Compiled by Telethon Kids Institute based on Midwives Notification System, Department of Health Western Australia
Numerator	Number of live births to mothers aged 13-19 years
Denominator	All live births
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed.

	Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	Includes children born in Western Australia only.

1.3. Children born to mothers aged 20-24

Indicator	Births to mothers aged 20-24
Data source	Compiled by Telethon Kids Institute based on Midwives Notification System, Department of Health Western Australia
Numerator	Number of live births to mothers aged 20-24 years
Denominator	All live births
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	Includes children born in Western Australia only.

1.4. Preterm births

Indicator	Preterm births (<37 weeks or <39 weeks)
Data source	Compiled by Telethon Kids Institute based on Midwives Notification System, Department of Health Western Australia
Numerator	Babies born alive (<37 weeks or <39 weeks)
Denominator	All live births
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	Includes children born in Western Australia only.

1.5.Mothers who smoked tobacco at any time during pregnancy

Indicator	Mothers who smoked tobacco at any time during pregnancy
Data source	Compiled by Telethon Kids Institute based on Midwives Notification System, Department of Health Western Australia
Numerator	Mothers who smoked tobacco at any time during pregnancy
Denominator	All live births
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed.

Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality. |
| Notes | Includes children born in Western Australia only. |

2. Physical Health

2.1. Chronic conditions in children and young people

Indicator	Chronic conditions (grouped, not by diagnosis)
Policy Context	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 disability[1]. 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]. 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 adulthood[2-5]. 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 wellbeing[3]. 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]. Identifying the incidence of chronic diseases geographically can inform policy that aims to improve the health outcomes of children in the state for the lifespan[1-3].
References	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. Pediatrics, 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. Archives of Disease in Childhood, 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. Journal of Adolescent Health, 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. Social Science & Medicine, 1989; 29(6):769-778. https://doi.org/10.1016/0277-9536(89)90157-3

Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates
Numerator	Chronic physical illness related hospitalisations for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The HMDC includes all episodes of care that occur in the following Western Australian health services: - Public acute hospitals - Public psychiatric hospitals - Private acute hospitals (licensed by WA Health System) - Private psychiatric hospitals (licensed by WA Health System - Private day surgeries (licensed by WA Health System) Chronic conditions identified using the following ICD classification codes:

CHRONIC CONDITIONS	ICD-10 Codes	ICD-9 Codes
Cardiovascular Conditions	I05-I09 I25 I50 I10-I15 I27, I31, I34-I37, I39, I44, I45, I51 I60-I69	393-398 401-405 414 416 425 428 430-438
Cancers *Use Cancer Registry flag primarily	C00-C96 D37-D48 Z51.1 Z85	140-195 196-198 199 200-208 209 235 238-239
Diabetes	E10-E14	250 775.1
Respiratory Diseases	J45 J43 J41-J42 J44	491 492 493 496
Musculoskeletal Diseases	M08-M09 M15-M19 M80-M85	714.3 714.4 715

			733.00-733.09
	Chronic Kidney Disease	N11	403
		N18	582
		N19	585
			590.0
	Oral Diseases	K00-K14	520-529
	Chronic Otitis Media	H65.2-H65.4	381.1
		H66.1-H66.3	381.2
		H66.9	381.3
			382.1
			382.2
			382.3
			382.9

2.2. Disabilities in children and young people

Indicator	Disability related hospitalisations for selected age group (grouped, not by diagnosis)
Policy Context	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 months[1]. Disability encompasses physical, intellectual, psychiatric, sensory and neurological conditions or a combination of these[2]. 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 disability[3]. 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 school[4]. 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 relationships[4]. Significant evidence has supported the effectiveness of early intervention for children with developmental disabilities[4]. Across the life span, having a disability is associated with poorer health behaviours and adverse health outcomes[5]. 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 population[5]. 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.
References	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+Features10Jun+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:

	https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/summary 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
Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates
Numerator	Disability related hospitalisations for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The HMDC includes all episodes of care that occur in the following Western Australian health services: - Public acute hospitals - Public psychiatric hospitals - Private acute hospitals (licensed by WA Health System) - Private psychiatric hospitals (licensed by WA Health System - Private day surgeries (licensed by WA Health System) Disability groupings were identified using the following ICD classification codes: See table below.

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

2.3. Alcohol and drug related injuries in children and young people

Indicator	Alcohol and other drug related injury hospitalisations for selected age group

Policy Context	Alcohol, tobacco and cannabis are the substances most frequently used by young people[1]. 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 females[3].
	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 peers[4]. 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].
	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 an unemployment and income) could be especially important as a range of social factors are risk factors associated with alcohol and drug abuse[8].
References	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 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. The Lancet, 2011; 377(9783): 2093-2102. https://doi.org/10.1016/S0140-6736(11)60512-6

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

7. 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

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. Psychological Bulletin, 1992; 112(1):64. http://dx.doi.org/10.1037/0033-2909.112.1.64

Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates
Numerator	Alcohol and other drug related injury hospitalisations for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The HMDC includes all episodes of care that occur in the following Western Australian health services: - Public acute hospitals - Public psychiatric hospitals - Private acute hospitals (licensed by WA Health System) - Private psychiatric hospitals (licensed by WA Health System - Private day surgeries (licensed by WA Health System) Alcohol and other drug related injuries were identified using the following ICD classification codes:

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
	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	

2.4. Hospitalisations for children and young people (various types)

Indicator	Type of hospitalisation by selected age group
Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates
Numerator	Total hospitalisations by type for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The HMDC includes all episodes of care that occur in the following Western Australian health services: - Public acute hospitals - Public psychiatric hospitals - Private acute hospitals (licensed by WA Health System)

	- Private psychiatric hospitals (licensed by WA Health System - Private day surgeries (licensed by WA Health System)

3. Mental Health

3.1.Mental illness diagnoses in children and young people

Indicator	Mental health related hospitalisations for selected age group
Policy Context	A mental illness is a clinically diagnosable disorder that impairs an individuals' cognitive, emotional and/or social abilities[1]. There are various types and severities of mental illnesses. 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 months[2]. The most common mental illnesses in children and adolescents were ADHD, anxiety disorders, major depressive disorder and conduct disorders[2]. 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. 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 services[2]. 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.
References	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
Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates
Numerator	Mental health related hospitalisations for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to

	combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The HMDC includes all episodes of care that occur in the following Western Australian health services: - Public acute hospitals - Public psychiatric hospitals - Private acute hospitals (licensed by WA Health System) - Private psychiatric hospitals (licensed by WA Health System - Private day surgeries (licensed by WA Health System) 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. Births to mothers with a mental illness diagnosis

Indicator	Births to mothers with a mental illness diagnosis
Policy Context	A mental illness is a clinically diagnosable disorder that impairs an individuals' cognitive, emotional and/or social abilities[1]. 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 months[2].
	The most common mental illnesses experienced by mothers in this period are major depression, bipolar disorder and anxiety disorders[3]. 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].
	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 services[2]. 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.
References	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
Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Mental Health Information Data Collection, and Midwives Notification System, Department of Health Western Australia
Numerator	Live births to mothers who had a mental illness diagnosis 12 months prior to, or 12 months post, the child's birth
Denominator	All live births

Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The HMDC includes all episodes of care that occur in the following Western Australian health services: - Public acute hospitals - Public psychiatric hospitals - Private acute hospitals (licensed by WA Health System) - Private psychiatric hospitals (licensed by WA Health System - Private day surgeries (licensed by WA Health System) The MIND collects demographic and clinical information on patients who have: - Community mental health episodes or service contacts - Admitted episodes with specialised mental health inpatient services - National Outcome Casemix Collection (NOCC) data for patients who have community, admitted or residential episodes in public specialised mental health services Mental illness diagnoses for mothers were identified using the following ICD classification codes:

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

3.3.   Substance abuse disorders in children and young people

Indicator	Substance abuse disorder related hospitalisations for selected age group
Policy Context	A substance abuse disorder involves a pattern of substance use that results in an impairment or distress in daily activities[1]. 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 lives[1]. 'Substance' can refer to: alcohol, caffeine, cannabis, hallucinogens, inhalants, opioids, sedatives, hypnotics, anxiolytics, stimulants, tobacco, and other or unknown substances[1]. Alcohol, tobacco and cannabis are the substances most frequently used by young people[2].
	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].
	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 an unemployment and income) could be especially important as a range of social factors are risk factors associated with alcohol and drug abuse[6].
References	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

Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates
Numerator	Substance abuse disorder related hospitalisations for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The HMDC includes all episodes of care that occur in the following Western Australian health services: - Public acute hospitals - Public psychiatric hospitals - Private acute hospitals (licensed by WA Health System) - Private psychiatric hospitals (licensed by WA Health System - Private day surgeries (licensed by WA Health System) Substance abuse disorder related hospitalisations were identified using the following ICD classification codes: 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

Indicator	Emergency Department presentations that were mental health related in children and young people
Policy Context	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 adolescence[3]. In recent years, the number of young people presenting to emergency departments with mental health conditions has steadily increased[4]. The most common nature of presentation is for intentional self-harm[4]. Other common presentations are for substance abuse, and mood, behavioural, or emotional disorders[4]. Understanding the proportion of paediatric presentations to ED that are because of mental health has important implications for policy and service delivery[4]. 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. 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.
References	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. Psychological Medicine, 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. Australian & New Zealand Journal of Psychiatry, 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. Archives of General Psychiatry, 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. Medical Journal of Australia, 2018. https://doi.org/10.5694/mja17.00434
Data source	Compiled by Telethon Kids Institute based on Emergency Department Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates.
Numerator	Number of presentations to public and private Emergency Departments with a primary presenting mental health condition for selected age group
Denominator	Total ERP for selected age group

Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The EDDC captures data relating to services provided to patients within public hospital emergency departments, contracted health entities and emergency services provided in smaller hospitals without a designated ED. The collection excludes episodes of non-admitted patient care provided in outpatient clinics or hospital inpatient departments. Presentation deemed to be mental health related if any of the following mental health-related diagnostic codes were recorded: 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

Indicator	Emergency Department presentations for deliberate self-harm in children and young people
Policy Context	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 increased[3]. The most common nature of presentation is for deliberate self-harm[3]. Deliberate self-harm refers to an intentional act of causing physical injury to oneself, without the intention for the injury to cause death[4]. However, deliberate self-harm can lead to accidental fatality[4]. 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-harm[5]. Understanding the proportion of paediatric presentations to ED that are because of deliberate self-harm has important implications for policy and service delivery[3]. 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. 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.
References	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. Psychological Medicine, 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. Australian & New Zealand Journal of Psychiatry, 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. Medical Journal of Australia, 2018. https://doi.org/10.5694/mja17.00434 4. Lauw M, How CH, Loh C. Deliberate self-harm in adolescents. Singapore Medical Journal. 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. British Journal of Psychiatry. 2003; 182(6), 537-542. https://doi.org/10.1192/bjp.182.6.537
Data source	Compiled by Telethon Kids Institute based on Emergency Department Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates.

Numerator	Number of presentations to public and private Emergency Departments with a primary presenting self-inflicted injury for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The EDDC captures data relating to services provided to patients within public hospital emergency departments, contracted health entities and emergency services provided in smaller hospitals without a designated ED. The collection excludes episodes of non-admitted patient care provided in outpatient clinics or hospital inpatient departments. Presentation deemed to be deliberate self-harm if any of the following ICD codes were recorded:

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

3.6. Community mental health service contacts

Indicator	Community mental health service contacts for selected age group (excluding not present)
Data source	Compiled by Telethon Kids Institute based on Hospital Morbidity Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates
Numerator	Community mental health service contacts for selected age group (excluding not present)
Denominator	Total ERP for selected age group
Unit of measure	Per 1,000 population

Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The MIND collects demographic and clinical information on patients who have: - Community mental health episodes or service contacts - Admitted episodes with specialised mental health inpatient services - National Outcome Casemix Collection (NOCC) data for patients who have community, admitted or residential episodes in public specialised mental health services

4. Mental Health

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

Indicator	Children 'developmentally vulnerable' or 'at-risk' on selected domain
Policy Context	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].
	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 adulthood[1]. 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 percentile[1]. Hence 'developmentally vulnerable or at risk' comprises children who scored on the 25th percentile or below.
	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].
References	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. 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
Data source	Compiled by Telethon Kids Institute based on Australian Early Development Census data
Numerator	Children 'developmentally vulnerable' or 'at-risk' on selected domain
Denominator	Children with a valid AEDC score on selected domain
Unit of measure	Per cent (%)

Geography	SA2, SA3, LGA
Data confidentiality	# AEDC data are not reported for locations in which three or fewer children had been assessed. * Suppression of AEDC data occurs when one or more of the following have not been met: - 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 Additional minor suppressions have occurred where necessary to preserve confidentiality of related suppressed cells.
Notes	Indicators are available for each of the five AEDC domains.

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

Indicator	Children 'developmentally vulnerable' or 'at-risk' on one or more/ two or more AEDC domain/s
Policy Context	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].

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 adulthood[1]. 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].

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]. |
| *References* | 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. 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 |
Data source	Compiled by Telethon Kids Institute based on Australian Early Development Census data
Numerator	Children 'developmentally vulnerable' or 'at-risk' on one or more/ two or more AEDC domain/s
Denominator	Children with a valid AEDC score on selected domain
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA

Data confidentiality	# AEDC data are not reported for locations in which three or fewer children had been assessed. * Suppression of AEDC data occurs when one or more of the following have not been met: - 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 Additional minor suppressions have occurred where necessary to preserve confidentiality of related suppressed cells.
Notes	

4.3. Developmentally 'on track' on the Australian Early Development Census domains

Indicator	Children developmentally on track on selected domain
Policy Context	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].

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 adulthood[1]. 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 domains[1].

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]. |
| *References* | 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. 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 |
Data source	Compiled by Telethon Kids Institute based on Australian Early Development Census data
Numerator	Children developmentally on track on selected domain
Denominator	Children with a valid AEDC score on selected domain
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA

Data confidentiality	# AEDC data are not reported for locations in which three or fewer children had been assessed. * Suppression of AEDC data occurs when one or more of the following have not been met: - 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 Additional minor suppressions have occurred where necessary to preserve confidentiality of related suppressed cells.
Notes	

4.4. Attendance at preschool program (children aged 4 and 5 years)

Indicator	Children attending preschool program for 15 hours or more
Policy Context	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 schooling[1]. Preschool participation increases school readiness, which is associated with better ongoing educational attainment and achievement as well as life outcomes more generally[2-4]. Children from disadvantaged families are less likely to be enrolled in preschool and tend to have lower attendance rates[5].
	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.
References	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.ccyp.wa.gov.au/media/2961/report-vulnerability-discussion-paper-march-2018.pdf
Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, ABS 1410.0 - Data by Region
Numerator	Children attending preschool program for 15 hours or more
Denominator	Total enrolled in a preschool program (4 & 5 year olds)
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.

Notes	

5. Mortality

5.1.Infant Mortality

Indicator	Infant Mortality
Policy Context	Infant mortality refers to the number of deaths of infants (aged 0-1) in any given year per 1000 live births[1]. The most common causes of death before one year of age are conditions originating in the perinatal period and congenital conditions[2]. Other common causes of death in this period are Sudden Infant Death Syndrome, injury and accidental threats to breathing[2].

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 health[5].

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. |
| References | 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
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Data source	Compiled by Telethon Kids Institute based on Registry of Births, Deaths, and Marriages, Department of Health Western Australia
Numerator	Number of deaths for children aged under 1 year
Denominator	Total live births
Unit of measure	Per 1,000 live births
Geography	SA3, HR, RDC

Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	

5.2. Child mortality

Indicator	Child mortality (all causes)
Policy Context	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.

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 month[4]. 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 cancer [1].

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].

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 population[1]. 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 preventable[1]. |
| References | 2. 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
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Data source	Compiled by Telethon Kids Institute based on Registry of Births, Deaths, and Marriages, Department of Health Western Australia; ABS Estimated Residential Population estimates.
Numerator	Number of deaths for children aged 0-4 years
Denominator	Total ERP aged 0-4 years
Unit of measure	Per 100,000 population 0-4 year olds
Geography	SA3, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	

5.3. Suicide rate

Indicator	Number of deaths by deliberate self-harm for persons aged 15-24 years
Data source	Compiled by Telethon Kids Institute based on Registry of Births, Deaths, and Marriages, Department of Health Western Australia
Numerator	Number of deaths by deliberate self-harm for persons aged 15-24 years
Denominator	Total ERP aged 15-24 years
Unit of measure	number of deaths by suicide per 100,000 population 15-24 year olds
Geography	SA3, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	Deaths deemed to be deliberate self-harm if any of the following ICD codes were recorded as a Cause of Death code: | 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	

6. Demographic and Social

6.1. Low-income households

Indicator	Households with total income < $1000 per week
Policy Context	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 household[1].
	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 clubs[4-6]. 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 playgroups[7].
	Further, low income households tend to be concentrated in particular suburbs and neighbourhoods[8]. 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 cohesion[8].
	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 lifespan[6].
References	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

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Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	Households with total income < $1000 per week
Denominator	Total households
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.
Notes	

6.2. Occupied private dwellings with internet

Indicator	Private dwellings with Internet connection
Policy Context	Private dwellings are classified as having no internet connection if no individual in the house has access to the internet though 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 internet[1]. 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]. 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. 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.
References	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
Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	Private dwellings with Internet
Denominator	Total private dwellings
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.

Notes	Data only presented from the 2016 Census

6.3.Unemployment

Indicator	Unemployed persons for selected age group
Policy Context	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 week[1]. 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 lifespan[4-6]. 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 outcomes[8]. 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]. Further, disadvantage tends to be concentrated in particular suburbs and neighbourhoods[11]. 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 cohesion[11]. 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.
References	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. The Medical Journal of Australia, 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. CESifo Economic Studies, 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. The Medical Journal of Australia, 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. Childhood, 1994; 2(4):212-20. https://doi.org/10.1177/090756829400200405

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11. 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]. Available from: https://www.ahuri.edu.au/research/final-reports/247

Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	Unemployed persons for selected age group
Denominator	Total persons for selected age group
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.
Notes	

6.4. Proficiency in Spoken English

Indicator	Children who don't speak English well or not at all, by selected age group
Policy Context	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 understanding[1].
	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 health[3].
	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 bullying[4]. School readiness is extremely important due to its association with ongoing academic achievement and life outcomes[4].
	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.
References	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
Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	Selected age group who don't speak English well or not at all
Denominator	Total persons for selected age group

Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.
Notes	

6.5.Year 12 or equivalent highest year of school completed

Indicator	20-24 year olds with Year 12 or equivalent highest year of school completed
Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	20-24 year olds with Year 12 or equivalent highest year of school completed
Denominator	Total persons aged 20-24 years
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.
Notes	

6.6.Overcrowded dwellings

Indicator	Overcrowded dwellings
Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	Dwellings requiring extra bedrooms to accommodate the people who usually live there
Denominator	Total private dwellings
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.
Notes	

6.7.One parent families with children under 15 years old

Indicator	One parent families with children under 15 and/or dependent students
Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	One parent families with children under 15 and/or dependent students

Denominator	Total families
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.
Notes	

6.8. One parent families with non-dependent children only

Indicator	One parent families with nondependent children only
Data source	Compiled by Telethon Kids Institute based on Australian Bureau of Statistics, Census of Population and Housing
Numerator	One parent families with nondependent children only
Denominator	Total families
Unit of measure	Per cent (%)
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	The ABS applies small random adjustments to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from the table totals.
Notes	

7. Service Use

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

Indicator	Rate of Emergency Department presentations in children/young people
Policy Context	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. 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 setting[1]. 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.
References	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
Data source	Compiled by Telethon Kids Institute based on Emergency Department Data Collection, Department of Health Western Australia; ABS Estimated Residential Population estimates.
Numerator	Number of ED presentations for selected age group
Denominator	Total ERP for selected age group
Unit of measure	Per 1,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Areas with count values 1 to 4 and where population is less than 50 have been suppressed. Prior moving averages combine a sequence of 3 or 5 years of data prior to, and including, the selected year. The series are presented as overlapping sequences until the most recent year is included. Moving averages make it possible to combine more years of data to maximize sample size at each point while maintaining data confidentiality.
Notes	The EDDC captures data relating to services provided to patients within public hospital emergency departments, contracted health entities and emergency services provided in smaller hospitals without a designated ED. The collection excludes episodes of non-admitted patient care provided in outpatient clinics or hospital inpatient departments.

7.2. Number of logged calls to Ngala parenting helpline service

Indicator	Number of logged calls to Ngala parenting helpline service
Policy Context	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 Australia[1]. 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 services[1]. 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.
References	1. Ngala. Parenting, Family, Children and Youth Support. Kensington WA; Ngala; 2018 [cited 22 May 2018]. Available from: https://www.ngala.com.au/
Data source	Ngala helpline administrative data
Numerator	Number of logged calls made by parents to helpline
Denominator	Not applicable
Unit of measure	Frequency (N)
Geography	SA3
Data confidentiality	Areas with a numerator less than 5 have been supressed
Notes	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

Indicator	Average age of child at the time a call was made to Ngala helpline service
Policy Context	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 Australia[1]. 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 services[1]. 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.
References	1. Ngala. Parenting, Family, Children and Youth Support. Kensington WA; Ngala; 2018 [cited 22 May 2018]. Available from: https://www.ngala.com.au/
Data source	Ngala helpline administrative data
Numerator	Sum of ages for all children at time of call
Denominator	Total number of calls
Unit of measure	Age in weeks
Geography	SA3
Data confidentiality	Areas with a denominator less than 5 have been supressed
Notes	Age represents the age of the child the call relates to

7.4.Average call length to Ngala parenting helpline

Indicator	Service Data: Average call length to Ngala helpline service
Policy Context	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 Australia[1]. 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 services[1].
	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.
References	1. Ngala. Parenting, Family, Children and Youth Support. Kensington WA; Ngala; 2018 [cited 22 May 2018]. Available from: https://www.ngala.com.au/
Data source	Ngala helpline administrative data
Numerator	Sum of call length (in minutes)
Denominator	Total number of calls
Unit of measure	Minutes
Geography	SA3
Data confidentiality	Areas with a numerator less than 5 have been supressed
Notes	Call length represents the total duration of a help line call in minutes.

8. Juvenile Crime

8.1. Juvenile Offences

Indicator	Number of offences by selected offence type and age group
Data source	Compiled by Telethon Kids Institute based on WA Police Force - Incident Management System data
Numerator	Number of offences by selected offence type and age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Counting rules have been applied to certain reporting categories (typically those known to have been prone to over-recording of offences historically) in order to provide a more accurate picture of crime volumes and trends. Counting rules are applied historically to ensure comparability.
Notes	Distinct counts of selected offences involve an offender, where the offence occurred between 01 January 2005 and 31 December 2018 inclusive, in the associated Local Government Area, SA3 Area and SA2 Area. As such, a single offence involving multiple offenders will be counted once against the relevant categories

Location data is recorded for all offences. However, if the location is unable to be identified using WA Police Force geographical mapping tables, the offence will not appear in these figures. This is approximately 0.0004% of offences. |

8.2. Juvenile Offences

Indicator	Number of distinct offenders by selected offence type and age group
Data source	Compiled by Telethon Kids Institute based on WA Police Force - Incident Management System data
Numerator	Number of distinct offenders by selected offence type and age group
Denominator	Total ERP for selected age group
Unit of measure	Per 10,000 population
Geography	SA2, SA3, LGA, HR, RDC
Data confidentiality	Counting rules have been applied to certain reporting categories (typically those known to have been prone to over-recording of offences historically) in order to provide a more accurate picture of crime volumes and trends. Counting rules are applied historically to ensure comparability.

Notes	Distinct counts of offenders, where the offence occurred between 01 January 2005 and 31 December 2018 inclusive, in the associated Local Government Area, SA3 Area and SA2 Area. As such, an offender could commit multiple offences (of the same category) within an LGA, SA3 or SA2 for any given year and be counted only once. An offender committing multiple offences across LGAs, SA3 areas, SA2 areas, offence categories or years would be counted against each relevant field. An offender is identified in Western Australia Police Force's Incident Management System as an individual bearing responsibility for an offence. Offenders can be processed by varied means and have not necessarily been convicted by a court.

9. Childhood immunisation coverage

9.1. Number of children fully immunised by selected age group

Indicator	Number of children fully immunised by selected age group
Data source	Compiled by Telethon Kids Institute based on Australian Immunisation Register data, Department of Health Australia
Numerator	Number of children fully immunised by selected age group
Denominator	Total children in selected age group
Unit of measure	Per cent (%)
Geography	SA3
Data confidentiality	Not applicable
Notes	The Australian Immunisation Register (AIR) is a national register that records all vaccines given to all people in Australia. Data is presented as an annualised (rolling four quarters) percentage. The data shows the percentage of children fully immunised at age 12 months, 24 months and 60 months according to the National Immunisation Program Schedule.

10. GP attendances

10.1. Persons aged 0-24 years who had the service

Indicator	Number of patients aged 0-24 years who attended GP
Data source	Australian Institute of Health and Welfare (AIHW) analysis of Department of Health, Medicare Benefits Schedule (MBS) claims data
Numerator	Number of patients aged 0-24 years who attended GP
Denominator	Total ERP aged 0-24 years
Unit of measure	Per cent (%)
Geography	SA3
Data confidentiality	
Notes	MBS claims data do not include services provided to patients where no MBS benefit has been claimed, such as services subsidised by the Department of Veterans' Affairs, compensation arrangements, or jurisdictional salaried GP services provided in remote outreach clinics.

10.2. Services per 100 people aged 0-24 years

Indicator	Number of GP attendances by patients aged 0-24
Data source	Australian Institute of Health and Welfare (AIHW) analysis of Department of Health, Medicare Benefits Schedule (MBS) claims data
Numerator	Number of GP attendances by patients aged 0-24
Denominator	Total ERP aged 0-24 years
Unit of measure	Per cent (%)
Geography	SA3
Data confidentiality	
Notes	MBS claims data do not include services provided to patients where no MBS benefit has been claimed, such as services subsidised by the Department of Veterans' Affairs, compensation arrangements, or jurisdictional salaried GP services provided in remote outreach clinics.

10.3. Medicare benefits per 100 people aged 0-24 years

Indicator	Total Medicare benefits paid ($) by patients aged 0-24 years who attended GP
Data source	Australian Institute of Health and Welfare (AIHW) analysis of Department of Health, Medicare Benefits Schedule (MBS) claims data

Numerator	Total Medicare benefits paid ($) by patients aged 0-24 years who attended GP
Denominator	Total ERP aged 0-24 years
Unit of measure	Per cent (%)
Geography	SA3
Data confidentiality	
Notes	MBS claims data do not include services provided to patients where no MBS benefit has been claimed, such as services subsidised by the Department of Veterans' Affairs, compensation arrangements, or jurisdictional salaried GP services provided in remote outreach clinics.