



New Zealand Child and Youth  
Epidemiology Service

# Health and wellbeing of under-five year olds in the South Island 2017

## Introduction

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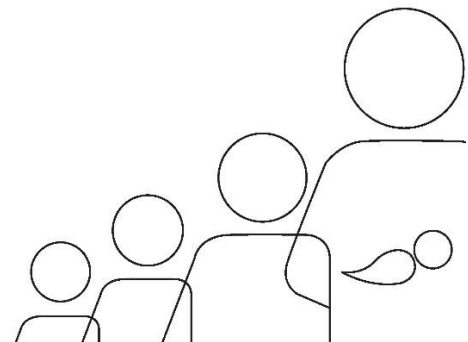
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This report has been prepared for the South Island Alliance: Nelson Marlborough, Canterbury, South Canterbury, West Coast and Southern District Health Boards.

While every endeavour has been made to use accurate data in this report, there are currently variations in the way data are collected from DHB and other agencies that may result in errors, omissions or inaccuracies in the information in this report. The NZCYES does not accept liability for any inaccuracies arising from the use of these data in the production of these reports, or for any losses arising as a consequence thereof.

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# I. INTRODUCTION

In this report the New Zealand Child and Youth Epidemiology Service (NZCYES) provides data and information to contribute to the effective planning and funding of services to improve, promote and protect the health and wellbeing of New Zealand children in their earliest years.

The indicators of child health and wellbeing reported in this report begin in the prenatal period and extend to around five years of age. Indicators to be reported in 2018 and 2019 will extend further along the life course, to around age 14 years and age 24 years respectively.

Indicator data for this report were extracted in 2017 from a range of routinely collected datasets. For each indicator the report provides an analysis of the most recent data available at the time of writing, followed by evidence for good practice derived from current policies, guidelines and the evidence-based literature. Where possible, the evidence for good practice includes discussion of equity issues relevant to each indicator, to inform service planning and delivery.

The 2017 report begins with the very earliest days in a child's development, the prenatal period. Early enrolment with a lead maternity carer or district health board (DHB) primary maternity service, maternal smoking and maternal weight are sentinel indicators of the health and wellbeing of women who are pregnant.

The next section presents birth outcome data including gestation at birth and birthweight, as well as data about fetal deaths (also known as stillbirths). Birth outcome data can also be used to help quantify the need for care for babies born prematurely or with low birthweight. Birth outcomes are associated with a number of factors, including access to high quality antenatal care (which can help to reduce rates of preterm birth, low birthweight, and stillbirth and also to identify when a newborn baby may require additional services).

The mortality rate for children aged under five years is a high-level indicator of child health and well-being within a population. The 2017 report presents data on all deaths of under-five-year-olds, on deaths of infants in the first year of life, including sudden unexpected death in infancy (SUDI), and deaths of 1–4 year olds.

Immunisation and Well Child/Tamariki Ora (WCTO) services provide a foundation for child health and wellbeing. The next three sections of the report present data on breastfeeding, immunisation coverage, and child weight.

Hospitalisations for ambulatory care-sensitive conditions (ACSH) may provide an indication, at a community level, of accessibility of primary care services. However, ACSH rates are also influenced by other factors at a local level, including overall social determinants of health, and must be interpreted in the light of each DHB's specific circumstances. The final section of this report provides data from the community oral health service on oral health of five-year-olds in the community, with further data on hospitalisations of under-five-year-olds for dental conditions.

Two review topics were selected by DHBs for inclusion in this report: *Making health easier: Reducing inequalities in child health through addressing low health literacy* (by Dr Judith Adams) and *Factors that influence inequity of oral health in New Zealand and what we can do about them* (by Deanna M Beckett and Alison M Meldrum, from the University of Otago Dental School). These two sections of the report can inform strategies to promote health and wellbeing for all children. Health services can provide information in a way that supports parents to build their knowledge and skills to keep their children well and safe. Healthy public policy and supportive environments are key components to promote good oral health for all children from their earliest years.

The report appendices provide detail that may be helpful when interpreting information presented in the report. They include detailed descriptions of the methods used to develop evidence for good practice, and the statistical methods used in the data analyses, descriptions of the data sources used for various indicators reported, explanation about classification of ethnicity and social and material deprivation in the report, and a list of the clinical codes relevant to each indicator.

In summary, the 2017 report on health and wellbeing of under-five-year-olds presents data and interpretation on a set of relevant indicators extracted from national health datasets. The data used were the most recent available at the time of writing, and provide a snapshot of achievements and challenges in these areas. This report cannot address questions that require outpatient data, as these are not yet available at a national level. Developing systems that can provide a fuller picture of outpatient and primary health care data is important to inform child health service planning at national and DHB level.

An overview of the *Health and wellbeing of under-five year olds* indicators for each of the South Island DHBs is presented in Figure I-1 to Figure I-5. Each figure also presents the national rate and the range of values observed across all DHBs.

Figure I-1 Summary indicator graph, Nelson Marlborough DHB vs New Zealand

Indicator	Period	Nelson Marlborough number	Nelson Marlborough rate	NZ rate	Lowest DHB rate	Indicator range	Highest DHB rate
Women not registered for antenatal care	2015	182	12.84	4.45	0.43		16.09
Maternal smoker registered for antenatal care	2015	176	14.25	15.52	5.40		32.33
Maternal BMI: obese ( $\geq 30.0 \text{ kg/m}^2$ )	2015	228	18.46	23.92	18.46		34.19
Preterm births (under 37 weeks gestation)	2015	99	6.90	7.32	5.89		9.21
Low birthweight liveborn babies	2015	70	4.88	5.72	3.27		7.13
Fetal death rate	2010-2014	45	5.65	6.87	5.15		8.44
Infant mortality	2010-2014	35	4.42	5.23	3.18		7.63
Child mortality rate (aged 1-4 years)	2010-2014	<5	s	23.82	11.45		50.36
Infants exclusively or fully breastfed at 6 weeks	2015	749	72.93	68.67	61.37		76.05
Infants exclusively or fully breastfed at 3 months	2015	701	61.60	57.61	48.99		64.95
Infants receiving breastmilk at 6 months	2015	828	71.26	68.33	59.80		76.21
Immunisation coverage at milestone age: 8 months	Apr-Jun 2017	377	89.76	91.92	80.00		95.09
Immunisation coverage at milestone age: 24 months	Apr-Jun 2017	384	93.66	93.40	87.02		95.32
Children (4-5 years) measured as Obese at B4 School Check	2016	94	6.23	8.06	3.95		12.79
Hospitalisations of 0-4 year olds for ambulatory care-sensitive conditions*	2012-2016	1824	41.60	64.47	38.51		82.57
Proportion of five year old children free from dental decay	2015	720	59.36	59.47	42.71		70.02
Mean number of decayed, missing or filled teeth at age 5 years	2015	-	1.71	1.81	1.18		3.38
Hospitalisations of 1-4 year olds for dental caries	2011-2015	286	8.02	10.45	5.51		20.85

\* includes ED cases



Figure I-2 Summary indicator graph, South Canterbury DHB vs New Zealand

Indicator	Period	South Canterbury number	South Canterbury rate	NZ rate	Lowest DHB rate	Indicator range	Highest DHB rate
Women not registered for antenatal care	2015	<5	0.43	4.45	0.43		16.09
Maternal smoker registered for antenatal care	2015	121	18.47	15.52	5.40		32.33
Maternal BMI: obese ( $\geq 30.0 \text{ kg/m}^2$ )	2015	182	27.79	23.92	18.46		34.19
Preterm births (under 37 weeks gestation)	2015	47	7.06	7.32	5.89		9.21
Low birthweight liveborn babies	2015	36	5.41	5.72	3.27		7.13
Fetal death rate	2010-2014	16	5.15	6.87	5.15		8.44
Infant mortality	2010-2014	19	6.14	5.23	3.18		7.63
Child mortality rate (aged 1-4 years)	2010-2014	7	50.36	23.82	11.45		50.36
Infants exclusively or fully breastfed at 6 weeks	2015	356	72.36	68.67	61.37		76.05
Infants exclusively or fully breastfed at 3 months	2015	335	56.59	57.61	48.99		64.95
Infants receiving breastmilk at 6 months	2015	376	62.77	68.33	59.80		76.21
Immunisation coverage at milestone age: 8 months	Apr-Jun 2017	161	94.71	91.92	80.00		95.09
Immunisation coverage at milestone age: 24 months	Apr-Jun 2017	160	95.24	93.40	87.02		95.32
Children (4-5 years) measured as Obese at B4 School Check	2016	61	9.02	8.06	3.95		12.79
Hospitalisations of 0-4 year olds for ambulatory care-sensitive conditions*	2012-2016	678	38.51	64.47	38.51		82.57
Proportion of five year old children free from dental decay	2015	420	64.32	59.47	42.71		70.02
Mean number of decayed, missing or filled teeth at age 5 years	2015	-	1.39	1.81	1.18		3.38
Hospitalisations of 1-4 year olds for dental caries	2011-2015	78	5.51	10.45	5.51		20.85

\* includes ED cases

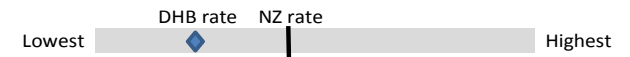


Figure I-3 Summary indicator graph, Canterbury DHB vs New Zealand

Indicator	Period	Canterbury number	Canterbury rate	NZ rate	Lowest DHB rate	Indicator range	Highest DHB rate
Women not registered for antenatal care	2015	56	0.90	4.45	0.43		16.09
Maternal smoker registered for antenatal care	2015	755	12.29	15.52	5.40		32.33
Maternal BMI: obese (≥30.0 kg/m <sup>2</sup> )	2015	1251	20.36	23.92	18.46		34.19
Preterm births (under 37 weeks gestation)	2015	515	8.23	7.32	5.89		9.21
Low birthweight liveborn babies	2015	397	6.35	5.72	3.27		7.13
Fetal death rate	2010-2014	223	7.19	6.87	5.15		8.44
Infant mortality	2010-2014	140	4.55	5.23	3.18		7.63
Child mortality rate (aged 1-4 years)	2010-2014	24	18.64	23.82	11.45		50.36
Infants exclusively or fully breastfed at 6 weeks	2015	2956	66.77	68.67	61.37		76.05
Infants exclusively or fully breastfed at 3 months	2015	3149	58.99	57.61	48.99		64.95
Infants receiving breastmilk at 6 months	2015	3730	68.53	68.33	59.80		76.21
Immunisation coverage at milestone age: 8 months	Apr-Jun 2017	1559	94.71	91.92	80.00		95.09
Immunisation coverage at milestone age: 24 months	Apr-Jun 2017	1549	95.32	93.40	87.02		95.32
Children (4-5 years) measured as Obese at B4 School Check	2016	383	6.66	8.06	3.95		12.79
Hospitalisations of 0-4 year olds for ambulatory care-sensitive conditions*	2012-2016	9695	59.87	64.47	38.51		82.57
Proportion of five year old children free from dental decay	2015	3688	65.06	59.47	42.71		70.02
Mean number of decayed, missing or filled teeth at age 5 years	2015	-	1.42	1.81	1.18		3.38
Hospitalisations of 1-4 year olds for dental caries	2011-2015	1051	8.07	10.45	5.51		20.85

\* includes ED cases

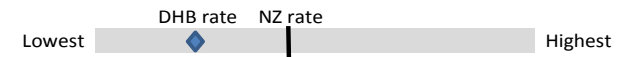


Figure I-4 Summary indicator graph, West Coast DHB vs New Zealand

Indicator	Period	West Coast number	West Coast rate	NZ rate	Lowest DHB rate	Indicator range	Highest DHB rate
Women not registered for antenatal care	2015	14	3.92	4.45	0.43		16.09
Maternal smoker registered for antenatal care	2015	77	22.45	15.52	5.40		32.33
Maternal BMI: obese (≥30.0 kg/m <sup>2</sup> )	2015	78	22.74	23.92	18.46		34.19
Preterm births (under 37 weeks gestation)	2015	29	8.06	7.32	5.89		9.21
Low birthweight liveborn babies	2015	22	6.11	5.72	3.27		7.13
Fetal death rate	2010-2014	13	6.27	6.87	5.15		8.44
Infant mortality	2010-2014	10	4.86	5.23	3.18		7.63
Child mortality rate (aged 1-4 years)	2010-2014	<5	s	23.82	11.45		50.36
Infants exclusively or fully breastfed at 6 weeks	2015	154	73.33	68.67	61.37		76.05
Infants exclusively or fully breastfed at 3 months	2015	167	60.07	57.61	48.99		64.95
Infants receiving breastmilk at 6 months	2015	188	65.28	68.33	59.80		76.21
Immunisation coverage at milestone age: 8 months	Apr-Jun 2017	64	80.00	91.92	80.00		95.09
Immunisation coverage at milestone age: 24 months	Apr-Jun 2017	70	90.91	93.40	87.02		95.32
Children (4-5 years) measured as Obese at B4 School Check	2016	12	3.95	8.06	3.95		12.79
Hospitalisations of 0-4 year olds for ambulatory care-sensitive conditions*	2012-2016	490	44.03	64.47	38.51		82.57
Proportion of five year old children free from dental decay	2015	222	56.20	59.47	42.71		70.02
Mean number of decayed, missing or filled teeth at age 5 years	2015	-	1.84	1.81	1.18		3.38
Hospitalisations of 1-4 year olds for dental caries	2011-2015	152	17.01	10.45	5.51		20.85

\* includes ED cases

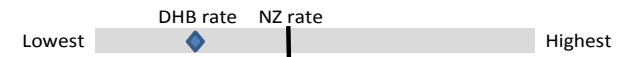




Figure I-5 Summary indicator graph, Southern DHB vs New Zealand

Indicator	Period	Southern number	Southern rate	NZ rate	Lowest DHB rate	Indicator range	Highest DHB rate
Women not registered for antenatal care	2015	15	0.44	4.45	0.43		16.09
Maternal smoker registered for antenatal care	2015	586	17.24	15.52	5.40		32.33
Maternal BMI: obese (≥30.0 kg/m <sup>2</sup> )	2015	766	22.54	23.92	18.46		34.19
Preterm births (under 37 weeks gestation)	2015	260	7.56	7.32	5.89		9.21
Low birthweight liveborn babies	2015	175	5.09	5.72	3.27		7.13
Fetal death rate	2010-2014	109	6.07	6.87	5.15		8.44
Infant mortality	2010-2014	78	4.37	5.23	3.18		7.63
Child mortality rate (aged 1-4 years)	2010-2014	18	23.52	23.82	11.45		50.36
Infants exclusively or fully breastfed at 6 weeks	2015	1653	68.53	68.67	61.37		76.05
Infants exclusively or fully breastfed at 3 months	2015	1759	58.56	57.61	48.99		64.95
Infants receiving breastmilk at 6 months	2015	2073	66.83	68.33	59.80		76.21
Immunisation coverage at milestone age: 8 months	Apr-Jun 2017	793	93.85	91.92	80.00		95.09
Immunisation coverage at milestone age: 24 months	Apr-Jun 2017	820	94.58	93.40	87.02		95.32
Children (4-5 years) measured as Obese at B4 School Check	2016	272	7.77	8.06	3.95		12.79
Hospitalisations of 0-4 year olds for ambulatory care-sensitive conditions*	2012-2016	5914	60.95	64.47	38.51		82.57
Proportion of five year old children free from dental decay	2015	1625	67.04	59.47	42.71		70.02
Mean number of decayed, missing or filled teeth at age 5 years	2015	-	1.63	1.81	1.18		3.38
Hospitalisations of 1-4 year olds for dental caries	2011-2015	855	10.96	10.45	5.51		20.85

\* includes ED cases

