

INTRODUCTION AND OVERVIEW

Background

In February 2012, the Health Select Committee (HSC) initiated an inquiry “to find what practical health and social interventions could be made to promote children’s wellbeing in New Zealand, to prevent child abuse, and to break cycles of disadvantage, particularly from pre-conception to three years of age [1]”.

The first recommendation arising from this inquiry [1] was that the Government establish an evidence base for the economic value and cost-effectiveness of very early intervention programmes, from pre-conception to three years. Once strong evidence was established, the HSC recommended the Government move quickly to reprioritise investment towards achieving best practice in the areas of: reproductive health; prenatal, natal, postnatal, and whole-of-life nutrition; maternity and postnatal care; and health, early childhood education and social service interventions for the first three years of life, with a focus on the vulnerable, the disadvantaged, and Māori and Pasifika children [1].

The HSC also recommended that the Government continue to progress policies to address disadvantage and promote opportunity for all children; and that this should include poverty, discrimination, healthy housing, optimal nutrition, access to health and education services, and safe home environments. Further, the HSC recommended the Government publish an action plan setting out how it would address each area on a yearly basis, and employ a transparent monitoring system, with published results to demonstrate progress [1]”.

Report Aims

This report, which focuses on the underlying determinants of health for children and young people in South Island aims to:

1. Provide a snapshot of progress in many of the areas covered by the HSC’s Inquiry including: child poverty and living standards, housing, early childhood education, oral health, tobacco use, alcohol related harm, and children’s exposure to family violence.
2. Assist District Health Board (DHB) staff to consider the roles other agencies play in influencing child and youth health outcomes in each of these areas.
3. Assist those working locally to utilise all of the available evidence when developing programmes and interventions to address child and youth health need.

In-Depth Topics

This year’s in-depth topics also focus on the importance of the very early years, and on developing whole-of-Government, inter-agency approaches to improving outcomes for children and families. Specifically, the issues covered in this year’s in-depth topics include:

Better Health for the New Generation: Getting It Right from the Start: This in-depth topic explores the complex ways in which maternal health and wellbeing during pregnancy and even before conception can affect child health. There is increasing evidence that these early stages of life are critical for the health and wellbeing of the next generation, not only in infancy but on into adulthood and throughout the life course. Service and intervention strategies are reviewed, followed by a discussion of the evidence gaps and of new approaches emerging in the literature in response to a recognition of the challenges involved in supporting healthy development right from the start.

Effectiveness of Integrated Services (Health, Educational and Social): This in-depth topic explores the effectiveness of integrated services and how such programmes should be delivered to provide optimal benefit for children and their families. Worldwide there has been a move towards more integrated service delivery models. This has in part occurred due to increased service demand, rising costs and staff shortages. There have also been



social changes that have created problems for families in accessing services. This in-depth topic examines what integrated services are and what they are trying to achieve. The evidence for the effectiveness of integrated services, both in New Zealand and internationally is discussed and factors that are needed for integrated services to be effective are identified. Consideration is given to how effective integrated services might be implemented in New Zealand.

Report Structure and Indicators

This report is the first of a three part series on the health of children and young people in South Island and fits into the reporting cycle as follows:

Year 1 (2014): The Determinants of Health for Children and Young People

Year 2 (2015): The Health Status of Children and Young People

Year 3 (2016): Children and Young People with Chronic Conditions and Disabilities

As previously, this report is based on an Indicator Framework developed during the first three years of DHB reporting [2], with each of its indicators being assigned to one of four sections as follows:

- 1. The Wider Macroeconomic and Policy Context:** This section is divided into two parts with the first considering child poverty and living standards. Indicators include income-based poverty measures, material hardship, and poverty severity and persistence. The second part considers a range of macroeconomic indicators including Gross Domestic Product (GDP), income inequality, unemployment rates, children reliant on benefit recipients and young people reliant on benefits.
- 2. Socioeconomic and Cultural Determinants:** This section is divided into two parts, with the first considering factors related to household composition, including children living in sole parent households, and household crowding. The second part considers education as a determinant of health, with indicators including early childhood education, Māori medium education, Pacific education, highest attainment at school leaving, senior secondary school retention, stand-downs, suspensions, exclusions and expulsions, and truancy and unjustified absences.
- 3. Risk and Protective Factors:** This section is divided into three parts, with the first considering issues relevant to the Well Child/Tamariki Ora Schedule, including immunisation coverage and the uptake of Well Child/Tamariki Ora Services (Plunket and B4 School Checks). The second part, which focuses on oral health, reviews school dental service data and hospital admissions for dental caries. The third part considers a range of issues associated with substance use, including smoking in pregnancy, exposure to second-hand cigarette smoke, smoking in young people, and alcohol-related hospital admissions.
- 4. Health Outcomes as Determinants:** This section is divided into two parts, with the first considering hospital admissions and mortality from a range of socioeconomically sensitive conditions. The second part considers children and young people's exposure to family violence and assault, with indicators including injuries arising from the assault, neglect or maltreatment of children, injuries arising from assault in young people, notifications to Child Youth and Family, and Police family violence investigations.

Evidence-Based Approaches to Intervention

As previously, each of the sections in this year's report concludes with a brief overview of local policy documents and evidence-based reviews which consider population level approaches to prevention or management. **Appendix 1** provides an overview of the methodology used to develop these reviews. As previously, the quality and depth of evidence available varies considerably from indicator to indicator.



Data Quality Issues and Signalling Statistical Significance

Denominators

In this report, population estimates derived from the 2001, 2006, and 2013 Censuses (with linear extrapolations between Census years) have been used as the denominator in the majority of analyses. The results presented here, therefore, may differ from previous reports, which used population estimates derived from the 2001, 2006, and Statistics NZ population projections from 2007 onwards.

Statistical Significance Testing

Appendix 2 outlines the rationale for the use of statistical significance testing in this report. **Appendix 3** to **Appendix 5** contain information on the data sources used to develop each indicator. Error! Reference source not found. covers issues regarding measuring ethnicity. Readers are urged to be aware of the contents of these appendices when interpreting the information in this report. Error! Reference source not found. provides an overview of the NZ Deprivation Index. There are two deprivation indices used: NZDep 2013 is used where data relate to the 2013 Census and NZDep 2006 is used for the remaining data sources.

If tests of statistical significance have been used in a particular section, the text will have the words *significant*, or *not significant* in italics. Where the words *significant* or *not significant* do not appear in the text, the associations described do not imply statistical significance or non-significance. This is explained further in Error! Reference source not found..

Overview of the Determinants of Health for Children and Young People in the South Island

Figure 1–Figure 5 provide an overview of the indicators in this year's report and how each DHB's rates compare to New Zealand as a whole.

Concluding Comments

This report provides an overview of the underlying determinants of health for children and young people in the South Island. It also aims to assist DHB staff to consider some of the other agencies influencing child and youth health locally. Such an inter-agency approach is necessary as addressing the large burden of avoidable morbidity and mortality experienced by children and young people locally remains a formidable task if attempted in isolation. Working jointly with Child Youth and Family and the Police to protect vulnerable children from intentional injury, or with Housing New Zealand and other social housing providers to ensure families can access affordable quality housing, are examples of tangible starting points.

Implementation of some of the integrated policy responses outlined in the evidence base review tables in this report, or its two in-depth topics may result in significant health gains for children and their families. Finally, while addressing the underlying drivers of New Zealand's high child poverty rates remains beyond of the reach of the health sector alone, this should not preclude the sector from being involved in ongoing advocacy with the intention of ensuring that every child in New Zealand grows up to reach their full potential.



Figure 1. Summary indicator graph, Nelson Marlborough compared to New Zealand

Indicator	Nelson Marlborough Number	Nelson Marlborough Rate	NZ Rate	Lowest DHB rate	NZ Range	Highest DHB rate
1 Children reliant on recipient of Sole Parent Support	3,574	75.8	72.9	66.7		77.2
2 Young people receiving Sole Parent Support	372	30.5	33.8	22.4		43.5
3 Children living in sole parent households	5,430	21.9	24.1	19.0		36.6
4 Children living in crowded households	1,938	7.9	15.8	6.2		30.4
5 New entrants who previously attended ECE		97.5	95.6	90.3		98.0
6 Students leaving school with no qualification		11.8	11.5	7.3		16.7
7 Retention at secondary school to 17 years		83.9	82.6	74.5		89.9
8 Age-standardised suspension rate		4.3	4.3	2.6		7.6
9 Total unjustified absence rate		3.0	3.9	2.3		6.7
10 Immunisation coverage at 8 months		90.0	90.8	84.3		95.1
11 Immunisation coverage at 24 months		88.1	92.1	82.4		94.9
12 Number of Plunket core WellChild contacts		6.2	6.1	5.7		7.0
13 Children receiving their B4 School Check (2014)	1,638	91.5	91.2	80.1		112.4
14 Caries-free at 5 years with non-fluoridated water		63.5	56.5	35.3		66.7
15 Mean DMFT at 12 years with non-fluoridated water		0.9	1.1	0.6		2.1
16 Hospital admissions for dental caries in children aged 0–4 years	266	6.3	8.3	4.2		16.7
17 Mothers not registered with LMC at delivery	1,733	20.9	15.1	0.6		61.9
18 Babies with maternal smoker registered with a LMC at delivery	985	15.1	17.3	5.4		36.0
19 Children living in a household with a smoker	5,778	22.9	26.7	18.4		40.0
20 Young people who were regular smokers	2,202	15.7	14.1	9.3		23.1
21 Year 10 students that smoked daily		4.2	3.2	1.4		5.7
22 Year 10 students that never smoked		76.3	75.1	61.3		83.0
23 Alcohol-related hospital admissions	166	219.6	202.5	113.9		519.2
24 Children admitted to hospital for medical conditions with a social gradient	3,594	26.9	45.1	23.1		60.2
25 Children admitted to hospital for injuries with a social gradient	1,070	8.0	10.0	7.8		13.1
26 Children admitted to hospital for assault, neglect, or maltreatment injuries	20	15.0	17.4	8.4		34.7
27 Young people admitted to hospital for assault injuries	125	165.4	161.7	83.6		380.6
28 Infant mortality	28	329.2	514.6	306.7		821.4
29 Sudden unexpected death in infancy	3	35.3	96.1	35.3		229.5
30 Notifications received by CYF requiring further assessment (2014)	1,995	44.2	41.6	30.3		60.8
31 Family Violence Investigations with children present (2013)		63.7	62.2	52.3		70.3

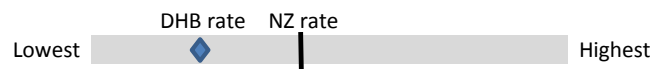


Figure 2. Summary indicator graph, South Canterbury compared to New Zealand

Indicator	South Canterbury Number	South Canterbury Rate	NZ Rate	Lowest DHB rate	NZ Range	Highest DHB rate
1 Children reliant on recipient of Sole Parent Support	1,152	74.4	72.9	66.7		77.2
2 Young people receiving Sole Parent Support	157	38.2	33.8	22.4		43.5
3 Children living in sole parent households	1,809	19.0	24.1	19.0		36.6
4 Children living in crowded households	591	6.2	15.8	6.2		30.4
5 New entrants who previously attended ECE		98.0	95.6	90.3		98.0
6 Students leaving school with no qualification		8.6	11.5	7.3		16.7
7 Retention at secondary school to 17 years		82.9	82.6	74.5		89.9
8 Age-standardised suspension rate		5.2	4.3	2.6		7.6
9 Total unjustified absence rate		2.3	3.9	2.3		6.7
10 Immunisation coverage at 8 months		93.2	90.8	84.3		95.1
11 Immunisation coverage at 24 months		94.9	92.1	82.4		94.9
12 Number of Plunket core WellChild contacts		5.9	6.1	5.7		7.0
13 Children receiving their B4 School Check (2014)	804	112.4	91.2	80.1		112.4
14 Caries-free at 5 years with non-fluoridated water		60.6	56.5	35.3		66.7
15 Mean DMFT at 12 years with non-fluoridated water		1.2	1.1	0.6		2.1
16 Hospital admissions for dental caries in children aged 0-4 years	70	4.2	8.3	4.2		16.7
17 Mothers not registered with LMC at delivery	88	2.7	15.1	0.6		61.9
18 Babies with maternal smoker registered with a LMC at delivery	728	23.1	17.3	5.4		36.0
19 Children living in a household with a smoker	2,778	28.4	26.7	18.4		40.0
20 Young people who were regular smokers	1,056	17.4	14.1	9.3		23.1
21 Year 10 students that smoked daily		3.3	3.2	1.4		5.7
22 Year 10 students that never smoked		70.8	75.1	61.3		83.0
23 Alcohol-related hospital admissions	166	519.2	202.5	113.9		519.2
24 Children admitted to hospital for medical conditions with a social gradient	1,221	23.1	45.1	23.1		60.2
25 Children admitted to hospital for injuries with a social gradient	496	9.4	10.0	7.8		13.1
26 Children admitted to hospital for assault, neglect, or maltreatment injuries	5	9.4	17.4	8.4		34.7
27 Young people admitted to hospital for assault injuries	99	309.7	161.7	83.6		380.6
28 Infant mortality	19	596.5	514.6	306.7		821.4
29 Sudden unexpected death in infancy	3	94.2	96.1	35.3		229.5
30 Notifications received by CYF requiring further assessment (2014)	752	60.8	41.6	30.3		60.8
31 Family Violence Investigations with children present (2013)		57.8	62.2	52.3		70.3

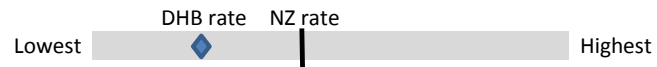


Figure 3. Summary indicator graph, Canterbury compared to New Zealand

Indicator	Canterbury Number	Canterbury Rate	NZ Rate	Lowest DHB rate	NZ Range	Highest DHB rate
1 Children reliant on recipient of Sole Parent Support	9,122	73.9	72.9	66.7		77.2
2 Young people receiving Sole Parent Support	1,188	34.1	33.8	22.4		43.5
3 Children living in sole parent households	16,116	19.0	24.1	19.0		36.6
4 Children living in crowded households	8,010	9.5	15.8	6.2		30.4
5 New entrants who previously attended ECE		98.0	95.6	90.3		98.0
6 Students leaving school with no qualification		11.8	11.5	7.3		16.7
7 Retention at secondary school to 17 years		83.3	82.6	74.5		89.9
8 Age-standardised suspension rate		3.9	4.3	2.6		7.6
9 Total unjustified absence rate		4.2	3.9	2.3		6.7
10 Immunisation coverage at 8 months		92.2	90.8	84.3		95.1
11 Immunisation coverage at 24 months		92.7	92.1	82.4		94.9
12 Number of Plunket core WellChild contacts		6.0	6.1	5.7		7.0
13 Children receiving their B4 School Check (2014)	6,003	90.3	91.2	80.1		112.4
14 Caries-free at 5 years with non-fluoridated water		63.5	56.5	35.3		66.7
15 Mean DMFT at 12 years with non-fluoridated water		1.0	1.1	0.6		2.1
16 Hospital admissions for dental caries in children aged 0–4 years	1,041	6.6	8.3	4.2		16.7
17 Mothers not registered with LMC at delivery	1,129	3.5	15.1	0.6		61.9
18 Babies with maternal smoker registered with a LMC at delivery	4,271	13.9	17.3	5.4		36.0
19 Children living in a household with a smoker	20,082	23.1	26.7	18.4		40.0
20 Young people who were regular smokers	9,588	14.4	14.1	9.3		23.1
21 Year 10 students that smoked daily		3.2	3.2	1.4		5.7
22 Year 10 students that never smoked		74.2	75.1	61.3		83.0
23 Alcohol-related hospital admissions	835	235.9	202.5	113.9		519.2
24 Children admitted to hospital for medical conditions with a social gradient	17,492	37.0	45.1	23.1		60.2
25 Children admitted to hospital for injuries with a social gradient	4,869	10.3	10.0	7.8		13.1
26 Children admitted to hospital for assault, neglect, or maltreatment injuries	160	33.8	17.4	8.4		34.7
27 Young people admitted to hospital for assault injuries	482	136.2	161.7	83.6		380.6
28 Infant mortality	147	447.2	514.6	306.7		821.4
29 Sudden unexpected death in infancy	20	60.8	96.1	35.3		229.5
30 Notifications received by CYF requiring further assessment (2014)	5,739	47.9	41.6	30.3		60.8
31 Family Violence Investigations with children present (2013)		59.0	62.2	52.3		70.3

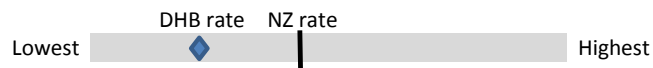


Figure 4. Summary indicator graph, West Coast compared to New Zealand

Indicator	West Coast Number	West Coast Rate	NZ Rate	Lowest DHB rate	NZ Range	Highest DHB rate
1 Children reliant on recipient of Sole Parent Support	770	72.5	72.9	66.7		77.2
2 Young people receiving Sole Parent Support	91	26.9	33.8	22.4		43.5
3 Children living in sole parent households	1,092	20.2	24.1	19.0		36.6
4 Children living in crowded households	420	7.8	15.8	6.2		30.4
5 New entrants who previously attended ECE		93.9	95.6	90.3		98.0
6 Students leaving school with no qualification		13.3	11.5	7.3		16.7
7 Retention at secondary school to 17 years		76.7	82.6	74.5		89.9
8 Age-standardised suspension rate		4.4	4.3	2.6		7.6
9 Total unjustified absence rate		4.9	3.9	2.3		6.7
10 Immunisation coverage at 8 months		84.3	90.8	84.3		95.1
11 Immunisation coverage at 24 months		82.4	92.1	82.4		94.9
12 Number of Plunket core WellChild contacts		6.1	6.1	5.7		7.0
13 Children receiving their B4 School Check (2014)	418	90.5	91.2	80.1		112.4
14 Caries-free at 5 years with non-fluoridated water		56.5	56.5	35.3		66.7
15 Mean DMFT at 12 years with non-fluoridated water		1.5	1.1	0.6		2.1
16 Hospital admissions for dental caries in children aged 0–4 years	120	11.3	8.3	4.2		16.7
17 Mothers not registered with LMC at delivery	1,264	61.9	15.1	0.6		61.9
18 Babies with maternal smoker registered with a LMC at delivery	114	14.6	17.3	5.4		36.0
19 Children living in a household with a smoker	1,758	31.0	26.7	18.4		40.0
20 Young people who were regular smokers	684	19.5	14.1	9.3		23.1
21 Year 10 students that smoked daily		2.1	3.2	1.4		5.7
22 Year 10 students that never smoked		81.5	75.1	61.3		83.0
23 Alcohol-related hospital admissions	69	378.8	202.5	113.9		519.2
24 Children admitted to hospital for medical conditions with a social gradient	878	27.7	45.1	23.1		60.2
25 Children admitted to hospital for injuries with a social gradient	345	10.9	10.0	7.8		13.1
26 Children admitted to hospital for assault, neglect, or maltreatment injuries	5	15.8	17.4	8.4		34.7
27 Young people admitted to hospital for assault injuries	38	208.6	161.7	83.6		380.6
28 Infant mortality	11	509.5	514.6	306.7		821.4
29 Sudden unexpected death in infancy	1	46.3	96.1	35.3		229.5
30 Notifications received by CYF requiring further assessment (2014)	558	51.0	41.6	30.3		60.8
31 Family Violence Investigations with children present (2013)		68.2	62.2	52.3		70.3

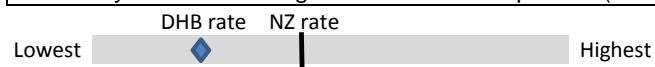


Figure 5. Summary indicator graph, Southern DHB compared to New Zealand

Indicator	Southern Number	Southern Rate	NZ Rate	Lowest DHB rate	NZ Range	Highest DHB rate
1 Children reliant on recipient of Sole Parent Support	6,207	74.1	72.9	66.7		77.2
2 Young people receiving Sole Parent Support	760	26.6	33.8	22.4		43.5
3 Children living in sole parent households	9,876	19.3	24.1	19.0		30.4
4 Children living in crowded households	3,333	6.6	15.8	6.2		30.4
5 New entrants who previously attended ECE		97.9	95.6	90.3		98.0
6 Students leaving school with no qualification		9.6	11.5	7.3		16.7
7 Retention at secondary school to 17 years		85.1	82.6	74.5		89.9
8 Age-standardised suspension rate		3.4	4.3	2.6		7.6
9 Total unjustified absence rate		3.2	3.9	2.3		6.7
10 Immunisation coverage at 8 months		93.1	90.8	84.3		95.1
11 Immunisation coverage at 24 months		93.8	92.1	82.4		94.9
12 Number of Plunket core WellChild contacts (2013)		6.3	6.1	5.7		7.0
13 Children receiving their B4 School Check (2014)	3,895	98.8	91.2	80.1		112.4
14 Caries-free at 5 years with non-fluoridated water			56.5	35.3		66.7
15 Mean DMFT at 12 years with non-fluoridated water			1.1	0.6		2.1
16 Hospital admissions for dental caries in children aged 0-4 years	916	9.8	8.3	4.2		16.7
17 Mothers not registered with LMC at delivery	671	3.6	15.1	0.6		61.9
18 Babies with maternal smoker registered with a LMC at delivery	3,239	18.2	17.3	5.4		36.0
19 Children living in a household with a smoker	13,878	26.5	26.7	18.4		40.0
20 Young people who were regular smokers	6,372	14.0	14.1	9.3		23.1
21 Year 10 students that smoked daily		2.9	3.2	1.4		5.7
22 Year 10 students that never smoked		75.2	75.1	61.3		83.0
23 Alcohol-related hospital admissions	596	252.2	202.5	113.9		519.2
24 Children admitted to hospital for medical conditions with a social gradient	9,898	35.5	45.1	23.1		60.2
25 Children admitted to hospital for injuries with a social gradient	2,235	8.0	10.0	7.8		13.1
26 Children admitted to hospital for assault, neglect, or maltreatment injuries	49	17.6	17.4	8.4		34.7
27 Young people admitted to hospital for assault injuries	248	104.9	161.7	83.6		380.6
28 Infant mortality	69	368.9	514.6	306.7		821.4
29 Sudden unexpected death in infancy	10	53.5	96.1	35.3		229.5
30 Notifications received by CYF requiring further assessment (2014)	2,943	46.1	41.6	30.3		60.8
31 Family Violence Investigations with children present (2013)		59.0	62.2	52.3		70.3

