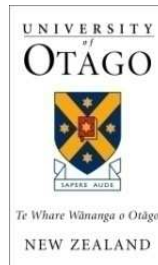


THE DETERMINANTS OF HEALTH
FOR CHILDREN AND
YOUNG PEOPLE

IN THE SOUTH ISLAND



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



This Report was prepared for the South Island Alliance Programme Office (SIAPO) by Elizabeth Craig, Rebecca Dell, Anne Reddington, Judith Adams, Glenda Oben, Andrew Wicken and Jean Simpson of the NZ Child and Youth Epidemiology Service. November 2012

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Cover Artwork: Long-tailed Blue Butterfly by Karen Davis

TABLE OF CONTENTS

Table of Contents.....	5
List of Figures	7
List of Tables	14
INTRODUCTION AND OVERVIEW	21
Introduction and Overview	23
THE WIDER MACROECONOMIC AND POLICY CONTEXT	45
MACROECONOMIC INDICATORS	47
Gross Domestic Product (GDP)	49
Income Inequality.....	51
Child Poverty and Living Standards	54
Unemployment Rates.....	66
Children Reliant on Benefit Recipients	74
Young People Reliant on Benefits.....	80
SOCIOECONOMIC AND CULTURAL DETERMINANTS.....	89
HOUSEHOLD COMPOSITION.....	91
Children in Sole Parent Households.....	93
Household Crowding.....	99
EDUCATION: KNOWLEDGE AND SKILLS	107
Early Childhood Education	109
Māori Medium Education	118
Highest Educational Attainment at School Leaving	125
Senior Secondary School Retention and Tertiary Participation	133
School Stand-downs, Suspensions, Exclusions and Expulsions	138
Truancy and Unjustified Absences	147
RISK AND PROTECTIVE FACTORS	153
WELL CHILD SERVICES	155
Immunisation Coverage	157
Well Child/Tamariki Ora Services.....	170
SUBSTANCE USE	185
Smoking in Pregnancy	187
Second-Hand Cigarette Smoke Exposure.....	199
Tobacco Use in Young People.....	212
Alcohol-Related Hospital Admissions.....	225



HEALTH OUTCOMES AS DETERMINANTS	237
SOCIOECONOMICALLY SENSITIVE HOSPITAL ADMISSIONS AND MORTALITY	239
Hospital Admissions and Mortality with a Social Gradient in Children	241
Infant Mortality and Sudden Unexpected Death in Infancy.....	259
In-Depth Topic: Services and Interventions for Women Experiencing Multiple Adversities in Pregnancy	276
SAFETY AND FAMILY VIOLENCE	307
Injuries Arising from the Assault, Neglect or Maltreatment of Children	309
Injuries Arising from Assault in Young People.....	320
Child Youth and Family Notifications	328
Family Violence	337
MENTAL HEALTH.....	345
Access to Mental Health Services: Introduction, Methods and Evidence-Based Review Tables	347
Access to Mental Health Services in Children Aged 0–14 Years.....	355
In-Depth Topic: Mental Health Issues in Children	365
Access to Mental Health Services: Late Childhood and Adolescence.....	387
Access to Mental Health Services: Late Adolescence.....	394
Suicide and Intentional Self-Harm.....	418
APPENDICES AND REFERENCES.....	427
Appendix 1: Search Methods for Policy Documents and Evidence-Based Reviews.....	429
Appendix 2: Statistical Significance Testing and its use in this Report	431
Appendix 3: The National Minimum Dataset	433
Appendix 4: The Birth Registration Dataset	437
Appendix 5: The National Mortality Collection.....	438
Appendix 6: The Measurement of Ethnicity.....	439
Appendix 7: The NZ Deprivation Index	443
Appendix 8: Police Area Boundaries.....	444
Appendix 9: Methods Used to Develop the Children’s Social Health Monitor.....	447
References	450



LIST OF FIGURES

Figure 1. Gross Domestic Product (GDP): Percentage Change from Previous Quarter, New Zealand March Quarter 2006 to June Quarter 2012.....	50
Figure 2. Income Inequality in New Zealand as Assessed by the P80/P20 Ratio for the 1982–2011 HES Years	52
Figure 3. Income Inequality in New Zealand as Assessed by the Gini Coefficient for the 1982–2011 HES Years	53
Figure 4. Proportion of Dependent Children Aged 0–17 Years Living Below the 60% Income Poverty Threshold Before Housing Costs, New Zealand 1982–2011 HES Years.....	55
Figure 5. Proportion of Dependent Children Aged 0–17 Years Living Below the 60% Income Poverty Threshold After Housing Costs, New Zealand 1982–2011 HES Years	56
Figure 6. Proportion of Dependent Children Living Below the 60% Income Poverty Threshold After Housing Costs by Age, New Zealand 1984–2011 HES Years	57
Figure 7. Proportion of Dependent Children Aged 0–17 Years Living Below the 60% Income Poverty Threshold After Housing Costs, by Number of Children in Household, New Zealand 1984–2011 HES Years.....	57
Figure 8. Proportion of Dependent Children Aged 0–17 Years Living Below the 60% Income Poverty Threshold After Housing Costs by Household Type, New Zealand 1984–2011 HES Years	58
Figure 9. Proportion of Dependent Children Aged 0–17 Years Living Below the 60% Income Poverty Threshold After Housing Costs, by Work Status of Adults in the Household, New Zealand 1984–2011 HES Years.....	58
Figure 10. Proportion of Children Aged 0–17 Years with Deprivation Scores of Four or More by Ethnicity and Family Income Source, NZ Living Standards Survey 2008	60
Figure 11. Seasonally Adjusted Unemployment Rates, New Zealand Quarter 1 (March) 1986 to Quarter 2 (June) 2012.....	67
Figure 12. Unemployment Rates by Age (Selected Age Groups), New Zealand Years Ending June 1987–2012	68
Figure 13. Unemployment Rates by Age and Gender in Young People Aged 15–24 Years, New Zealand Years Ending June 1987–2012.....	68
Figure 14. Unemployment Rates by Ethnicity, New Zealand Quarter 1 (March) 2008 to Quarter 2 (June) 2012.....	69
Figure 15. Unemployment Rates by Qualification, New Zealand Years Ending June 1987–2012	69
Figure 16. Proportion of those Unemployed by Duration of Unemployment, New Zealand Years Ending June 1987–2012	70
Figure 17. Unemployment Rates by Regional Council, Canterbury, Tasman/Nelson/Marlborough/West Coast, Otago and Southland Regions vs. New Zealand Years Ending June 1987–2012.....	71
Figure 18. Quarterly Unemployment Rates by Regional Council, Canterbury, Tasman/Nelson/Marlborough/West Coast, Otago and Southland Regions vs. New Zealand Quarter 1 (March) 2006 to Quarter 2 (June) 2012.....	72
Figure 19. Proportion of All Children Aged 0–18 Years who were Reliant on a Benefit Recipient by Benefit Type, New Zealand April 2000–2012.....	77



Figure 20. Proportion of All Children Aged 0–18 Years who were Reliant on a Benefit Recipient by Age and Benefit Type, New Zealand April 2012.....	77
Figure 21. Proportion of Young People Aged 16–24 Years Receiving a Benefit by Benefit Type, New Zealand April 2000–2012.....	81
Figure 22. Proportion of Young People Aged 16–24 Years Receiving a Domestic Purposes Benefit by Ethnicity, New Zealand April 2000–2012.....	84
Figure 23. Proportion of Young People Aged 16–24 Years Receiving an Unemployment Benefit by Ethnicity, New Zealand April 2000–2012.....	85
Figure 24. Proportion of Young People Aged 16–24 Years Receiving an Invalid’s or Sickness Benefit by Ethnicity, New Zealand April 2000–2012	85
Figure 25. Young People Aged 16–24 Years Receiving an Invalid’s Benefit by Cause of Incapacity, New Zealand April 2012 (n=7,416)	86
Figure 26. Young People Aged 16–24 Years Receiving a Sickness Benefit by Cause of Incapacity, New Zealand April 2012 (n=8,499)	86
Figure 27. Proportion of Children Aged 0–14 Years Living in Sole Parent Households by Ethnicity and NZ Deprivation Index Decile, New Zealand at the 2006 Census.....	94
Figure 28. Proportion of Children Aged 0–14 Years Living in Sole Parent Households by Ethnicity and NZ Deprivation Index Decile, New Zealand at the 2006 Census.....	95
Figure 29. Proportion of Children Aged 0–14 Years Living in Sole Parent Households by Ethnicity, South Island DHBs vs. New Zealand at the 2006 Census	96
Figure 30. Proportion of Children Aged 0–14 Years Living in Sole Parent Households by NZ Deprivation Index Decile, South Island DHBs at the 2006 Census.....	96
Figure 31. Proportion of Children and Young People Aged 0–24 Years Living in Crowded Households by Ethnicity and NZ Deprivation Index Decile, New Zealand at the 2006 Census	100
Figure 32. Proportion of Children and Young People Aged 0–24 Years Living in Crowded Households by Ethnicity and NZ Deprivation Index Decile, New Zealand at the 2006 Census	101
Figure 33. Proportion of Children and Young People Aged 0–24 Years Living in Crowded Households by Ethnicity, South Island DHBs vs. New Zealand at the 2006 Census.....	102
Figure 34. Proportion of Children and Young People Aged 0–24 Years Living in Crowded Households by NZ Deprivation Index Decile, South Island DHBs vs. New Zealand at the 2006 Census.....	102
Figure 35. Number of Enrolments in Licensed Early Childhood Education Services by Service Type, New Zealand July 2000–2011	110
Figure 36. Proportion of New Entrants who had Previously Attended Early Childhood Education by Ethnicity, New Zealand 2001–2011.....	112
Figure 37. Proportion of New Entrants who had Previously Attended and Not Attended Early Childhood Education by School Socioeconomic Decile, New Zealand June 2011	112
Figure 38. Proportion of New Entrants who had Previously Attended Early Childhood Education, South Island DHBs vs. New Zealand 2001–2011.....	113
Figure 39. Proportion of New Entrants who had Previously Attended Early Childhood Education by Ethnicity, South Island DHBs vs. New Zealand 2001–2011.....	114
Figure 40. Number of Kura Kaupapa Māori and Kura Teina, New Zealand 1992–2011	119



Figure 41. Number of Students Involved in Māori Medium Education by School Sector and Form of Education as at 1 July, New Zealand 2001–2011	120
Figure 42. Highest Educational Attainment of School Leavers, New Zealand 2009–2011	126
Figure 43. Highest Educational Attainment of School Leavers by Ethnicity, New Zealand 2009–2011	127
Figure 44. School Leavers with a University Entrance Standard by Ethnicity and School Socioeconomic Decile, New Zealand 2011	127
Figure 45. Highest Educational Attainment of School Leavers, South Island DHBs vs. New Zealand 2009–2011	128
Figure 46. Highest Educational Attainment of School Leavers by Ethnicity, South Island DHBs vs. New Zealand 2009–2011	129
Figure 47. Highest Educational Attainment of School Leavers by Ethnicity, South Island DHBs vs. New Zealand 2009–2011	130
Figure 48. Proportion of Secondary School Students Staying at School Until at Least 17 Years of Age by Ethnicity, New Zealand 2009–2011	134
Figure 49. Age-Standardised Participation Rates in Tertiary Education for Domestic Students by Ethnicity and Selected Qualification, New Zealand 2001–2010	135
Figure 50. Proportion of Secondary School Students Staying at School Until at Least 17 Years, South Island DHBs vs. New Zealand 2009–2011	136
Figure 51. Proportion of Secondary School Students Staying at School Until at Least 17 Years by Ethnicity, South Island DHBs vs. New Zealand 2009–2011	136
Figure 52. Age-Standardised Rates of Stand-downs, Suspensions, Exclusions and Expulsions, New Zealand 2000–2011	140
Figure 53. Age-Standardised Rates of Stand-downs and Suspensions by Ethnicity, New Zealand 2000–2011	140
Figure 54. Age-Standardised Rates of Exclusions and Expulsions by Ethnicity, New Zealand 2000–2011	141
Figure 55. Distribution of Suspensions by Type of Behaviour, New Zealand 2011	141
Figure 56. Age-Standardised School Stand-Down and Suspension Rates, South Island DHBs vs. New Zealand 2000–2011	143
Figure 57. Age-Standardised School Exclusion and Expulsion Rates, South Island DHBs vs. New Zealand 2000–2011	143
Figure 58. Age-Standardised School Suspension Rates by Ethnicity, South Island DHBs vs. New Zealand 2000–2011	144
Figure 59. Total Unjustified Absences and Frequent Truancy by Year Level, New Zealand 2011 Ministry of Education Attendance Survey	148
Figure 60. Total Unjustified Absences and Frequent Truancy by Ethnicity, New Zealand 2006, 2009 and 2011 Ministry of Education Attendance Surveys	149
Figure 61. Total Unjustified Absences and Frequent Truancy by School Socioeconomic Decile, New Zealand 2011 Ministry of Education Attendance Survey	149
Figure 62. Total Unjustified Absences and Frequent Truancy, South Island DHBs vs. New Zealand 2006, 2009 and 2011 Ministry of Education Attendance Surveys	151
Figure 63. Total Unjustified Absences and Frequent Truancy by Ethnicity, South Island DHBs vs. New Zealand 2006, 2009 and 2011 Ministry of Education Attendance Surveys	152



Figure 64. Immunisation Coverage by Milestone Age, New Zealand 2009 (Quarter 2) – 2012 (Quarter 2).....	160
Figure 65. Immunisation Coverage by Milestone Age and Ethnicity, New Zealand 2012 (Quarter 2).....	160
Figure 66. Immunisation Coverage by Milestone Age, Ethnicity and NZ Deprivation Index Decile, New Zealand 2009 (Quarter 2) – 2012 (Quarter 2).....	161
Figure 67. Immunisation Coverage by Milestone Age and NZ Deprivation Index Decile, New Zealand 2012 (Quarter 2)	162
Figure 68. Immunisation Coverage by Milestone Age (6, 12 and 18 Months), South Island DHBs vs. New Zealand 2009 (Quarter 2) - 2012 (Quarter 2).....	163
Figure 69. Immunisation Coverage by Milestone Age (Two and Five Years), South Island DHBs vs. New Zealand 2009 (Quarter 2) - 2012 (Quarter 2).....	163
Figure 70. Immunisation Coverage by Milestone Age, South Island DHBs vs. New Zealand 2012 (Quarter 2)	164
Figure 71. Immunisation Coverage at 2 Years of Age by Ethnicity, South Island DHBs vs. New Zealand 2009 (Quarter 2) - 2012 (Quarter 2)	165
Figure 72. Immunisation Coverage at 2 Years of Age by NZ Deprivation Index Decile, South Island DHBs vs. New Zealand 2009 (Qtr 2) - 2012 (Qtr 2).....	165
Figure 73. Proportion of New Zealand Children who Received their Core 1–7 Well Child Contacts by Birth Year, Active Plunket Clients Born July 2007 to June 2012.....	172
Figure 74. Proportion of New Zealand Babies who Received their Core 1 Well Child Contact by Ethnicity and NZ Deprivation Index Decile, Active Plunket Clients Born July 2007 to June 2012	172
Figure 75. Proportion of New Zealand Children who Received their Core 1–7 Well Child Contacts by Ethnicity, Active Plunket Clients Born July 2007 to June 2008	173
Figure 76. Proportion of New Zealand Children who Received their Core 1–5 Well Child Contacts by Ethnicity, Active Plunket Clients Born July 2010 to June 2011	173
Figure 77. Proportion of New Zealand Children who Received their Core 1–7 Well Child Contacts by NZ Deprivation Index Decile, Active Plunket Clients Born July 2007 to June 2008.....	174
Figure 78. Proportion of New Zealand Children who Received their Core 1–5 Well Child Contacts by NZ Deprivation Index Decile, Active Plunket Clients Born July 2010 to June 2011.....	174
Figure 79. Proportion of South Island Children who Received Core 1–7 Well Child Contacts by DHB, Active Plunket Clients Born July 07–June 08.....	176
Figure 80. Proportion of South Island Children who Received Core 1–5 Well Child Contacts by DHB, Active Plunket Clients Born July 10–June 11.....	176
Figure 81. Proportion of South Island Babies who Received their Core 1 Well Child Contact by District Health Board, Active Plunket Clients Born July 2007 to June 2012...	177
Figure 82. Proportion of Children who Received Core 1–5 Well Child Contacts by Ethnicity and DHB, Active Plunket Clients Born July 10–June 11	178
Figure 83. Proportion of Children who Received Core 1–5 Well Child Contacts by NZ Deprivation Index Decile and DHB, Active Plunket Clients Born July 2010–June 2011 ..	178
Figure 84. Proportion of Eligible Children Receiving B4 School Checks, South Island DHBs vs. New Zealand in the Year Ending June 2012.....	180



Figure 85. Proportion of Babies Born to Mothers who Smoked at First Registration with a Lead Maternity Carer by Maternal Age, Baby's Ethnicity and NZ Deprivation Index Decile, New Zealand 2009–2010	191
Figure 86. Proportion of Babies Born to Mothers who Smoked at First Registration with a Lead Maternity Carer by Baby's Ethnicity and Maternal Age, New Zealand 2009–2010.....	192
Figure 87. Proportion of Babies Born to Mothers who Smoked, at First Registration with a Lead Maternity Carer, South Island DHBs vs. New Zealand 2009–2010	195
Figure 88. Proportion of Babies Born to Mothers who Smoked, at First Registration with a Lead Maternity Carer, by Ethnicity, South Island DHBs vs. New Zealand 2009–2010	196
Figure 89. Proportion of Babies Born to Mothers who Smoked at Two Weeks After Delivery by Maternal Age, Baby's Ethnicity and NZ Deprivation Index Decile, New Zealand 2009–2010.....	201
Figure 90. Proportion of Babies Born to Mothers who Smoked at Two Weeks After Delivery by Baby's Ethnicity and Maternal Age, New Zealand 2009–2010.....	202
Figure 91. Proportion of Babies Born to Mothers who Smoked at Two Weeks After Delivery, South Island DHBs vs. New Zealand 2009–2010.....	205
Figure 92. Proportion of Babies Born to Mothers who Smoked at Two Weeks After Delivery by Baby's Ethnicity, South Island DHBs vs. New Zealand 2009–2010	206
Figure 93. Proportion of Year 10 Students with Parents who Smoke or who Live in a Home with Smoking Inside by Ethnicity, New Zealand ASH Surveys 2001–2010	208
Figure 94. Proportion of Year 10 Students with Parents who Smoke or who Live in a Home with Smoking Inside by School Socioeconomic Decile, New Zealand ASH Surveys 2001–2010.....	208
Figure 95. Proportion of Year 10 Students with Parents who Smoke or who Live in Homes with Smoking Inside, South Island DHBs vs. New Zealand, ASH Surveys 2001–2010	210
Figure 96. Daily Smoking Rates in Year 10 Students by Gender and Ethnicity, New Zealand ASH Surveys 1999–2011	214
Figure 97. Daily Smoking Rates in Year 10 Students by Gender and School Socioeconomic Decile, New Zealand ASH Surveys 1999–2011	214
Figure 98. Daily vs. Never Smoking Rates in Year 10 Students, South Island DHBs vs. New Zealand ASH Surveys 1999–2011	215
Figure 99. Proportion of Young People Aged 15–19 Years who were Current Smokers by Gender, Ethnicity and NZ Deprivation Index Decile, 2009 NZ Tobacco Use Survey.....	217
Figure 100. Alcohol-Related Hospital Admissions in Young People Aged 15–24 Years, New Zealand 2000–2011.....	227
Figure 101. Alcohol-Related Hospital Admissions in Children and Young People by Age and Gender, New Zealand 2007–2011	230
Figure 102. Alcohol-Related Hospital Admissions in Young People Aged 15–24 Years by Ethnicity, New Zealand 2000–2011.....	230
Figure 103. Alcohol-Related Hospital Admissions in Young People Aged 15–24 Years, South Island DHBs vs. New Zealand 2000–2011	232
Figure 104. Hospital Admissions (2000–2011) and Mortality (2000–2009) from Conditions with a Social Gradient in New Zealand Children Aged 0–14 Years (Excluding Neonates)	245



Figure 105. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Ethnicity, New Zealand 2000–2011.....	246
Figure 106. Mortality from Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Ethnicity, New Zealand 2000–2009.....	246
Figure 107. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years, South Island DHBs vs. New Zealand 2000–2011	257
Figure 108. Hospital Admissions for Medical Conditions and Injuries with a Social Gradient in Children Aged 0–14 Years by Ethnicity, South Island DHBs vs. New Zealand 2000–2011	258
Figure 109. Total Infant, Neonatal and Post Neonatal Mortality, New Zealand 1990–2009.....	260
Figure 110. Total Infant, Neonatal and Post Neonatal Mortality by Ethnicity, New Zealand 1996–2009	260
Figure 111. Total Infant Mortality, South Island DHBs vs. New Zealand 1990–2009	264
Figure 112. Neonatal and Post Neonatal Mortality, South Island DHBs vs. New Zealand 1990–2009	265
Figure 113. Sudden Unexpected Death in Infancy by Type, New Zealand 1996–2009...	269
Figure 114. Sudden Unexpected Death in Infancy by Type and Age in Weeks, New Zealand 2005–2009	269
Figure 115. Sudden Unexpected Death in Infancy by Ethnicity, New Zealand 1996–2009.....	270
Figure 116. Sudden Unexpected Death in Infancy, South Island DHBs vs. New Zealand 1996–2009	272
Figure 117. Hospital Admissions (2000–2011) and Deaths (2000–2009) due to Injuries Arising from the Assault, Neglect or Maltreatment of New Zealand Children 0–14 Years.....	310
Figure 118. Hospital Admissions (2007–2011) and Deaths (2005–2009) due to Injuries Arising from the Assault, Neglect or Maltreatment of New Zealand Children by Age and Gender	311
Figure 119. Hospital Admissions for Injuries Arising from the Assault, Neglect or Maltreatment of Children 0–14 Years by Ethnicity, New Zealand 2000–2011.....	312
Figure 120. Hospital Admissions for Injuries Arising from the Assault, Neglect or Maltreatment of Children Aged 0–14 Years, South Island DHBs vs. New Zealand 2000–2011	315
Figure 121. Hospital Admissions (2000–2011) and Deaths (2000–2009) due to Injuries Arising from Assault in New Zealand Young People Aged 15–24 Years	321
Figure 122. Hospital Admissions (2007–2011) and Deaths (2005–2009) due to Injuries Arising from Assault in New Zealand Children and Young People by Age and Gender.....	321
Figure 123. Hospital Admissions for Injuries Arising from Assault in Young People Aged 15–24 Years by Ethnicity, New Zealand 2000–2011	322
Figure 124. Hospital Admissions for Injuries Arising from Assault in Young People Aged 15–24 Years, South Island DHBs vs. New Zealand 2000–2011	325
Figure 125. Number of Notifications Received by Child Youth and Family Offices by Outcome, New Zealand 2004–2011 Financial Years.....	330
Figure 126. Proportion of Notifications to Child, Youth and Family Requiring Further Assessment by Ethnicity, New Zealand 2011 Financial Year (n=57,949)	331



Figure 127. Relationship Between the Offender and the Victim in Police Family Violence Investigations where an Offence Occurred, New Zealand 2011	339
Figure 128. Police Family Violence Investigations where Injuries were Reported by Injury Type, New Zealand 2011 (n=86,704)	340
Figure 129. Children and Young People Accessing Mental Health Services with Attention Deficit Hyperactivity Disorder, Conductive/Disruptive Behaviour Disorders, or a Parent-Child Relational Problem by Age, New Zealand 2009–2011	356
Figure 130. Children and Young People Accessing Mental Health Services with Autism/Pervasive Developmental Disorders, Learning Disorders, or Intellectual Disabilities by Age, New Zealand 2009–2011	356
Figure 131. Children and Young People Accessing Mental Health Services with Anxiety, Stress Reaction/Adjustment, or Eating Disorders by Age, New Zealand 2009–2011	388
Figure 132. Children and Young People Accessing Mental Health Services with Schizophrenia, Other Psychotic Disorders or Personality Disorders by Age, New Zealand 2009–2011	399
Figure 133. Children and Young People Accessing Mental Health Services with Depression, Bipolar Disorder or Other Mood Disorders by Age, New Zealand 2009–2011	399
Figure 134. Children and Young People Accessing Mental Health Services with Mental Health Issues Associated with Substance Use by Age, New Zealand 2009–2011	407
Figure 135. Comparison of Age Distribution of Children and Young People Accessing Mental Health Services with Substance-Related Disorders and Schizophrenia and Other Psychotic Disorders, New Zealand 2009–2011	411
Figure 136. Mortality from Suicide in Young People Aged 15–24 Years, New Zealand 2000–2009	419
Figure 137. Hospital Admissions for Intentional Self-Harm (2007–2011) and Mortality from Suicide (2005–2009) in New Zealand Children and Young People by Age and Gender	420
Figure 138. Mortality from Suicide in Young People Aged 15–24 Years by Ethnicity, New Zealand 2000–2009	421
Figure 139. Mortality from Suicide in Young People Aged 15–24 Years, South Island DHBs vs. New Zealand 2000–2009	423
Figure 140. New Zealand Police Area Boundaries in the Auckland Region.....	444
Figure 141. Police Area Boundaries in the North Island	445
Figure 142. Police Area Boundaries in the South Island	446



LIST OF TABLES

Table 1. Overview of the Determinants of Health for Children and Young People in the South Island	27
Table 2. Restrictions Experienced by Children, by the Deprivation Score of their Family, NZ Living Standards Survey 2008.....	61
Table 3. Local Policy Documents and Evidence-Based Reviews Which Consider Policies to Address the Social Determinants of Child and Youth Health	62
Table 4. Number of Children Aged 0–18 Years who were Reliant on a Benefit Recipient by Benefit Type, New Zealand April 2000–2012	76
Table 5. Number of Children Aged 0–18 Years who were Reliant on a Benefit Recipient by Benefit Type, for Service Centres in the Nelson Marlborough, South Canterbury and Canterbury DHB Catchments, April 2007– 2012	78
Table 6. Number of Children Aged 0–18 Years who were Reliant on a Benefit Recipient by Benefit Type, for Service Centres in the West Coast and Southern DHB Catchments, April 2007– 2012	79
Table 7. Number of Young People Aged 16–24 Years Receiving a Benefit by Benefit Type, New Zealand April 2000–2012.....	82
Table 8. Proportion of Young People Aged 16–24 Years Receiving a Benefit by Benefit Type, New Zealand April 2000–2012.....	83
Table 9. Number of Young People Aged 16–24 Years Receiving a Benefit by Benefit Type, for Service Centres in the Nelson Marlborough, South Canterbury and Canterbury DHB Catchments, April 2007–2012.....	87
Table 10. Number of Young People Aged 16–24 Years Receiving a Benefit by Benefit Type, for Service Centres in the West Coast and Southern DHB Catchments, April 2007–2012	88
Table 11. Local Policy Documents and Evidence-Based Reviews Relevant to the Composition, Formation, and Dissolution of New Zealand Families.....	97
Table 12. Local Policy Documents and Evidence-Based Reviews Relevant to the Provision of Healthy Housing.....	103
Table 13. Average Weekly Hours Attended by Children at Licensed Early Childhood Education Services by Service Type, New Zealand July 2000–2011.....	111
Table 14. Local Policy Documents and Evidence-Based Reviews Relevant to Early Childhood Education	115
Table 15. Enrolments in Māori Medium Early Childhood Education by Type, New Zealand 2002–2011	119
Table 16. Number of Students (Māori and non-Māori) Involved in Māori-Medium Education by Regional Council and Highest Level of Learning, New Zealand July 2011	121
Table 17. Number of Kura Kaupapa Māori and Kura Teina Schools and Students, South Island DHBs vs. New Zealand 2000–2011	122
Table 18. Local Policy Documents and Evidence-Based Reviews Relevant to Improving Educational Participation and Attainment for Māori Students.....	123
Table 19. Local Policy Documents and Evidence-Based Reviews which Consider Strategies to Improve Student’s Educational Attainment	131
Table 20. Local Policy Documents and Evidence-Based Reviews Relevant to Stand-Downs, Suspensions, Exclusions and Expulsions	145

Table 21. Policy Documents Relevant to the Improvement of School Attendance.....	150
Table 22. The National Immunisation Schedule for Babies, Children and Adolescents...	158
Table 23. Local Policy Documents and Evidence-Based Reviews Relevant to Immunisation and Increasing Immunisation Coverage.....	166
Table 24. Proportion of Eligible Children Receiving B4 School Checks, South Island DHBs vs. New Zealand in the Years Ending June 2011 and June 2012	180
Table 25. Local Policy Documents and Evidence-Based Reviews Relevant to Well Child/Tamariki Ora Services	181
Table 26. Status of Maternal Registration with a Lead Maternity Carer at the Time of Delivery for New Zealand Babies Born 2009–2010.....	188
Table 27. Proportion of Babies Born to Mothers Not Registered with a Lead Maternity Carer at Delivery by Maternal Age, Ethnicity and NZDep Index Decile, New Zealand 2009–2010.....	189
Table 28. Status of Maternal Registration with a Lead Maternity Carer at the Time of Delivery for Babies Born 2009–2010, South Island DHBs vs. New Zealand.....	189
Table 29. Number of Cigarettes Smoked Daily, at First Registration with a Lead Maternity Carer, by the Mothers of Babies Born in New Zealand 2009–2010	190
Table 30. Proportion of Babies Born to Mothers who Smoked at First Registration with a Lead Maternity Carer by Maternal Age, Baby’s Ethnicity and NZ Deprivation Index Quintile, New Zealand 2009–2010	191
Table 31. Proportion of Babies Born to Mothers who Smoked at First Registration with a Lead Maternity Carer, South Island DHBs vs. New Zealand 2009–2010	193
Table 32. Number of Cigarettes Smoked Daily at First Registration with a Lead Maternity Carer by the Mothers of South Island DHBs Babies Born 2009–2010	194
Table 33. Local Policy Documents and Evidence-Based Reviews Relevant to the Cessation of Smoking in Pregnancy	197
Table 34. Number of Cigarettes Smoked at Two Weeks After Delivery, by the Mothers of New Zealand Babies Born 2009–2010.....	200
Table 35. Proportion of Babies Born to Mothers who Smoked at Two Weeks After Delivery by Maternal Age, Baby’s Ethnicity and NZ Deprivation Index Quintile, New Zealand 2009–2010.....	201
Table 36. Number of Cigarettes Smoked at Two Weeks After Delivery, by the Mothers of South Island Babies Born 2009–2010.....	204
Table 37. Proportion of Babies Born to Mothers who Smoked at Two Weeks After Delivery, South Island vs. New Zealand 2009–2010	205
Table 38. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention of Exposure to Second-Hand Cigarette Smoke in Children.....	211
Table 39. Smoking Status of Young People Aged 15–24 Years by Gender and Age Group, 2009 NZ Tobacco Use Survey	217
Table 40. Source of Tobacco in the Last Month for Current Smokers Aged 15–19 Years by Gender, 2009 New Zealand Tobacco Use Survey	218
Table 41. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention of Smoking in Young People.....	218
Table 42. Local Policy Documents and Evidence-Based Reviews Relevant to Smoking Cessation in Young People	222
Table 43. Alcohol-Related Hospital Admissions in Young People Aged 15–24 Years by Primary Diagnosis, New Zealand 2007–2011.....	228



Table 44. Listed External Causes of Injury for Alcohol-Related Hospital Admissions in Young People Aged 15–24 Years, New Zealand 2007–2011	229
Table 45. Alcohol-Related Hospital Admissions in Young People Aged 15–24 Years by Ethnicity and Gender, New Zealand 2007–2011	229
Table 46. Alcohol-Related Hospital Admissions in Young People Aged 15–24 Years, South Island DHBs vs. New Zealand 2007–2011	231
Table 47. Local Policy Documents and Evidence-Based Reviews Relevant to the Reduction of Alcohol-Related Harm in Young People.....	233
Table 48. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Primary Diagnosis, New Zealand 2007–2011	243
Table 49. Mortality from Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Main Underlying Cause of Death, New Zealand 2005–2009	244
Table 50. Distribution of Hospital Admissions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Ethnicity and Gender, New Zealand 2007–2011	247
Table 51. Distribution of Mortality with a Social Gradient in Children Aged 0–14 Years by Ethnicity and Gender, New Zealand 2005–2009.....	247
Table 52. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates), South Island DHBs vs. New Zealand 2007–2011	248
Table 53. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Primary Diagnosis, Nelson Marlborough 2007–2011	249
Table 54. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Primary Diagnosis, South Canterbury 2007–2011	250
Table 55. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Primary Diagnosis, Canterbury 2007–2011	251
Table 56. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Primary Diagnosis, the West Coast 2007–2011 ...	252
Table 57. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Primary Diagnosis, Otago 2007–2011.....	253
Table 58. Hospital Admissions for Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Primary Diagnosis, Southland 2007–2011	254
Table 59. Mortality from Conditions with a Social Gradient in Children Aged 0–14 Years (Excluding Neonates) by Main Underlying Cause of Death, South Island DHBs 2005–2009	255
Table 60. Neonatal and Post Neonatal Mortality Cause of Death, New Zealand 2005–2009	261
Table 61. Distribution of Neonatal and Post Neonatal Mortality by NZ Deprivation Index Decile, Ethnicity and Gender, New Zealand 2005–2009	262
Table 62. Neonatal and Post Neonatal Mortality, South Island DHBs vs. New Zealand 2005–2009	263
Table 63. Neonatal and Post Neonatal Mortality by Cause of Death, Nelson Marlborough, South Canterbury and the West Coast DHBs 2005–2009.....	266
Table 64. Neonatal and Post Neonatal Mortality by Cause of Death, Canterbury and Otago 2005–2009.....	267



Table 65. Neonatal and Post Neonatal Mortality by Cause of Death, Southland 2005–2009.....	268
Table 66. Distribution of Sudden Unexpected Death in Infancy by NZ Deprivation Index Decile, Ethnicity and Gender, New Zealand 2005–2009.....	270
Table 67. Sudden Unexpected Death in Infancy, South Island DHBs vs. New Zealand 2005–2009.....	271
Table 68. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention of Sudden Unexpected Death in Infancy (SUDI)	273
Table 69. Hospital Admissions for Injuries Arising from the Assault, Neglect or Maltreatment of Children 0–14 Years by Ethnicity and Gender, New Zealand 2007–2011	312
Table 70. Nature of Injuries Arising from Assault, Neglect or Maltreatment in Hospitalised Children 0–12 Years by Age Group, New Zealand 2007–2011.....	313
Table 71. Hospital Admissions for Injuries Arising from the Assault, Neglect or Maltreatment of Children Aged 0–14 Years, South Island DHBs vs. New Zealand 2007–2011.....	314
Table 72. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention of the Assault, Neglect or Maltreatment of Children	316
Table 73. Hospital Admissions for Injuries Arising from Assault in Young People Aged 15–24 Years by Ethnicity and Gender, New Zealand 2007–2011.....	322
Table 74. Nature of Injury Arising from Assault in Hospitalised Young People Aged 15–24 Years, New Zealand 2007–2011	323
Table 75. Hospital Admissions for Injuries Arising from Assault in Young People Aged 15–24 Years, South Island DHBs vs. New Zealand 2007–2011	324
Table 76. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention of Assault in Young People	326
Table 77. Number of Notifications Received by Child Youth and Family Offices, New Zealand 2004–2011 Financial Years.....	330
Table 78. Number of Notifications to Child, Youth and Family Requiring Further Assessment by Ethnicity, New Zealand 2004–2011 Financial Years	331
Table 79. Number of Notifications to Child, Youth and Family and Proportion Requiring Further Assessment by Referrer, New Zealand 2004–2011 Financial Years.....	332
Table 80. Outcome of Assessment for Children and Young People Notified to Child Youth and Family, New Zealand 2004–2012 Financial Years	333
Table 81. Number of Notifications Received by Child Youth and Family Offices in the South Island 2004–2011	334
Table 82. Outcome of Assessment for Children Notified to Child Youth and Family Offices in Nelson Marlborough, South Canterbury and the West Coast DHBs, 2004–2012 Financial Years	335
Table 83. Outcome of Assessment for Children Notified to Child Youth and Family Offices in Canterbury, Otago and Southland, 2004–2012 Financial Years.....	336
Table 84. Number and Proportion of Police Family Violence Investigations where Children were Present or Usually Residing with the Victim, New Zealand 2009–2011	338
Table 85. Relationship Between the Offender and the Victim in Police Family Violence Investigations where an Offence Occurred, New Zealand 2009–2011	339



Table 86. Police Family Violence Investigations Where Injuries were Reported by Injury Type, New Zealand 2009–2011	339
Table 87. Police Family Violence Investigations where an Offence Occurred by Offence Group, New Zealand 2009–2011	340
Table 88. Family Violence Investigations for Police Areas in the South Island 2009–2011	341
Table 89. Local Policy Documents and Evidence-Based Reviews Relevant to Family Violence	341
Table 90. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention or Management of Mental Health Issues in Children and Young People.....	350
Table 91. Children Aged 0–14 Years Accessing Mental Health Services with Attention Deficit Hyperactivity Disorder or Conduct/Disruptive Behaviour Disorders by Ethnicity and Gender, New Zealand 2009–2011	358
Table 92. Children Aged 0–14 Years Accessing Mental Health Services with Autism/Pervasive Developmental Disorders or Intellectual Disabilities by Ethnicity and Gender, New Zealand 2009–2011	359
Table 93. Children Aged 0–14 Years Accessing Mental Health Services with Learning Disorders or Parent-Child Relational Problems by Ethnicity and Gender, New Zealand 2009–2011	360
Table 94. Children Aged 0–14 Years Accessing Mental Health Services with Selected Diagnoses, Nelson Marlborough and South Canterbury vs. New Zealand 2009–2011	362
Table 95. Children Aged 0–14 Years Accessing Mental Health Services with Selected Diagnoses, Canterbury and the West Coast vs. New Zealand 2009–2011	363
Table 96. Children Aged 0–14 Years Accessing Mental Health Services with Selected Diagnoses, Otago and Southland vs. New Zealand 2009–2011	364
Table 97. Children and Young People Aged 0–24 Years Accessing Mental Health Services with Anxiety Disorders or Stress Reaction/Adjustment Disorders, New Zealand 2009–2011	389
Table 98. Children and Young People Aged 0–24 Years Accessing Mental Health Services with Eating Disorders, New Zealand 2009–2011	390
Table 99. Children and Young People Aged 0–24 Years Accessing Mental Health Services with Anxiety, Stress Reaction/Adjustment or Eating Disorders, Nelson Marlborough, South Canterbury and Canterbury vs. New Zealand 2009–2011	392
Table 100. Children and Young People Aged 0–24 Years Accessing Mental Health Services with Anxiety, Stress Reaction/Adjustment or Eating Disorders, West Coast, Otago and Southland vs. New Zealand 2009–2011	393
Table 101. Hospital Admissions for Mental Health Conditions in Young People Aged 15–24 Years by Primary Diagnosis, New Zealand 2007–2011	395
Table 102. Hospital Admissions for Mental Health Conditions in Young People Aged 15–24 Years by Primary Diagnosis, Nelson Marlborough, South Canterbury and the West Coast DHBs 2007–2011	396
Table 103. Hospital Admissions for Mental Health Conditions in Young People Aged 15–24 Years by Primary Diagnosis, Canterbury and Otago and Southland 2007–2011	397
Table 104. Young People Aged 15–24 Years Accessing Mental Health Services with Schizophrenia or Other Psychotic Disorders, New Zealand 2009–2011	401



Table 105. Young People Aged 15–24 Years Accessing Mental Health Services with Depression or Bipolar Disorder, New Zealand 2009–2011.....	402
Table 106. Young People Aged 15–24 Years Accessing Mental Health Services with Other Mood Disorders or Personality Disorders, New Zealand 2009–2011	403
Table 107. Young People Aged 15–24 Years Accessing Mental Health Services with Selected Diagnoses, Nelson Marlborough and South Canterbury vs. New Zealand 2009–2011.....	404
Table 108. Young People Aged 15–24 Years Accessing Mental Health Services with Selected Diagnoses, Canterbury and the West Coast vs. New Zealand 2009–2011.....	405
Table 109. Young People Aged 15–24 Years Accessing Mental Health Services with Selected Diagnoses, Otago and Southland vs. New Zealand 2009–2011.....	406
Table 110. Proportion of Young People Aged 15–24 Years with a Mental Health Diagnosis who had a Substance-Related Disorder Listed as a Co-Diagnosis, New Zealand 2009–2011.....	408
Table 111. Young People Aged 15–24 Years Accessing Mental Health Services with Alcohol or Cannabis-Related Disorders, New Zealand 2009–2011	409
Table 112. Young People Aged 15–24 Years Accessing Mental Health Services with Other Substance-Related Disorders, New Zealand 2009–2011	410
Table 113. Young People Aged 15–24 Years Accessing Mental Health Services with Substance-Related Disorders, Nelson Marlborough, South Canterbury and Canterbury vs. New Zealand 2009–2011	413
Table 114. Young People Aged 15–24 Years Accessing Mental Health Services with Substance-Related Disorders, the West Coast, Otago and Southland vs. New Zealand 2009–2011	414
Table 115. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention and Management of Drug Use in Young People	415
Table 116. Hospital Admissions for Intentional Self-Harm (2007–2011) and Mortality from Suicide (2005–2009) in New Zealand Young People 15–24 Years by Ethnicity and Gender.....	420
Table 117. Hospital Admissions for Intentional Self-Harm in Young People Aged 15–24 Years, South Island DHBs vs. New Zealand 2007–2011	421
Table 118. Mortality from Suicide in Young People Aged 15–24 Years, South Island DHBs vs. New Zealand 2005–2009	422
Table 119. Local Policy Documents and Evidence-Based Reviews Relevant to the Prevention of Suicide and Intentional Self-Harm.....	424
Table 120. Variables used in the NZDep2006 Index of Deprivation [518]	443



INTRODUCTION AND OVERVIEW



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Introduction

In August 2012, the Office of the Children's Commissioner's Expert Advisory Group (EAG) on Solutions to Child Poverty stated that *"Every child in New Zealand should have the opportunity to grow up without experiencing severe or persistent material deprivation [1]"*.

The EAG noted however that *"...it is not inevitable that children raised in poor families will experience poor outcomes. Some parents, families and neighbourhoods are very resilient. Providing support and services that invest in children, and build skills and the capacity of their parents and the community where they live, can lift children out of poverty [1]"*.

In developing policies to address these issues, the EAG noted that *"... recognition of the complex, multi-faceted nature of child poverty and the need for an integrated and comprehensive package of measures"* is required *"if solutions are to be effective"*. Further *"To be successful a strategy to reduce child poverty and to mitigate its effects will require strong leadership, effective policies and sustained effort [1]"*.

Report Aims

This report, which focuses on the underlying determinants of health for children and young people in the South Island, provides an overview of many of the factors that would need to be addressed, should an integrated policy package, such as that outlined by the Office of the Children's Commissioner's EAG's, be developed.

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

Year 1 (2011) The Health Status of Children and Young People

Year 2 (2012) The Determinants of Health for Children and Young People

Year 3 (2013) Children and Young People with Chronic Conditions and Disabilities

In addition to reviewing some of the determinants shaping children and young people's health and wellbeing, this report aims to assist SIAPO and District Health Board staff to consider the roles other agencies play in influencing child and youth health outcomes. Further, it aims to 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

When developing strategies to address the underlying determinants of health, understanding the role intergenerational factors play in shaping long term outcomes is crucial. The first of this year's in-depth topics thus focuses on services and interventions to improve outcomes for women experiencing multiple adversities during pregnancy. The early years are also a crucial period of personal, social and emotional development, with the second of this year's in-depth topics considering mental health issues in children. Specifically, the issues addressed by this year's in-depth topics include:

1. **Services and Interventions for Women Experiencing Multiple Adversities in Pregnancy:** This in-depth topic examines maternity care for women experiencing social adversity in pregnancy. It begins with an overview of adversities New Zealand women are exposed to during pregnancy, and the impact such adversities have on their pregnancy outcomes. A brief review of maternity services in New Zealand is then provided. The topic then focuses on five main areas of adversity: socioeconomic disadvantage, young maternal age, exposure to family violence, alcohol and other drugs, and maternal mental illness. There is an extensive international literature on addressing barriers to maternity care in women experiencing such adversities, and services and interventions aimed at improving maternal and child outcomes. Some models of care have been effective in reducing barriers to service access and improving outcomes. In New Zealand, there is a more limited evidence base assessing



barriers to care, or effective interventions, and it is recommended that new programmes and services should be thoroughly evaluated to ensure they are effective in improving outcomes and meeting the needs of pregnant women.

2. **Mental Health Issues in Children:** This in-depth topic focuses on mental health issues in children aged 0–14 years. It begins by stressing the importance of mental health issues to the overall burden of disease in New Zealand, as well as the rest of the world, and by noting that most adult mental illness has its origins in childhood. Some historical background to the development of the concepts of child mental disorder is provided, followed by a brief review of child mental health policy in New Zealand over recent decades. Many Government agencies have an interest in child mental health issues and service provision is divided among the health, education, social welfare and justice sectors. There is also increasing recognition of the need for mental health services for moderate as well as severe mental health issues, the value of prevention and early intervention, and the need for intersectoral collaboration. Among the most commonly seen mental health conditions in Child and Adolescent Mental Health Services are attention deficit hyperactivity disorder, oppositional defiant disorder and conduct disorder. This review provides an overview of the features, epidemiology and treatment of these conditions. There is an increasing acknowledgement of the importance of the mental health of very young children, so the review concludes with a brief overview of this area.

Report Sections and Indicators

As previously, this report is based on an *Indicator Framework* developed during the first three years of DHB reporting, with the majority of indicators in the *Socioeconomic and Cultural Determinants* and *Risk and Protective Factors* streams being updated in this year's edition. In addition, selected indicators from the *Individual and Whānau Health and Wellbeing* stream have been included, if they are themselves socioeconomically sensitive, or have the potential to underpin future health and wellbeing.

Drawing on these three streams, each of the indicators in this year's report has been assigned to one of four sections as follows:

1. **The Wider Macroeconomic and Policy Context:** Indicators in this section consider the wider economic and policy environment and include gross domestic product (GDP), income inequality, child poverty and living standards, unemployment, 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 considers education as a determinant of health, with indicators in this sub-section including early childhood education, enrolments in kura kaupapa Māori, educational 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 also divided into two 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 contacts (via Plunket and B4 School Checks). The second 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 harm.
4. **Health Outcomes as Determinants:** This section is divided into three 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. Part

three then reviews mental health issues, including children and young people's access to mental health services, and suicide and self-harm.

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 the prevention or management of the issue under review. **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 the Signalling of Statistical Significance

Denominator Issues Arising from the Cancellation of the 2011 Census: Because of the cancellation of the 2011 Census and concerns about extrapolating the NZCYES' traditional denominators (which are based on Census population estimates) beyond five years, in this report Statistics NZ population projections have been used to calculate rates from 2007 onwards. Because these projections are only available for a limited number of ethnic groups (Māori, Pacific and European/Other) and are unavailable by NZ Deprivation Index Decile, the analyses in some sections are more limited than in previous years. The rates presented may also vary slightly, when compared to previous reports, due to differences in the denominator sets used. Finally, it is possible that the rates presented in this report may vary slightly in future editions, once updated denominator data from the 2013 Census becomes available.

Appendix 2 outlines the rationale for the use of statistical significance testing in this report and **Appendix 3** to **Appendix 5** contain information on the data sources used to develop each indicator. Readers are urged to be aware of the contents of these Appendices when interpreting any information in this report.

As outlined in **Appendix 2**, in order to assist the reader to determine whether tests of statistical significance have been used in a particular section, the significance of the associations presented has been signalled in the text with the words *significant*, or not *significant* in italics. Where the words *significant* or not *significant* do not appear in the text, then the associations described do not imply statistical significance or non-significance.



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

Table 1 provides an overview of the indicators in this year's report. While the issues associated with each vary, a number of common themes emerge. Firstly, the challenging economic conditions seen nationally are only partially reflected in the South Island's data, as while unemployment rates rose during the late 2000s, as they did elsewhere, unemployment in the South Island has remained lower than the New Zealand rate since 2008. In addition, the increases in the number of children reliant on benefit recipients seen during April 2008–2011, have improved slightly in this year's data.

Secondly, all of the South Island DHBs have consistently lower rates of hospitalisations for medical conditions with a social gradient than the New Zealand rate, with rates for South Island Māori children also being much lower than the NZ Māori rate. For young people however, there are a number of areas of concern, with Nelson Marlborough, South Canterbury, the West Coast and Southland having higher assault and alcohol-related hospital admission rates than the New Zealand rate, and with South Canterbury and Southland also having significantly higher youth suicide rates.

Ongoing ethnic differences also remain in educational outcomes, with a lower proportion of South Island Māori than European students leaving school with a University Entrance Standard. Similarly, exposure to cigarette smoke in-utero and during childhood remains much higher for South Island Māori than European children.

Finally, patterns of access to mental health services are complex, with ethnic differences in children attending mental health services for conditions such as attention deficit hyperactivity disorder (ADHD) and conduct disorders nationally, being less marked than for young people attending services for conditions such as schizophrenia. For children particularly however, such figures should not be taken as indicating the absence of disparities in need, but rather as reflecting patterns in access to mental health services in this age group.

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 SIAPO and DHB staff to consider some of the other agencies influencing child and youth health locally. Such an intersectoral focus is necessary, as while addressing the large burden of avoidable morbidity and mortality experienced by South Island children and young people remains a formidable task. Collaborations with other agencies, such as Child Youth and Family to identify children at risk of non-accidental injury, or Housing New Zealand to improve the quality of housing stock, may provide more tangible starting points. Further, while addressing issues such as child poverty may be beyond of the scope of the health sector alone, some of the integrated policy responses outlined in the Evidence Base Review tables on **Page 62**, if implemented, would likely result in significant health gains for children and young people. Thus as previously, one of the key roles of the health sector remains ongoing advocacy, in order to ensure that each child and/or young person living locally is able to grow up to reach their full potential.



Table 1. Overview of the Determinants of Health for Children and Young People in the South Island

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
The Wider Macroeconomic and Policy Context			
Macroeconomic Indicators	GDP	<p>In New Zealand, GDP was either flat or decreased for six quarters from March 2008 to June 2009, before increasing again, for four quarters, from Sept. 2009 to Sept. 2010. GDP then declined by 0.1% in the Sept. quarter of 2010 and then remained static for a quarter, before increasing again, by 0.6% in the March quarter of 2011. Six consecutive quarters of growth were then seen, with GDP increasing by 0.6% in the June quarter of 2012.</p> <p>Economic activity for the year ending June 2012 increased by 2.0%, when compared to the year ending June 2011.</p>	
	Income Inequality	<p>During 1982–2011 income inequality, as measured by the P80/P20 ratio and Gini coefficient, was higher after adjusting for housing costs, as housing costs make up a greater proportion of household income for lower income, than for higher income households.</p> <p>The most rapid rises in income inequality occurred in the late 1980s and early 1990s. During the early to mid 2000s however, income inequality declined, as a result of the Working for Families package and improving employment.</p> <p>During 2009–2011, there was considerable volatility in income inequality, as a result of the differing size and timing of the impact of the global financial crisis and associated economic downturn on different parts of the income distribution.</p>	
	Child Poverty	<p>In New Zealand during 1988–1992, child poverty rates increased markedly, as a result of rising unemployment and the 1991 Benefit cuts. During 1994–1998, rates declined as economic conditions improved and unemployment fell. During 1998–2004, child poverty trends varied, depending on the measure used, but during 2004–2007 they again declined, following the roll out of the Working for Families package. Between 2009 and 2011, child poverty rates were more static.</p> <p>Child poverty rates were higher for younger children (0–11 vs. 12–17 years), larger households (3 or more children vs. 1 or 2 children), sole parent households and households where the adults were either workless, or where none worked full time.</p>	

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Macroeconomic Indicators	Living Standards	<p>In the 2008 Living Standards Survey, 51% of Pacific, 39% of Māori, 23% of “Other” and 15% of European children 0–17 years scored four or more on a composite deprivation index, which measured a range of “enforced lacks”, as did 59% of children whose family’s income source was a benefit.</p> <p>Children who scored four or more on the composite deprivation index had much higher exposures to household economising behaviours such as having to wear worn out shoes or clothing, sharing a bed or bedroom, cutting back on fresh fruit and vegetables and postponing doctor’s visits because of cost.</p>	
	Unemployment	<p>In the quarter ending June 2012, the seasonally adjusted unemployment rate rose to 6.8%, while seasonally adjusted unemployment numbers increased by 2,000.</p> <p>During June 1987–2012, unemployment rates were higher for younger people (15–19 years > 20–24 years > 25–29 years > 35–39 years and 45–49 years), although no gender differences were evident for young people 15–24 years. Unemployment rates were also higher for those with no qualifications > school qualifications, or post school but no school qualifications > both post school and school qualifications.</p> <p>During 2008(Q1)–2012(Q2) unemployment rates were higher for Māori and Pacific, followed by Asian/Indian and then European people. During 2012(Q2), rates were 12.8% for Māori, 14.9% for Pacific, 8.2% for Asian/Indian and 5.2% for European people.</p> <p>During June 1987–2012, the highest proportion of people unemployed for 53+ weeks occurred in the early to mid 1990s, when unemployment rates were at their peak, while the highest proportion unemployed for only 1–4 weeks occurred in the mid to late 2000s, when unemployment rates were at their lowest. The proportion of people unemployed for more than 27 weeks however, has been increasing since June 2008.</p>	<p>In the South Island during 2006(Q1)–2012(Q2) unemployment trends were similar to those occurring nationally, with rates during 2010(Q1) to 2012(Q2) fluctuating at a higher baseline than they did in 2006(Q1) to 2007(Q4). For the majority of this period however, unemployment rates in the South Island were lower than the New Zealand rate. During 2012(Q2) unemployment rates were 6.5% in Canterbury, 4.7% in the Tasman/Nelson/ Marlborough/West Coast, 4.6% in Otago and 4.3% in Southland.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Macroeconomic Indicators	Children Reliant on Benefit Recipients	<p>In New Zealand the proportion of children aged 0–18 years reliant on benefit recipients fell, from 24.9% in April 2000 to 17.5% in April 2008, before increasing again to 20.4% in 2011. By April 2012, 20.1% of all New Zealand children were reliant on a benefit recipient.</p> <p>A large proportion of the initial decline was due to a fall in the number reliant on unemployment benefit recipients. While the proportion reliant on DPB recipients also fell, the rate of decline was much slower, meaning that in relative terms, the proportion of benefit-dependent children reliant on DPB recipients increased, from 69.0% of benefit-dependent children in 2000, to 78.1% in 2012.</p> <p>In April 2012, the proportion reliant on a benefit recipient was highest for those 0–4 years of age. Rates then tapered off gradually during middle to late childhood and early adolescence, then very steeply after 17 years.</p>	<p>At the end of April 2012, there were 33,604 children aged 0–18 years who were reliant on a benefit recipient and who received their benefits from service centres in the South Island (Nelson Marlborough (n=5,557), South Canterbury (n=1,874), Canterbury (n=16,018), West Coast (n=1,191), Otago (n=5,066) and Southland (n=3,898)). While the majority were reliant on DPB recipients, the number reliant on unemployment benefit recipients increased between April 2008 and April 2012.</p>
	Young People Reliant on Benefits	<p>During 2000–2012, there were large fluctuations in the number of young people aged 16–24 years reliant on a benefit, with rates falling from 164.4 per 1,000 in April 2000, to 73.8 per 1,000 in April 2008, before increasing again to 113.2 per 1,000 in April 2010. By April 2012, rates had again fallen to 102.4 per 1,000.</p> <p>When broken down by benefit type, the largest initial declines and subsequent increases in rates were seen for those receiving unemployment benefits. In contrast, the proportion reliant on the domestic purposes benefit (DPB) changed much more slowly, while the proportion reliant on invalid's and sickness benefits increased for most of 2000–2012.</p> <p>During April 2000–2012, DPB and unemployment benefit uptake was higher for Māori > Pacific > European/Other young people, while sickness and invalid's benefit uptake was higher for Māori than for European/Other young people. While invalid's benefit uptake for Pacific young people was lower than for European/Other young people throughout this period, sickness benefit uptake was only lower from April 2004 onwards.</p>	<p>In the South Island, the number of young people aged 16–24 years receiving a benefit increased from 7,913 in April 2007 to 13,012 in April 2011, before falling to 10,666 in April 2012. While the DPB was initially the most common benefit received, large increases were evident in unemployment benefit uptake between April 2008 and April 2011.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Socioeconomic and Cultural Determinants			
Household Composition	Children in Sole Parent Households	<p>In New Zealand during 2006, 25.2% of children aged 0–14 years lived in sole parent households.</p> <p>Overall 42.6% of Māori and 30.8% of Pacific children lived in sole parent households, as compared to 18.1% of European and 15.9% of Asian children</p> <p>The proportion in sole parent households rose from 7.4% for those in the least deprived (NZDep decile 1) areas, to 47.1% for those in the most deprived (NZDep decile 10) areas.</p> <p>While the proportion in sole parent households increased with increasing NZDep deprivation for each of NZ's largest ethnic groups, at each level of deprivation, the proportion was higher for Māori, than for Pacific, than for Asian children. A lower proportion of European children lived in sole parent households than Pacific or Asian children in the least deprived (NZDep 1–3) areas, although a higher proportion lived in sole parent households in the most deprived (NZDep 9–10) areas.</p>	<p>In Nelson Marlborough during 2006, 22.0% of children aged 0–14 years lived in sole parent households, as compared to 22.2% in the West Coast, 21.9% in Canterbury, 19.0% in South Canterbury, 20.4% in Otago and 20.7% in Southland.</p> <p>In Canterbury during 2006, a higher proportion of Māori > Pacific > European and Asian children lived in sole parent households, while in the other South Island DHBs, a higher proportion of Māori than European children lived in a sole parent household.</p> <p>In all of the South Island DHBs, the proportion of children living in sole parent households increased with increasing NZDep deprivation, with the highest rates being seen in those living in the most deprived (NZDep decile 10) areas. Of those living in the most deprived areas, 50.0% in Nelson Marlborough, 51.9% in South Canterbury, 49.9% in Canterbury, 43.6% in the West Coast, 53.5% in Otago and 57.5% in Southland lived in a sole parent household.</p>
	Household Crowding	<p>In New Zealand during 2006, 16.5% of children and young people aged 0–24 years lived in a crowded household.</p> <p>Overall, 50.1% of Pacific and 27.8% of Māori children and young people lived in crowded households, as compared to 22.8% of Asian and 5.8% of European children and young people.</p> <p>The proportion of children and young people living in crowded households increased from 2.8% for those in the least deprived (NZDep decile 1) areas, to 42.4% for those in the most deprived (NZDep decile 10) areas</p> <p>While the proportion of children and young people living in crowded households increased with increasing NZDep deprivation for each of New Zealand's largest ethnic groups, at each level of deprivation, the proportion was higher for Pacific > Asian and Māori > European children and young people.</p>	<p>In Nelson Marlborough during 2006, 8.9% of children and young people lived in crowded households, as compared to 7.5% in the West Coast, 9.8% in Canterbury, 5.6% in South Canterbury, 7.0% in Otago and 7.4% in Southland.</p> <p>In Canterbury during 2006, a higher proportion of Pacific > Māori and Asian > European children and young people lived in crowded households, while in the other South Island DHBs, a higher proportion of Māori than European children and young people lived in crowded households. However rates for Māori children and young people were lower than the NZ Māori rate in all South Island DHBs.</p> <p>The proportion of children and young people living in crowded households increased with increasing NZDep deprivation in all South Island DHBs, with the highest rates being seen in those the most deprived (NZDep decile 10) areas. While similar social gradients were seen nationally, at nearly every level of NZDep deprivation, household crowding in the South Island DHBs was lower than the New Zealand rate.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Education: Knowledge and Skills	Early Childhood Education	<p>During 2000–2011, the number of enrolments in early childhood education (ECE) increased by 26.1%. Changes varied by service type, with enrolments in Education and Care increasing by 59.9% and enrolments in Home Based Networks by 101.0%. In contrast, enrolments in Te Kōhanga Reo decreased by 13.5%, enrolments in Kindergarten by 19.4% and enrolments in Playcentre by 4.4%</p> <p>The average number of hours spent in ECE increased for all service types during 2000–2011, with the exception of Playcentres.</p> <p>The proportion of new entrants reporting participation in ECE prior to school entry also increased, from 90.3% in 2001 to 94.7% in 2011. While prior participation in ECE remained higher for European > Asian > Māori > Pacific children, prior participation increased for all ethnic groups during 2001–2011.</p> <p>During 2011, 18.0% of children attending schools in the most deprived (decile 1) areas had not attended ECE prior to school entry, as compared to only 1.0% of children attending schools in the least deprived (decile 10) areas.</p>	<p>In all of the South Island DHBs during 2000–2011, prior participation in ECE amongst school entrants increased, with rates in Nelson Marlborough, Canterbury, South Canterbury and the Southern DHB being higher than the New Zealand rate throughout this period. Rates in the West Coast however, were similar to the New Zealand rate during the late 2000s.</p> <p>In Nelson Marlborough, the West Coast, South Canterbury and the Southern DHB during 2000–2011, prior participation in ECE amongst school entrants was higher for European than for Māori children. Prior participation in Nelson Marlborough and Southern DHB Māori children however, was consistently higher than the NZ Māori rate. Ethnic differences in Canterbury were less consistent, although during 2009–2011 prior participation was generally higher for European > Asian and Māori > Pacific children.</p>
	Enrolments in Kura Kaupapa Māori	<p>Kura kaupapa Māori are schools where the teaching is in the Māori language and the school’s aims, purposes and objectives reflect the Te Aho Matua philosophy. Kura Teina were initiatives by communities wishing to develop a kura kaupapa Māori, which had prepared a business case and been formally accepted by the Ministry of Education into the establishment process. They ceased to exist after 2010.</p> <p>In New Zealand since 1992, there has been a 4.5-fold increase in the number of kura kaupapa Māori and Kura Teina, with numbers increasing from 13 in 1992, to 72 in 2011. The most dramatic increases occurred during the 1990s however, with the rate of growth flattening off since then.</p>	<p>In the South Island during 2011, there were four kura kaupapa Māori, which between them enrolled a total of 244 students.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Education: Knowledge and Skills	Educational Attainment at School Leaving	<p>During 2011, 16.2% of students left school with no formal qualifications, while 83.8% left with NCEA Level 1 or above, 71.8% left with NCEA Level 2 or above and 45.4% attained a University Entrance (UE) standard. While the proportion leaving with no formal qualifications declined during 2009–2011, the proportion attaining a UE standard increased.</p> <p>During 2009–2011, a higher proportion of Māori > Pacific > European > Asian students left school with no formal qualifications, while a higher proportion of Asian > European > Pacific > Māori students attained NCEA Level 1 or above, NCEA Level 2 or above, or a UE standard. During this period, the proportion of students with no formal qualifications declined, while the proportion attaining a UE standard increased for all ethnic groups.</p> <p>During 2011, while the proportion of students achieving a UE standard increased with increasing school socioeconomic decile, at each level of socioeconomic deprivation a higher proportion of Asian > European > Pacific and Māori students attained a UE standard.</p>	<p>During 2011, the proportion of students leaving school with no formal qualifications declined in all South Island DHBs, although trends in the proportion leaving with a UE standard were much less consistent. The West Coast had the highest proportion of students leaving with no formal qualifications, and the lowest proportion leaving with a UE standard of all South Island DHBs, although these differences narrowed during the period.</p> <p>In Canterbury during 2009–2011, a higher proportion of Māori > Pacific > European > Asian students left school with no formal qualifications than, while a higher proportion of Asian > European > Māori and Pacific students left with a UE standard. In the other South Island DHBs a higher proportion of Māori than European students left school with no formal qualifications, while a higher proportion of European than Māori students left school with a UE standard.</p>
	Senior Secondary School Retention	<p>During 2009–2011, a higher proportion of Asian > European and Pacific > Māori students stayed on at school until at least 17 years of age. During 2011, 92.7% of Asian students stayed on at school until at least 17 years of age, as compared to 82.8% of European, 78.9% of Pacific, and 64.7% of Māori students.</p> <p>These ethnic differences need to be viewed in the context of the other educational opportunities available to students. During 2001–2010, a large number of students participated in tertiary education, with participation for Māori students being high in Certificate Level 1–3 courses. While tertiary participation also includes those 25+ years, such figures suggest that for many, participation in education does not cease at school leaving, although the income premiums achieved for completing various types of study need to be taken into consideration when assessing the longer term impacts education has on economic security.</p>	<p>In the West Coast during 2009–2011, the proportion of students staying on at school until at least 17 years of age was consistently lower than the New Zealand rate, while in the other South Island DHBs, retention rates were very similar to the New Zealand rate.</p> <p>In Canterbury during 2009–2011, a higher proportion of Asian > European and Pacific > Māori students stayed on at school until at least 17 years of age, while in Nelson Marlborough and the Southern DHB, retention rates at 17 years were higher for European than for Māori students. Ethnic differences in South Canterbury and the West Coast were less consistent across the period.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Education: Knowledge and Skills	Stand-Downs, Suspensions, Exclusions and Expulsions	<p>During 2000–2011, suspensions gradually declined, while stand-downs increased, reached a peak in 2006 and then declined. Exclusion and expulsion rates were more static. Throughout this period, the number of stand-downs exceeded the number of suspensions, which in turn exceeded the number of exclusions and expulsions.</p> <p>During 2000–2011, stand-downs and suspensions were higher for Māori > Pacific > European > Asian students. Stand-downs for Māori, Pacific and European students declined after 2006, with the largest declines being seen for Māori and Pacific students. Suspension rates also declined for all ethnic groups during 2000–2011, with the largest declines again being seen for Māori students.</p> <p>During 2000–2011, exclusions were higher for Māori > Pacific > European > Asian students, while expulsions were generally higher for Pacific > Māori > European and Asian students. Exclusions declined for Māori and Pacific students, although exclusion and expulsion rates for European and Asian students were more static.</p>	<p>In the South Island during 2000–2011, while individual DHB trends varied, stand-down rates were generally higher than the New Zealand rate in the West Coast and lower than the New Zealand rate in Nelson Marlborough. Regional differences in suspension rates were less marked, although rates in South Canterbury were slightly higher than the New Zealand rate and rates in Canterbury slightly lower during the late 2000s.</p> <p>Large year to year variations in exclusion and expulsion rates precluded the interpretation of trends. However expulsion rates in all of the South Island DHBs (with the exception of the West Coast where small numbers precluded a valid analysis) were consistently lower than the New Zealand rate.</p> <p>In Canterbury, suspension rates were higher for Māori > Pacific > European > Asian students, while in the other South Island DHBs rates were higher for Māori than for European students.</p>
	Truancy and Unjustified Absences	<p>During 2011, total unjustified absences were relatively infrequent during primary school, but increased during secondary school, with the highest rates being in Year 13+. While frequent truancy rates also increased during the secondary school years, the rate of increase was less marked than for total unjustified absences.</p> <p>During 2006, 2009 and 2011, total unjustified absences and frequent truancy were higher for Māori and Pacific than for European and Asian students. Total unjustified absences were lower in 2011 than they were in 2006 for Māori, Pacific and Asian students, although rates for European students were similar. Similarly frequent truancy rates were lower in 2011 than in 2006 for Māori and Pacific students, although rates for European and Asian students were similar during the two periods.</p> <p>During 2011, total unjustified absences and frequent truancy decreased as the degree of deprivation of the school catchment decreased, with the lowest rates being seen in those in the least deprived (deciles 9–10) areas.</p>	<p>In Nelson Marlborough during 2011, the total unjustified absence rate was 1.5 days per week per 100 students, as compared to 2.0 days in Canterbury and South Canterbury, 2.4 days in the West Coast, 1.6 days in the Southern DHB, and 2.3 days for New Zealand as a whole. Similarly, the frequent truancy rate in Nelson Marlborough in 2011 was 0.6 per 100 students, as compared to 0.7 in Canterbury and South Canterbury, 1.0 in the West Coast, 0.8 in the Southern DHB and 1.0 per 100 students nationally.</p> <p>In Canterbury during 2011, total unjustified absences and frequent truancy were higher for Māori and Pacific students than for European and Asian students. In Nelson Marlborough, South Canterbury, the West Coast and the Southern DHB rates for both measures were higher for Māori students than for European students, while in South Canterbury, total unjustified absences were higher for Māori than for European students, but frequent truancy was similar for both ethnic groups.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Risk and Protective Factors			
Well Child/Tamariki Ora Services	Immunisation Coverage	<p>During 2009 (Q2) to 2012 (Q2), immunisation coverage was highest for children aged 12 and 24 months > 18 months > 5 years > 6 months. Coverage rates increased for all age groups during this period.</p> <p>During 2009 (Q2) to 2012 (Q2), coverage at 6 and 18 months was higher for Asian > European > Pacific > Māori children. While similar ethnic differences were evident at 24 months during early 2009, by early 2012, coverage was higher for Asian and Pacific > European > Māori children. During 2012 (Q2) coverage at 24 months was 97.6% for Asian, 96.8% for Pacific, 93.3% for European and 92.2% for Māori children.</p> <p>During 2009 (Q2) to 2012 (Q2), coverage at 6, 12 and 18 months and 5 years was higher for children from the least deprived (NZDep deciles 1–2) > average (NZDep deciles 5–6) > most deprived (NZDep deciles 9–10) areas. While similar socioeconomic gradients were evident at 24 months during early 2009, these lessened, so that by the first two quarters of 2012, coverage rates were similar for those from the most and least deprived areas.</p>	<p>In the South Island DHBs during 2009(Q2) to 2012(Q2), immunisation coverage rates were highest for children aged 12 and 24 months, followed by 18 months and five years, with coverage being lowest for children 6 months of age. During 2012 (Q2), immunisation coverage at 24 months was 87.4% in Nelson Marlborough, 96.4% in South Canterbury, 91.0% in Canterbury, 78.4% in the West Coast and 95.1% in the Southern DHB, as compared to 93.1% nationally.</p> <p>There were no consistent ethnic differences in immunisation coverage rates at 24 months of age in the South Island DHBs, with rates being very similar for Māori and European children.</p> <p>In Canterbury during (Q2)–2012 (Q2), immunisation coverage rates at 24 months were generally higher for children from the least deprived (NZDep deciles 1–2) and most deprived (NZDep deciles 9–10) areas, with rates being lowest for those from average (NZDep deciles 5–6) areas. No consistent socioeconomic differences (as measured by NZDep decile) were seen in the other South Island DHBs.</p>
	Well Child Visits: Plunket Well Child Data	<p>During July 2007–June 2012, the proportion of Plunket children receiving their Core 1 contact increased from 75.5% to 83.5%, while the proportions receiving their Core 2, Core 3 and Core 4 contacts were more static.</p> <p>In the cohort of Plunket children born during July 2007–June 2008, a higher proportion of European/Other > Pacific > Māori children received their Core 1–7 contacts. For this cohort, the Core 1 and 7 contacts were the least likely to be received, while the Core 2–5 contacts were the most likely to be received by children of all ethnic groups.</p> <p>In the same cohort, a higher proportion of children from the least deprived and average (NZDep deciles 1 and 5) areas received their Core 1–6 contacts, than did children from the most deprived (NZDep decile 10) areas. Differences by NZDep decile were less evident for the Core 7 contact.</p>	<p>Of the Nelson Marlborough Plunket cohort born July 2007–June 2008, 75.7% received their Core 1 contact, as compared to 87.8% in South Canterbury, 84.2% in Canterbury, 83.9% in the West Coast, 83.3% in Otago and 87.8% in Southland. The Core 2–4 contacts were the most likely to be received, while the Core 6 and 7 contacts were the least likely to be received.</p> <p>Of the Canterbury Plunket cohort born July 2010–June 2011, a higher proportion of European/Other children received their Core 1–5 contacts than did Pacific or Māori children. In Nelson Marlborough, the West Coast and Southland a higher proportion of European/Other children received their Core 1–5 contacts than did Māori children, while in South Canterbury and for some Core contacts in Otago, ethnic differences were less evident.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Well Child/Tamariki Ora Services	Well Child Visits: B4 School Checks		<p>In Nelson Marlborough in the year ending June 2012, 81.6% of all eligible children received their B4 School Check, as compared to 95.6% in South Canterbury, 75.9% in Canterbury, 79.6% on the West Coast and 83.2% in the Southern DHB. When only children from the most deprived (NZDep deciles 9–10) areas were considered, 81.2% in Nelson Marlborough, 100% in South Canterbury, 67.1% in Canterbury, 81.3% on the West Coast and 86.6% in the Southern DHB received their B4 School Check.</p>
Substance Use	Smoking in Pregnancy	<p>During 2009–2010, 16.2% of babies were born to mothers not registered with a LMC at delivery. However many of these mothers may have accessed hospital-based maternity services, making it difficult to estimate the proportion receiving no antenatal care during pregnancy. Pacific, Asian/Indian and Māori babies were <i>significantly</i> more likely to have mothers not registered with a LMC at delivery, as were the babies of younger mothers, and those from average to more deprived areas.</p> <p>Overall, 15.3% of babies did not have their mother's smoking status at first LMC registration recorded in the National Maternity Collection (MAT), with the majority being babies whose mothers were not registered with a LMC at delivery. Of babies whose mother's smoking status was known, 83.5% had a non-smoking mother, 10.5% had a mother who smoked <10 cigarettes per day and 6.0% had a mother who smoked 10+ per day.</p> <p>Māori and Pacific babies, the babies of younger mothers and those from average to more deprived areas were <i>significantly</i> more likely to have mothers who smoked at first LMC registration.</p> <p>The mothers of Māori babies, regardless of maternal age, had higher smoking rates at first LMC registration than the mothers of European or Pacific babies, while the maternal smoking rates of Asian/Indian babies were lower.</p>	<p>In Nelson Marlborough (24.6%) and the West Coast (70.0%) during 2009–2010, the proportion of babies whose mother was not registered with a LMC at delivery was <i>significantly</i> higher than the New Zealand rate, while in South Canterbury (2.4%), Canterbury (3.8%), Otago (0.5%) and Southland (9.0%) the proportion was <i>significantly</i> lower. However many of these babies' mothers may have accessed hospital-based maternity services, making it difficult to estimate the proportion who received no antenatal care during pregnancy.</p> <p>In South Canterbury (19.8%) and Southland (21.0%) during 2009–2010, maternal smoking rates at first LMC registration were <i>significantly</i> higher than the New Zealand rate (16.5%) amongst babies whose maternal smoking status was known, while in Nelson Marlborough (14.3%), Canterbury (13.6%) and Otago (15.2%) rates were <i>significantly</i> lower. Rates in the West Coast (19.8%), while higher, were not <i>significantly</i> different from the New Zealand rate.</p> <p>In Canterbury during 2009–2010, maternal smoking rates at first LMC registration were higher for Māori babies than for European and Pacific babies, with rates for Asian/Indian babies being lower than for all other ethnic groups. In the other South Island DHBs, maternal smoking rates were higher for Māori babies than for European babies.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
	<p>Second-Hand Cigarette Smoke Exposure: Maternal Smoking 2 Weeks After Delivery</p>	<p>During 2009–2010, 19.4% of babies did not have their mother’s smoking status at two weeks after delivery recorded in the National Maternity Collection, with the majority of omissions being for babies whose mothers were unregistered with a LMC at delivery. Of those babies whose mother’s smoking status was known, 84.8% had a non-smoking mother, while 9.7% had a mother who smoked <10 cigarettes per day and 5.6% had a mother who smoked 10+ cigarettes per day.</p> <p>Māori and Pacific babies (vs. European and Asian/ Indian babies) were <i>significantly</i> more likely to have mothers who smoked, as were the babies of younger mothers (<30 years vs. 30+ years). A <i>significantly</i> higher proportion of babies from average to more deprived areas (NZDep06 deciles 3–10 vs. deciles 1–2) also had mothers who smoked two weeks after delivery.</p>	<p>In South Canterbury (19.9%) and Southland (20.9%) during 2009–2010, maternal smoking rates at two weeks after delivery were <i>significantly</i> higher than the New Zealand rate amongst babies whose maternal smoking status was known, while in Canterbury (12.5%) rates were <i>significantly</i> lower. Rates in Nelson Marlborough (13.8%), the West Coast (19.3%) and Otago (15.1%) were not <i>significantly</i> different from the New Zealand rate.</p> <p>In Canterbury during 2009–2010, maternal smoking rates at two weeks after delivery were higher for Māori babies than for European and Pacific babies, with rates for Asian/Indian babies being lower than for all other ethnic groups. In the other South Island DHBs, maternal smoking rates were higher for Māori babies than for European babies.</p>
<p>Substance Use</p>	<p>Second-Hand Cigarette Smoke Exposure: Second-Hand Cigarette Smoke in the Home</p>	<p>During 2001–2010, the proportion of Year 10 students with a parent(s) who smoked did not change <i>significantly</i>, being 40.2% in 2001 and 38.1% in 2010. In contrast, the proportion of students who lived in homes where smoking occurred inside declined <i>significantly</i>, from 30.5% in 2001 to 19.1% in 2010.</p> <p>During 2001–2010, parental smoking rates were higher for Māori > Pacific > European > Asian students. While there were no <i>significant</i> changes in parental smoking for European students, rates for Māori, Pacific and Asian students declined <i>significantly</i> during 2006–2010. The proportion of students living in homes where people smoked inside also declined for all four ethnic groups during 2006–2010.</p> <p>During 2001–2010, parental smoking rates and exposure to smoking in the home were higher for students from the most deprived > average > least deprived areas. Parental smoking rates declined <i>significantly</i> for students from the least deprived areas. Rates for students from average and more deprived areas were relatively static. Exposure to smoking in the home also declined <i>significantly</i> for students of all socioeconomic groups during 2001–2010.</p>	<p>During 2001–2010, while trends in the proportion of Year 10 students who reported at least one parent smoking varied by DHB, the proportion who reported living a home where people smoked inside declined in all South Island DHBs. During this period, rates for both outcomes were consistently lower than the New Zealand rate in Canterbury and Nelson Marlborough but consistently higher than the New Zealand rate in the West Coast. Rates in South Canterbury and Otago were similar to the New Zealand rate, while rates in Southland varied from year to year.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Substance Use	Cigarette Smoking in Young People: ASH Surveys	<p>During 1999–2011 the proportion of Year 10 students who were daily smokers declined, from 15.6% in 1999 to 4.1% in 2011, while the proportion who had never smoked increased, from 31.6% to 70.4%.</p> <p>Daily smoking rates for Māori and Pacific students were higher for females, while rates for Asian students were higher for males. During 1999–2011, while daily smoking rates declined for students of all ethnic groups, rates remained higher for Māori > Pacific > European and Asian students</p> <p>Daily smoking rates were higher for students attending schools in the most deprived (deciles 1–3) > average (deciles 4–7) > least deprived (deciles 8–10) areas. While smoking rates were higher for females, gender differences diminished as the level of deprivation decreased. Daily smoking rates declined for students of all socioeconomic groups during 1999–2011.</p>	<p>In all of the South Island DHBs during 1999–2011, the proportion of Year 10 students who were daily smokers declined, while the proportion who had never smoked increased. Daily smoking rates were very similar to the New Zealand rate in all South Island DHBs, although the proportion who had never smoked was slightly lower than the New Zealand rate in the West Coast and Southern DHBs.</p>
	Cigarette Smoking in Young People: 2009 NZ Tobacco Use Survey	<p>In the 2009 NZ Tobacco Use Survey the proportion of young people aged 20–24 years (30.7%) who were current smokers was <i>significantly</i> higher than for those aged 15–19 years (18.0%).</p> <p>When compared to the total population, current smoking rates for Māori young people 15–19 years (RR 2.15 95% CI 1.62–2.67) were <i>significantly</i> higher, while rates for Asian young people were <i>significantly</i> lower (RR 0.24 95% CI 0.00–0.70). Rates for Pacific and European/Other young people were not <i>significantly</i> different from the total population rate.</p> <p>Current smoking rates for young people aged 15–19 years from the most deprived (NZDep deciles 9–10) areas (30.9% 95% CI 22.6–39.3) were <i>significantly</i> higher than for those from the least deprived (NZDep deciles 1–2) areas (10.0% 95% CI 4.2–19.2).</p> <p>Current smokers aged 15–19 years indicated the most common way of sourcing tobacco in the past month was to buy it themselves (79.3% 95% CI 70.7–87.9), although other sources of tobacco were friends (27.6% 95% CI 18.9–36.2) or family (22.9% 95% CI 14.7–31.1).</p>	

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Substance Use	Alcohol-Related Hospital Admissions	<p>During 2000–2011, alcohol-related hospital admissions in young people were relatively static. While on average 1,150 admissions occurred per year, it is likely that this reflects a significant undercount due to the limitations of the NMDS in identifying alcohol-related admissions.</p> <p>During 2007–2011, alcohol was listed as a contributory cause in a large number of hospital admissions. However only 8.8% had acute intoxication or the toxic effects of alcohol listed as the primary diagnosis. In 36.5% an injury was the primary diagnosis, while 32.2% were due to mental health conditions and 11.8% due to poisoning by other drugs or substances.</p> <p>Admissions were <i>significantly</i> higher for males and Māori > Pacific or European/Other young people.</p>	<p>In Nelson Marlborough, South Canterbury, the West Coast and Southland during 2007–2011, alcohol-related hospital admissions in young people were <i>significantly</i> higher than the New Zealand rate, while in Canterbury and Otago rates were not <i>significantly</i> different from the New Zealand rate.</p> <p>While on average 57.4 alcohol-related admissions per year occurred in Nelson Marlborough, 29.2 in South Canterbury, 153.2 in Canterbury, 18.6 in the West Coast, 71.8 in Otago and 44.4 in Southland, in reality it is likely that the number was much higher due to the limitations of the National Minimum Dataset in identifying alcohol-related admissions in this age group.</p>
Health Outcomes as Determinants			
Socioeconomically Sensitive Hospital Admissions and Mortality	Hospital Admissions and Mortality with a Social Gradient	<p>During 2007–2011, gastroenteritis, bronchiolitis, and asthma were the leading causes of hospitalisations for medical conditions with a social gradient, while falls, followed by inanimate mechanical forces were the leading causes of injury admissions.</p> <p>During 2005–2009, SUDI made the largest contribution to mortality with a social gradient. Vehicle occupant injuries were the most frequent cause of injury-related deaths, while bacterial/non-viral pneumonia was the leading cause of mortality from medical conditions.</p> <p>Medical admissions with a social gradient increased during the early 2000s, reached peak in 2002 and then declined, with an upswing again being evident during 2007–2009. In contrast, injury admissions with a social gradient declined during 2000–2011.</p> <p>During 2000–2011, hospitalisations for medical conditions with a social gradient were consistently higher for Pacific > Māori > European/Other children, while injury admissions were higher for Pacific and Māori > European/Other children.</p>	<p>In the South Island DHBs during 2007–2011, asthma, acute upper respiratory infections and gastroenteritis made the largest contributions to hospitalisations for medical conditions with a social gradient, while falls, followed by inanimate mechanical forces, were the most frequent reasons for injury admissions with a social gradient in all DHBs.</p> <p>In Nelson Marlborough, South Canterbury and Otago during 2000–2011, medial admissions were relatively static, with rates remaining lower than the NZ rate. In Canterbury and the West Coast, medical admissions declined, with rates being lower than the NZ rate during the mid to late 2000s. In Southland, rates increased during the mid to late 2000s, becoming similar to the NZ rate by 2009–2011.</p> <p>In Nelson Marlborough and Otago, injury admissions were generally lower than the New Zealand rate, while rates in the other South Island DHBs were more variable.</p> <p>In Canterbury, medial admissions were higher for Pacific children than for Māori and European/Other children, while in Nelson Marlborough and Otago admissions were higher for Māori than for European/Other children. Injury admissions in Canterbury, Otago and Southland, were generally higher for European/Other children than for Māori children, although ethnic differences were less evident in the other DHBs.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Socioeconomically Sensitive Hospital Admissions and Mortality	Infant Mortality: Neonatal and Post Neonatal Mortality	<p>In New Zealand during the 1990s, neonatal and post neonatal mortality both declined, although rates were more static during the mid to late 2000s. An upswing in neonatal mortality was evident during 2007–2009 although it is too early to say whether this is a random fluctuation or the beginning of an upward trend.</p> <p>During 2005–2009, extreme prematurity and congenital anomalies were the leading causes of neonatal mortality, while SUDI was the leading cause of post neonatal mortality.</p> <p>Neonatal mortality was <i>significantly</i> higher for Pacific and Māori infants than for European infants, for males and for those from average to more deprived (NZDep deciles 5–10) areas. Post neonatal mortality was <i>significantly</i> higher for Māori and Pacific infants than for European and Asian/Indian infants, for males and for those from more deprived (NZDep deciles 7–10) areas.</p>	<p>In the West Coast during 2005–2009, neonatal mortality was <i>significantly</i> higher than the New Zealand rate, although rates in the other South Island DHBs were not <i>significantly</i> different from the New Zealand rate. In contrast, post neonatal mortality was <i>significantly</i> lower than the New Zealand rate in Nelson Marlborough, Canterbury and Otago, with rates in the other DHBs not being <i>significantly</i> different from the New Zealand rate (there were no post neonatal deaths in the West Coast during this period).</p> <p>During 2005–2009, congenital anomalies and extreme prematurity were the most frequent causes of neonatal mortality in the South Island DHBs, while SUDI and congenital anomalies were the most frequent causes of post neonatal mortality.</p>
	Infant Mortality: SUDI	<p>In New Zealand, SUDI rates declined during the late 1990s and early 2000s, but became more static after 2002–03. When broken down by SUDI sub-type, deaths attributed to SIDS continued to decline throughout 1996–2009, while deaths due to suffocation or strangulation in bed became more prominent as the period progressed. It is unclear however, whether this represented a diagnostic shift in the coding of SUDI, or whether the sleeping environment made an increasingly greater contribution to SUDI as the period progressed</p> <p>During 2005–2009, SUDI mortality was highest in infants 4–7 weeks, followed by those aged 8–11 weeks and then those 0–3 weeks of age. SUDI: Suffocation/Strangulation in Bed accounted for 61.0% of all SUDI deaths in those aged 0–3 weeks and 38.2% of SUDI deaths in those aged 4–7 weeks.</p> <p>Mortality from SUDI was <i>significantly</i> higher for Māori > Pacific > European > Asian/Indian infants and those from more deprived (NZDep deciles 7–10) areas.</p>	<p>In Canterbury and Otago during 2005–2009, SUDI rates were <i>significantly</i> lower than the New Zealand rate, while in South Canterbury and Southland rates were similar to the New Zealand rate (small numbers precluded a valid analysis in Nelson Marlborough and the West Coast).</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Safety and Family Violence	Injuries Arising from the Assault, Neglect or Maltreatment of Children	<p>During 2000–2011, hospital admissions for injuries arising from the assault, neglect or maltreatment of children declined gradually, while mortality during 2000–2009 remained relatively static. On average during 2000–2009, eight children per year died as a result of injuries arising from assault, neglect or maltreatment.</p> <p>During 2007–2011, admissions exhibited a U-shaped distribution with age, with rates being higher for infants less than one year and those over eleven years of age. In contrast, mortality was highest for infants less than one year, followed by those aged one and two years.</p> <p>During 2000–2011, admissions were consistently higher for Māori and Pacific children than for European/Other children. While rates for European/Other children declined during this period, rates for Māori children increased during the early to mid 2000s, but declined during 2010–2011. In contrast, admissions for Pacific children declined during the early to mid 2000s but increased during 2010–2011.</p>	<p>In Canterbury during 2007–2011, hospital admissions for injuries arising from the assault, neglect or maltreatment of children were <i>significantly</i> higher than the New Zealand rate, while in the other South Island DHBs rates were not <i>significantly</i> different from the New Zealand rate.</p> <p>In Nelson Marlborough during 2000–2009, eight children died as the result of injuries arising from assault, neglect or maltreatment, while four died in Otago and one each died in Canterbury and Southland.</p>
	Injuries Arising from Assault in Young People	<p>During 2000–2011, hospital admissions for injuries arising from assault in young people remained relatively static, while mortality during 2000–2009 fluctuated. On average during 2000–2009, 12.5 young people per year died from assault-related injuries.</p> <p>During 2007–2011, admissions in males increased rapidly during the mid to late teens, reaching a peak at 19 years of age. While admissions for females also increased during the teenage years, rates were lower than for males at all ages. Assault mortality during 2005–2009 was also highest for males during their mid to late teens, although patterns for females were more variable.</p> <p>Assault admissions during 2007–2011 were <i>significantly</i> higher for Māori and Pacific young people than for European/Other young people.</p>	<p>In Nelson Marlborough, South Canterbury and the West Coast during 2007–2011, hospital admissions for injuries arising from assault in young people were <i>significantly</i> higher than the New Zealand rate, while in Otago and Southland, rates were <i>significantly</i> lower. Rates in Southland were not <i>significantly</i> different from the New Zealand rate.</p> <p>In Canterbury during 2000–2009, ten young people died as the result of an assault, while five died in Otago, four in Nelson Marlborough, three in South Canterbury and one each in Southland and the West Coast.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Safety and Family Violence	Child Youth and Family Notifications	<p>During the 2011 financial year, 150,747 care and protection notifications were received by Child Youth and Family (CYF), with 38.4% being thought to require further assessment. While this reflects an increase since 2004, when 40,939 notifications were received, the proportion requiring further assessment declined (86.3% required further assessment in 2004). The number of notifications requiring further assessment however continued to increase, from 35,350 in 2004 to 57,949 in 2011, an increase of 63.9% over this period</p> <p>Of those notifications which were assessed further during 2004–2011, a large proportion resulted in no abuse being found. Where abuse was found however, physical and emotional abuse, and neglect were prominent, while behavioural and relationship difficulties were the most frequent non-abuse findings.</p>	<p>During the 2011 financial year, CYF offices in the South Island received 22,363 care and protection notifications, with 52.9% being thought to require further assessment. While the number of notifications had increased from 8,578 in 2004, the proportion requiring further assessment declined (88.3% required further assessment in 2004). Nevertheless, the number of notifications requiring further assessment increased, from 7,577 in 2004 to 11,820 in 2011, an increase of 56.0% over this period.</p>
	Police Family Violence Investigations	<p>Of the 86,704 Police family violence investigations occurring during 2011, children were reported as being present, or usually residing with the victim in 54.0%.</p> <p>There were 35,536 Police family violence investigations where an offence occurred during 2011 and where the relationship between the offender and the victim/complainant was recorded. In 40.6% of cases the victim/complainant was the spouse or partner of the offender, with a further 24.4% having been either previously married or in a relationship. In 20.3% of cases the relationship was that of parent and child.</p> <p>During 2011, injuries were reported in 16.3% of Police family violence investigations. While the most common injuries reported were bruising and cuts, in 893 cases a hospital attendance was required, and in 20 cases the incident resulted in a death.</p> <p>Police family violence investigations during 2011 resulted in 39,935 offences being disclosed, with a very high proportion of these offences relating to assaults. Property damage, breach of violence orders, and threatening behaviour also made a significant contribution.</p>	<p>During 2011, a large number of family violence investigations occurred in the ten Police Areas in the South Island. While these figures cannot be used to comment on trends in the prevalence of family violence during this period, they suggest that a large number of family violence incidents are occurring in the South Island each year, and that (based on NZ level figures) children are likely to be present at a large proportion of these.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Mental Health	Access to Mental Health Services: Childhood	<p>In New Zealand during 2009–2011, attention deficit hyperactivity disorder (ADHD) was the most frequent diagnosis assigned to children accessing mental health services, followed by conduct/disruptive behaviour disorders and parent-child relational problems.</p> <p>While ethnic differences in access to mental health services varied by diagnosis, the number of males accessing services for each of the conditions reviewed was <i>significantly</i> higher than for females.</p>	<p>In the South Island DHBs during 2009–2011, ADHD, conduct/disruptive behaviour disorders, parent-child relational problems and autism/pervasive developmental disorders were the most frequent diagnoses assigned to children accessing mental health services. While rates for a number of conditions differed <i>significantly</i> from the New Zealand rate, it must be remembered that many children with these diagnoses access paediatric outpatient services, and that this workload is not captured by PRIMHD. Thus the rates presented are likely to underestimate the prevalence of these conditions in the community. Further, regional differences in the proportion of cases managed by mental health services vs. paediatric outpatients are also likely to account for some of the differences seen.</p>
	Access to Mental Health Services: Late Childhood and Adolescence	<p>During 2009–2011, a number of mental health diagnoses also became increasingly common during late childhood and early adolescence. These included anxiety disorders, stress reaction/adjustment disorders and eating disorders.</p> <p>The number of children and young people accessing mental health services with anxiety, stress reaction/adjustment and eating disorders was <i>significantly</i> higher for females and for European/Other > Māori > Pacific children and young people.</p>	<p>In Nelson Marlborough, Canterbury and Otago during 2009–2011, the number of children and young people accessing mental health services with anxiety disorders, stress reaction/adjustment disorders and eating disorders were all <i>significantly</i> higher than the New Zealand rate, while in the other South Island DHBs the picture was more mixed.</p> <p>In interpreting these differences, it must be remembered that these figures reflect access to services rather than the underlying prevalence of these conditions in the community. Further regional differences in the proportion of cases managed by paediatric outpatient services (which are not captured in PRIMHD) vs. child and youth mental health services may account for some of the differences seen.</p>

Stream	Indicator	New Zealand Distribution and Trends	South Island Distribution and Trends
Mental Health	Access to Mental Health Services: Late Adolescence	<p>During 2007–2011, the most common reasons for hospital admissions with mental health issues in young people were schizophrenia, followed by depression and stress reaction/adjustment disorders. Composite categories such as schizotypal/delusional disorders and drug and alcohol-related conditions also made a significant contribution.</p> <p>In addition to the diagnoses reviewed in earlier sections, a number of mental health diagnoses became increasingly common during late adolescence. During 2009–2011, these included schizophrenia and other psychotic disorders, depression, bipolar disorder and other mood disorders and personality disorders.</p> <p>During 2009–2011, substance use was also a very frequent co-diagnosis for young people accessing mental health services. Personality disorders, followed by schizophrenia and other psychotic disorders were the diagnoses most likely to have an alcohol-related disorder listed as a co-diagnosis, while schizophrenia, other psychotic disorders, and then personality disorders, were the most likely to have cannabis, or other substance use listed as a co-diagnosis.</p>	<p>In the South Island DHBs during 2007–2011, the most common reasons for hospital admissions with mental health diagnoses in young people were for schizophrenia, depression and the mental health effects of alcohol and drugs, although stress reaction/adjustment disorders, schizotypal/delusional disorders and personality disorders were prominent in some DHBs.</p> <p>During 2009–2011, depression and other mood disorders were the most frequent diagnoses assigned to young people accessing mental health services in the South Island DHBs, followed by other psychotic disorders.</p> <p>Alcohol-related disorders, followed by cannabis-related disorders, were the most frequent diagnosis for young people accessing mental health services with substance-related disorders. When compared to the New Zealand rate, a <i>significantly</i> higher number of young people with alcohol-related and cannabis-related disorders accessed mental health services in each of the South Island DHBs.</p> <p>While rates for a number of conditions differed <i>significantly</i> from the NZ rate, it must be remembered these figures reflect young people's access to mental health services rather than the underlying health need in the community, with the figures presented being likely to underestimate the prevalence of these conditions in the region.</p>
	Self-Harm and Suicide	<p>During 2000–2009, suicide rates in young people 15–24 years remained relatively static, with on average 107 young people each year dying as a result of suicide.</p> <p>During 2007–2011, hospital admissions for intentional self-harm were <i>significantly</i> higher for Māori than for European/Other young people, while rates for Pacific young people were <i>significantly</i> lower. In contrast, suicide mortality during 2005–2009 was <i>significantly</i> higher for Māori and Pacific young people than for European/Other young people. While admissions for intentional self-harm were <i>significantly</i> higher for females than for males, suicide mortality was <i>significantly</i> higher for males than for females.</p>	<p>In Nelson Marlborough, South Canterbury, Canterbury and the West Coast during 2007–2011, hospital admissions for intentional self-harm were <i>significantly</i> higher than the New Zealand rate, while in Otago and Southland, rates were similar to the New Zealand rate.</p> <p>In South Canterbury and Southland during 2005–2009, suicide mortality was <i>significantly</i> higher than the New Zealand rate, while in Nelson Marlborough, Canterbury and Otago rates were not <i>significantly</i> different from the New Zealand rate. No youth suicide deaths occurred on the West Coast during this period.</p> <p>In total, 17 Nelson Marlborough, 14 South Canterbury, 57 Canterbury, 25 Otago and 26 Southland young people died as the result of suicide during 2005–2009.</p>