

Chapter 11

Injuries: Unintentional injuries, Abuse and violence

Unintentional injuries

Key points

- Injuries are the leading cause of death for children aged over one year. Injuries are also the second leading cause of child hospitalisation.
- An average of 127 children under 15 years of age died from injuries each year in the period 1990–94. The leading cause was road traffic injuries, followed by submersion or suffocation, homicide, and fire or flames.
- Injury death rates decreased for children aged 1–14 years between 1980 and 1994, but increased for infants.
- Nearly 17,000 child injury hospitalisations occurred in 1995. The leading cause was falls, followed by road traffic injuries, medical or surgical procedures, and cutting or piercing injuries.
- For both deaths and hospitalisations caused by injuries, boys have higher rates than girls, and Māori children have higher rates than non-Māori.
- If Māori were to experience the same hospitalisation and death rates as non-Māori, 10 fewer Māori children would die from injuries each year, and 1500 fewer would be hospitalised.
- Child injury hospitalisation rates have increased in recent years, but this may reflect factors other than the incidence of injuries.
- New Zealand has a high rate of child injury deaths, compared to other OECD countries.
- There is good evidence for a range of strategies that could reduce child injuries in New Zealand.

Introduction

Injuries are the leading cause of death in the age group 1–14 years. Predominantly child injury deaths are unintentional, though intentional causes (suicide and homicide) are also important.

Injury morbidity records in the National Minimum Dataset (Ministry of Health 1997c) include coding of both the physical manifestation of injury (for example, fracture of ankle) and the external circumstances in which the injury occurred (for example, accidental fall from ladder). Codes for external circumstances of injury are referred to as E-codes in the International Classification of Diseases (ICD), and each code begins with E. For example, accidental fall from ladder is given the ICD-9 code E881.0. The analysis presented in this chapter uses E-codes, the coding of external circumstances of injury, since these are relevant to the field of injury prevention.

After examining the injury morbidity and mortality data, adjacent codes with significant numbers of deaths or hospitalisations were grouped into the injury categories shown in Table 11.1.1.

Table 11.1.1: ICD-9 codes for injury categories in this analysis

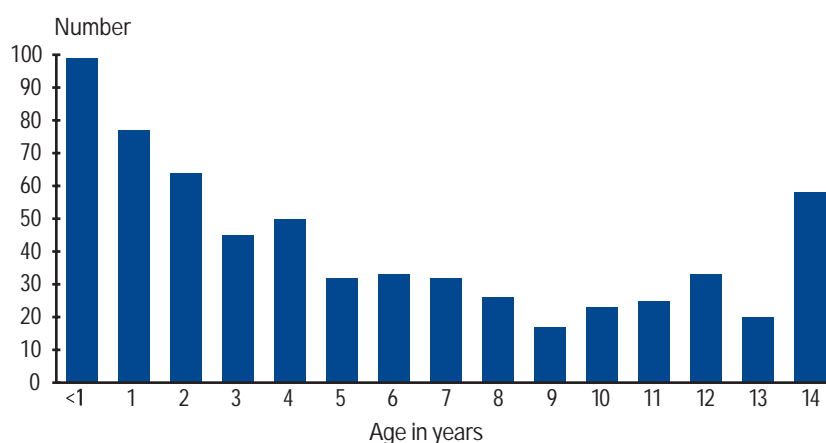
<i>ICD-9 codes</i>	<i>Description</i>
E800–E999	All injuries
E800–E949	Unintentional injuries
E950–E999	Intentional injuries
E810–E819, E826–E829	Road traffic injuries
E850–E869	Poisoning
E878–E879	Medical/surgical procedures
E880–E888	Falls (unintentional)
E890–E899	Fire, flames
E910–E915	Submersion, suffocation
E917	Struck unintentionally
E920	Cutting, piercing
E950–E959	Suicide, self-inflicted injury
E960–E969	Homicide, purposely inflicted by others

Mortality

In the five years from 1990–94, 635 children under the age of 15 years died from injuries, giving a rate of 16.0 per 100,000 per year. The death rate for boys (19.6 per 100,000) was 62 percent higher than the rate for girls (12.1 per 100,000). The rate for Māori children (20.3 per 100,000) was 33 percent higher than the rate for all other children (15.3 per 100,000).

Child injury deaths were concentrated in the young ages in the period 1990–94 (Figure 11.1.1). Of the injury deaths in the 0–14 year age group, 53 percent were children under five years old.

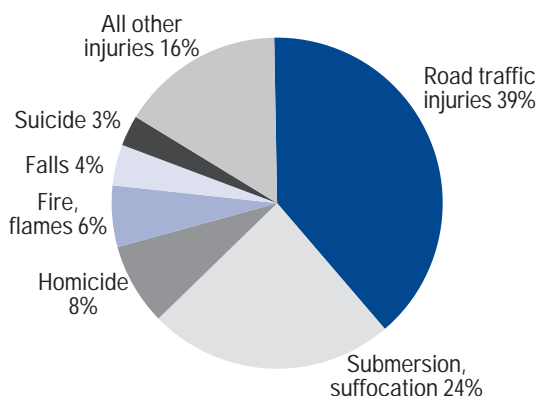
Figure 11.1.1: Injury deaths among children, 0–14-year-olds, number by age, 1990–94



Source of data:
Ministry of Health 1997a.

Road traffic injuries was the leading cause of injury death of children in the period 1990–94, followed by submersion or suffocation, and homicide (Figure 11.1.2).

Figure 11.1.2: Injury deaths among children, 0–14-year-olds, proportion by cause of injury, 1990–94



Source of data:
Ministry of Health 1997a.

The relative importance of different causes of injury deaths varies with age (Table 11.1.2). For older children, road traffic injuries are the most common cause of injury death. At younger ages submersion or suffocation has more importance as the most common cause of injury death.

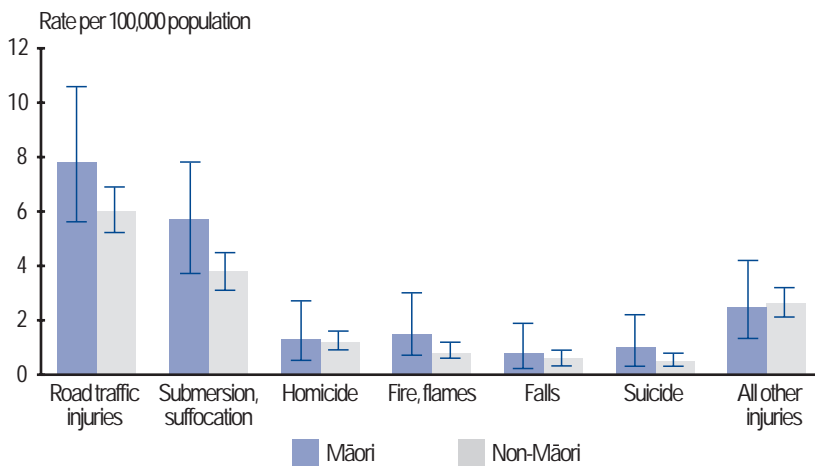
Table 11.1.2: Child injury deaths, number by cause and age group, 1980–84 and 1990–94

	1980–84					1990–94				
	<1	1–4	5–9	10–14	Total 0–14	<1	1–4	5–9	10–14	Total 0–14
Road traffic injuries	9	82	116	115	322	19	81	70	78	248
Submersion, suffocation	34	135	28	32	229	52	65	24	14	155
Homicide	10	15	5	1	31	11	18	10	10	49
Fire, flames	5	15	6	4	30	2	22	7	6	37
Accidental falls	8	13	2	8	31	0	9	9	5	23
Suicide	0	0	0	15	15	0	0	2	19	21
All other injuries	15	65	37	33	150	16	41	18	27	102
All injuries	81	325	194	208	808	100	236	140	159	635

Source of data:
Ministry of Health 1997a.

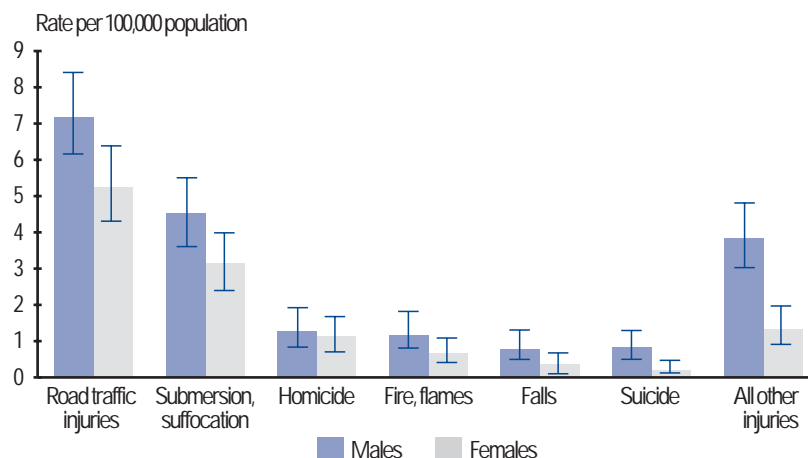
Māori children had higher injury death rates for all major causes than non-Māori children in 1990–94 (Figure 11.1.3). Similarly, boys had higher death rates than girls for all major causes of injury (Figure 11.1.4). Overall, the injury death rate for Māori children was 33 percent higher than for other children, and rates for boys were 62 percent higher than for girls.

Figure 11.1.3: Injury deaths among children, 0–14-year-olds, rate (and 95 percent confidence interval) by cause of injury and ethnic group, 1990–94



Source of data:
Ministry of Health 1997a.

Figure 11.1.4: Injury deaths among children, 0–14-year-olds, rate (and 95 percent confidence interval) by cause of injury and sex, 1990–94

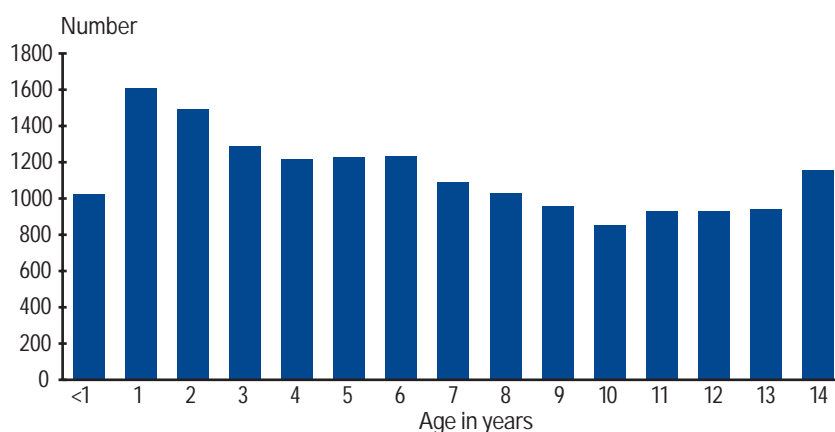


Source of data:
Ministry of Health 1997a.

Morbidity

Excluding births, injuries are the second leading cause of the hospitalisation of children (respiratory disease is the leading cause). Seventeen thousand injury hospitalisations for children under the age of 15 years occurred in 1995. The number of injury hospitalisations peaked in the 1–6 year age group. The number was lowest among infants and in the 9–13 year age group (Figure 11.1.5) (Ministry of Health 1997c).

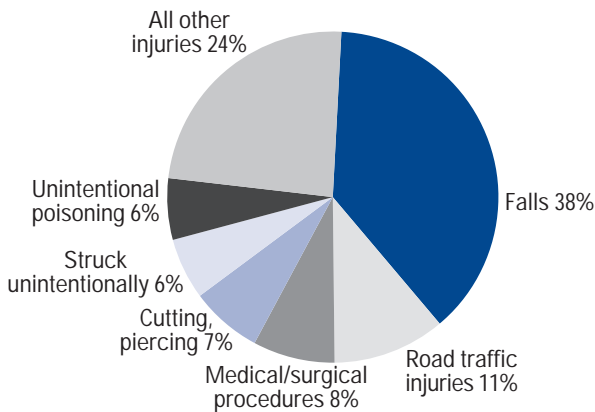
Figure 11.1.5: Injury hospitalisation among children, 0–14-year-olds, number by age, 1995



Source of data:
Ministry of Health 1997c.

Falls were the leading cause of child injury hospitalisation in 1995, followed by road traffic injury, and injuries from medical or surgical procedures (Figure 11.1.6).

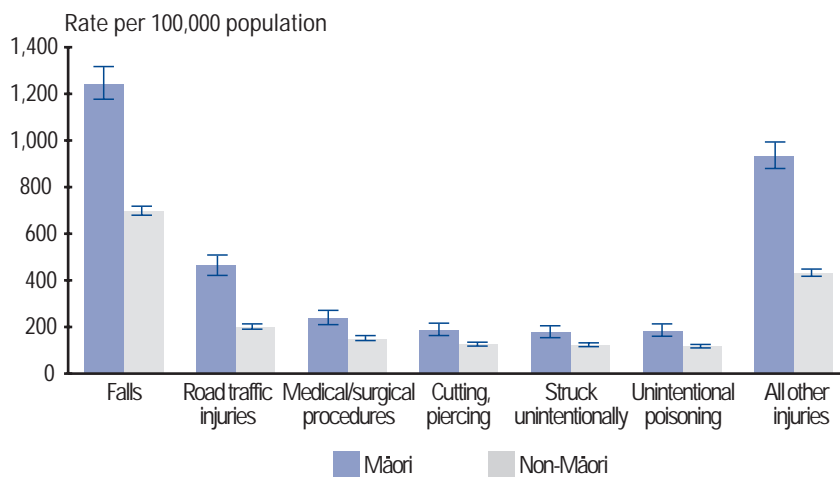
Figure 11.1.6: Injury hospitalisation among children, 0–14-year-olds, proportion by cause of injury, 1995



Source of data:
Ministry of Health 1997c.

Compared to non-Māori children, Māori children had higher injury hospitalisation rates for each cause of injury (Figure 11.1.7). Overall, injuries caused Māori children to be hospitalised at a rate 86 percent higher than other children in 1995 (Ministry of Health 1997c).

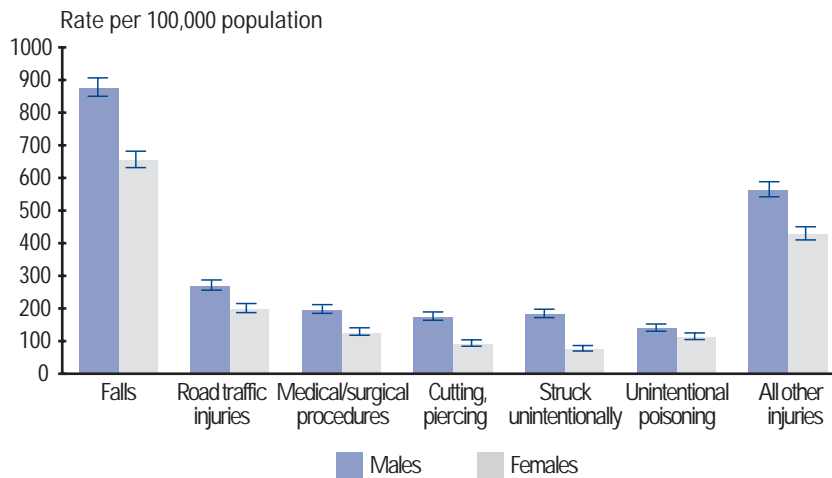
Figure 11.1.7: Injury hospitalisation among children aged less than 15 years, rate (and 95 percent confidence interval) by cause of injury and ethnic group, 1995



Source of data:
Ministry of Health 1997c.

Compared to girls, boys had higher injury hospitalisation rates for all major causes of injury (Figure 11.1.8). Overall, injuries caused boys to be hospitalised at a rate 42 percent higher than girls in 1995.

Figure 11.1.8: Injury hospitalisation among children, 0–14-year-olds, rate (and 95 percent confidence interval) by cause of injury and sex, 1995



Source of data:
Ministry of Health 1997c.

Changes over time

Major causes of child injury death for the periods 1980–84 and 1990–94 are shown in Table 11.1.3. Overall the number of deaths declined. However, this did not apply for some causes and for some age groups. In particular, while the number of road traffic deaths decreased for older children, it increased for infants. The same pattern applies for deaths caused by submersion or suffocation. The number of homicide deaths increased for children of all ages.

The injury death rate for all children aged under 15 years decreased from 21 per 100,000 (n=176) in 1980 to 15 per 100,000 (n=122) in 1994. However, the injury death rate for Māori children increased from 20 per 100,000 (n=22) to 29 per 100,000 (n=31) over the same period. If Māori had experienced the same injury death rate as non-Māori over this period, 51 fewer Māori children would have died.

Between 1980 and 1994, injury mortality rates declined by 39, 27 and 42 percent for the 1–4, 5–9 and 10–14 year age groups respectively. However, rates increased by 12 percent for infants.

Major causes of child injury hospitalisation in 1988 and 1995 are shown in Table 11.1.3. Changes in injury hospitalisation patterns do not necessarily reflect changes in the true incidence or severity of injuries. Instead they may reflect changes in other factors, such as hospital admission thresholds. Despite the number of child injury deaths decreasing, the number of hospitalisations has increased from 13,000 in 1988 to 17,000 in 1995. The number of hospitalisations from falls, in particular, increased over this period.

The injury hospitalisation rate for all children under 15 years old increased from 1629 per 100,000 in 1988 to 2044 per 100,000 in 1995. Over this period, the rate of hospitalisation of Māori children was 86 percent higher than that of non-Māori. If Māori had experienced the same injury hospitalisation rate as non-Māori, 1500 fewer Māori children would have been hospitalised each year.

Between 1988 and 1995, injury hospitalisation rates increased by 27, 20, 32 and 23 percent for the age groups 0–12 months, 1–4 years, 5–9 years and 10–14 years respectively.

Table 11.1.3: Child injury hospitalisations, number by cause and age group, 1988 and 1995

	1988					1995				
	<1	1–4	5–9	10–14	<i>Total</i> 0–14	<1	1–4	5–9	10–14	<i>Total</i> 0–14
Falls	180	1130	1704	1248	4262	258	1785	2703	1618	6364
Road traffic injuries	25	364	658	955	2002	27	369	734	809	1939
Medical/surgical	114	165	120	151	550	254	379	356	347	1336
Cutting, piercing	5	152	240	276	673	5	303	427	368	1103
Struck unintentionally	12	148	253	444	857	27	252	297	496	1072
Poisonings	42	838	46	33	959	58	867	55	57	1037
All other injuries	335	1316	749	955	3355	396	1644	961	1113	4114
All injuries	713	4113	3770	4062	12,658	1025	5599	5533	4808	16,965

Source of data:
Ministry of Health 1997c.

International comparisons

Compared to other OECD countries, New Zealand has a high child injury death rate. In the early 1990s, New Zealand's unintentional injury death rate for 0–4-year-olds ranked worst out of 21 OECD countries for which data were available.

Child injury mortality in New Zealand has recently been compared with the United States (Langley and Smeijers 1997). New Zealand's overall child injury mortality rate is similar to that of the United States, but there are marked differences for some causes of injury. New Zealand 0–14-year-olds have lower death rates from firearms and fire/flames. But they have higher rates of pedestrian deaths, suffocation (in the first year of life), falls, cutting/piercing, and poisoning (in the 10–14-year age group).

New Zealand's injury mortality rates for children aged 0–4 years and 5–9 years were nearly twice as high in 1994 as the rates reported for Australian children in the same age groups. However, injury mortality rates for New Zealand 10–14-year-olds were only marginally higher than for their Australian counterparts (Moller and Kreisfeld 1997).

Risk and protective factors

As described above, age, sex and ethnicity are all associated with risk of injury hospitalisation and death among children in New Zealand. Within an age-sex category, Māori children have high mortality and morbidity rates for most major causes of injury, particularly road traffic injuries and deaths, drowning and fall injuries. Māori children also have high rates of burn injuries and poisoning (Ministry of Health 1997b).

Age or developmental stage is a major determinant of risk of burn injuries, with risk being much higher for children between the ages of six and 24 months (Simon and Baron 1994). Left-handedness has been shown to be a risk factor for unintentional injury among children and adolescents (Graham et al 1993). Children with epilepsy are at greatly increased risk of submersion injury (Diekema et al 1993).

A number of aspects of the road environment have been identified as risk factors for child pedestrian injuries (Roberts et al 1995; Stevenson et al 1995). These factors include high volumes of traffic, high vehicle speeds and high density of curb parking.

A number of interventions have been shown to be effective in reducing child injuries. In a review of effectiveness of interventions to reduce child injuries, Dowswell et al (1996) concluded that there is good evidence for the effectiveness of bicycle helmet legislation in preventing cyclist head injuries, area-wide traffic calming measures in preventing pedestrian and cyclist injuries, child safety restraint legislation in reducing motor vehicle occupant injuries, child-resistant packaging in preventing poisoning, and window bars in preventing falls. For a range of other interventions there is good evidence for their effectiveness in changing behaviour, but less clear evidence on whether this necessarily translates into fewer injuries. Such interventions include bicycle helmet education, child restraint loan schemes, child restraint educational campaigns, pedestrian education aimed at children and parents, provision of smoke detectors, and parent education on home hazard reduction.

Nearly one-third of child injury deaths in the United States are considered to be readily preventable (Rivara and Grossman 1996). The proportion may be less in New Zealand, given that this country already has bicycle helmet laws, swimming pool fencing laws and has much tighter firearms control than the United States (Table 11.1.4).

Table 11.1.4: Possible scope for further injury prevention among children and adolescents

<i>Injury</i>	<i>Intervention</i>	<i>Potential decrease in mortality with available interventions*</i>	<i>Deaths prevented per year if applied to NZ (ages 0–19 years)**</i>
Motor vehicle occupant injuries	Airbags, lap/shoulder harness	40.0%	32
Pedestrian injuries	Community-wide traffic calming	39.2%	10
Motor cycle crashes	Helmets	15.1%	2
Bicycle injuries	Helmets	65.9%	5
Drownings	Pool fencing, prevention of bathtub drowning, prevention of alcohol use in adolescents	58.4%	15
Fire, burns	Fire-safe cigarette, smoke detectors	63.2%	6
Poisonings	Poison packaging, elimination of carbon monoxide deaths	59.6%	2
Falls	Window bars	42.1%	3
Firearm violence	Elimination or secure storage of handguns in the home	36.8%	1
Total (all injury deaths aged 0–19 years)	All the above strategies + others	31.1%	81

* Based on United States estimates, Rivara and Grossman 1996.

** Calculated by applying potential proportionate decrease by average annual number of NZ deaths 1990–94, ages 0–19 years.

Source of data:

Ministry of Health 1997a.

Abuse and violence

Key points

- Abuse or violence can seriously damage a child's physical and psychological health, with the consequences often continuing to be experienced well into adolescence and adulthood.
- In the Christchurch Health and Development Study, one in 25 young people (4 percent) reported receiving severe or harsh and abusive treatment from one or both of their parents before the age of 16 years.
- In a 1993 telephone poll, 22 percent of parents thought it was acceptable in certain circumstances for a parent to hit their child or teenager.
- Ten percent of teenagers in the Christchurch Health and Development Study (17 percent of females and 6 percent of males) reported experiencing some kind of sexual abuse by age 16. About 6 percent of females and under 2 percent of males reported abuse involving attempted or completed intercourse.
- In an Otago study of women aged 18–65, one in five (20 percent) said they had been sexually abused in some way before age 12. Nearly a third (32 percent) reported being sexually abused before age 16. Four percent reported that the abuse included completed intercourse.
- The same study found that female sexual abuse was most likely to occur when girls were between eight and 12 years old. Males were the abusers in 98 percent of cases, with the victims in most instances knowing their abusers.
- Only 7 percent of the abused women in the Otago study had ever reported the abuse to social work services or the police.
- In New Zealand in 1994, 13 children died as a result of injuries deliberately inflicted by others, including child battering. Seven of these children were preschool children (0–4 years).
- In 1995, 194 children were hospitalised because of injuries purposely inflicted by others, an annual rate of 23 hospitalisations per 100,000 (the lowest rate recorded since 1988).
- Boys are more likely than girls to be hospitalised because of physical abuse, but girls are more likely than boys to be hospitalised because of sexual abuse.
- Māori children continue to be hospitalised for child battering and other maltreatment at a greater rate than non-Māori children. However, there are indications that this differential has narrowed during 1993-95.
- In 1996/97, a total of 3901 offences against children were reported to the police, an increase of 190 on the previous year. As in earlier years, sexual offences were the most common (48 percent), followed by assault (29 percent) and child abuse (20 percent).
- In 1995, 73 percent of court convictions for violent sexual offences involved offences committed on children and teenagers under 17 years old (most commonly indecent assault and unlawful sexual connection).
- A wide range of factors have been found to be associated with children being at increased risk of sexual abuse or physical violence. In particular, research has highlighted the importance of social and family factors.
- Compared to parents in the 1960s and 1970s, fewer New Zealand parents now appear to be using stronger forms of physical punishment on their children, such as hitting with a strap or stick.

Introduction

Violence and abuse perpetrated by adults on children can include:

- deliberately inflicted physical injury (for example, assault or poisoning)
- emotional abuse (for example, severe or persistent emotional ill treatment or rejection)
- sexual abuse (rape and other forms of unwanted sexual contact or exposure)
- neglect (for example, exposing children to dangerous situations such as cold or lack of food) (Belsey 1993).

In addition, children can suffer psychological and emotional harm as a consequence of witnessing violence between other family members (Robertson and Busch 1994). School bullying is also recognised to be a significant source of harm (Maxwell and Carroll-Lind 1997).

Abuse or violence can have a major negative impact on a child's physical and psychological health, with the consequences often continuing to be felt well into adolescence and adulthood.

Physically abused or maltreated children are up to three times more likely than non-abused children to engage in violent behaviour and criminal offending, attempt suicide and experience anxiety disorders when they are teenagers. They are also more likely to be victims of violent assault (Fergusson et al 1997). This risk remains even after controlling for broader social and contextual factors associated with the incidence of childhood physical abuse (that is, poverty, low parent education, impaired parenting skills, stress). In other words, the direct psychological effects of physical abuse independently increase the chances of children experiencing these negative outcomes in adolescence.

Sexual abuse in childhood can also contribute to the development of a range of teenage and adult health problems. Women who report being sexually abused as a child are more likely than non-abused women to become pregnant before age 19, harm themselves deliberately and be diagnosed as having a post-traumatic stress disorder and other associated psychiatric symptoms. These outcomes are especially likely for women subjected to the more intrusive kinds of sexual abuse (for example, intercourse) (Romans et al 1997; Romans et al 1995b; Briggs and Joyce 1997; Bushnell et al 1992; Beautrais et al 1994; Sullivan et al 1995). Studies in Otago indicate that adult women subjected to highly intrusive sexual abuse in childhood are also more likely than non-abused women to have low self-esteem and experience sexual problems as adults (Romans et al 1996; Mullen et al 1996).

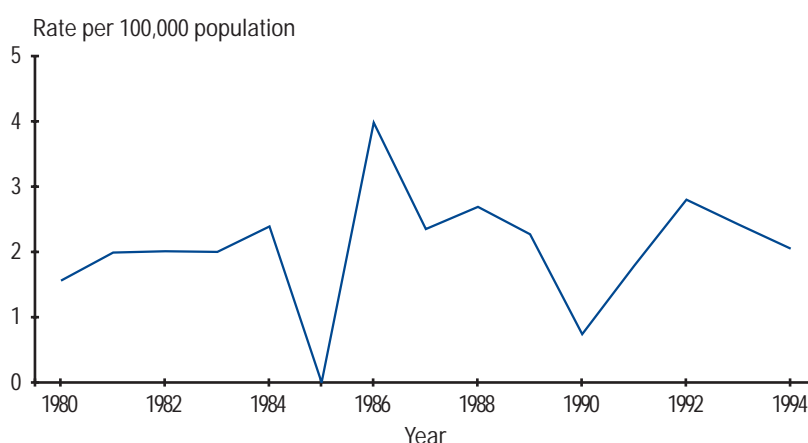
Even after controlling for family and other related background factors, in comparison to their non-abused counterparts, 18-year-olds in the Christchurch Health and Development Study who reported a history of childhood sexual abuse had higher rates of major depression, anxiety disorder, conduct disorder, substance use disorder, and suicidal behaviours (Fergusson et al 1996a). The highest risk of psychiatric disorder was identified in teenagers reporting childhood sexual abuse involving intercourse.

Results from the Christchurch study also confirm the international evidence suggesting that exposure to childhood sexual abuse increases the chances of teenagers engaging in consensual sexual activity at a younger age than their non-abused peers. Sexually abused children are also more likely to engage in sexual risk-taking and be sexually victimised as teenagers (Fergusson et al 1996b). Compared to their non-abused counterparts, teenage girls in the Christchurch study who reported childhood sexual abuse involving attempted or completed intercourse had higher rates of teenage pregnancy, early sexual activity, unprotected intercourse, and STDs. They also experienced higher rates of sexual victimisation (sexual assault and reports of rape or attempted rape) after age 16. These risks remained even after adjusting for the possible influences of other childhood and family factors, such as socioeconomic disadvantage and childhood adversity.

Mortality

In 1994, a total of 13 children aged 0–14 years were classified as having died as a result of deliberately inflicted injuries, including child battering. Seven of these children were preschool children, giving a rate of two deaths per 100,000 children aged 0–4 years (Figure 11.2.1).

Figure 11.2.1: Deaths of children aged 0–4 years from child battering and other maltreatment, and all other injuries purposely inflicted by others (ICD-9 codes E960–E969), 1980–94



Source of data:
Ministry of Health 1997a.

Notes:
Causes of death include fight, brawl, rape, corrosive or caustic substances, poisoning, hanging, strangulation, submersion, firearms, explosives, cutting and piercing and child battering and other maltreatment.
Rates are based on small numbers and should be interpreted with caution.

Kotch et al (1993) found that either physical abuse by a parent or caretaker, or sexual abuse by any person, could be attributed as the cause of death for 74 percent of the children aged 0–16 years fatally assaulted in New Zealand from 1978–87. Virtually all of the 58 children who died from physical abuse (95 percent) were abused by their parent, step-parent or the de facto spouse of their natural parent.

Morbidity

Because physical and emotional abuse can be inflicted on children in a wide variety of circumstances, judgements about national levels of child abuse and violence can only be made after carefully evaluating data from several sources. These include national mortality and hospitalisation data for child abuse, Ministry of Justice data on convictions for sexual offences against children, Children, Young Persons and Their Families Service statistics on the outcome of investigations for suspected child abuse, NZ Police statistics on offences against children, and results from studies of child abuse in community samples of children and adults.

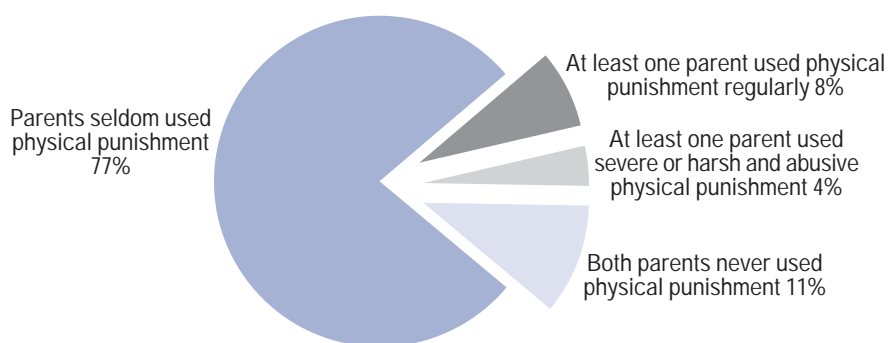
Community studies

Physical abuse

In the Dunedin Multidisciplinary Health and Development Study, 4 percent of 13-year-olds and 3 percent of 15-year-olds reported having been deliberately physically injured by another person (Gafford et al 1996).

At age 18, participants in the Christchurch Health and Development Study were asked about their levels of exposure to physical abuse in childhood (0–16 years). Four percent of these teenagers recalled experiencing severe or harsh and abusive treatment from their parents (Figure 11.2.2). Of this group, 65 percent reported being hit around the head or body with fists, 57 percent reported being hit around the head or body with a cane, strap or similar object, and 52 percent reported being kicked.¹ Eighty percent reported that this severe, harsh or abusive treatment resulted in them being injured (Fergusson and Lynskey 1997).

Figure 11.2.2: Levels of childhood physical abuse recalled by Christchurch 18-year-olds



Source of data:
Christchurch Health and Development Study, Fergusson and Lynskey 1997.

A 1995 study interviewed 259 children aged 11–13, living in the lower half of the North Island, about their experiences of violence in the previous nine months. One in ten reported they had been punched, kicked or beaten at least once by an adult over this time and half indicated they had been punched, kicked or beaten at least once by other children. One in five had been punished by smacking by an adult in the last nine months, while more than one in 20 had been punished by ‘belting’ by an adult (Maxwell and Carroll-Lind 1996).

¹ Some participants recalled experiencing more than one type of severe physical punishment, thus percentages total more than 100.

Corporal punishment

In a 1993 telephone poll of 1000 New Zealanders aged 15 years or more, parents in the sample with children under the age of 17 were asked about their beliefs and practices related to the physical punishment of children (Maxwell 1993). While 88 percent agreed that there were certain circumstances when it was acceptable for a parent to punish a child by smacking, only 1 percent agreed that there were certain circumstances when it was all right for a parent to 'thrash' a child ('thrashing' being rated as the most severe kind of physical punishment). A minority of parents, 16–17 percent, agreed that there were certain circumstances when it was acceptable for a father to hit his teenage son as a punishment and, likewise, for a mother to hit her teenage daughter.² Only 9 percent agreed that a father could punish his teenage daughter by hitting in certain circumstances. Overall, 22 percent of parents indicated that they thought it was acceptable in certain circumstances for a parent to hit their child or teenager.

Of the parents who reported their children had misbehaved in the past week, 20 percent reported using smacking as a punishment. Reports of punishment using pushing, shoving or grabbing (3 percent) and hitting with a strap, stick or other object (2 percent) were relatively rare. No parent reported giving their child a 'thrashing' in the last week, but 11 percent reported having either hit or 'thrashed' their child some time in the past (Maxwell 1993).

Sexual abuse

When studied at age 18, 10.4 percent of the participants in the Christchurch Health and Development Study (17.3 percent of females and 6 percent of males) reported experiencing childhood sexual abuse before age 16 (Table 11.2.1). Just on 5.6 percent of females and 1.4 percent of males reported abuse involving attempted or completed intercourse (Fergusson et al 1996a).

Table 11.2.1: Christchurch girls' and boys' exposure to sexual abuse up to age 16 years

<i>Type of experience</i>	<i>Percent Girls</i>	<i>Percent Boys</i>
Reported no childhood sexual abuse	82.7	96.6
Reported non-contact childhood sexual abuse (indecent exposure or suggestions)	4.2	1.8
Reported contact childhood sexual abuse but not attempted or completed intercourse	7.5	2.8
Reported attempted or completed vaginal, oral or anal intercourse	5.6	1.4

Source of data:
Christchurch Health and Development Study Fergusson et al 1996a.

² In the survey questionnaire 'hitting' was contrasted to 'smacking', with the latter presumed to be a less severe form of physical contact.

In a study of 3000 Otago women aged 18–65 in 1989–90, 20 percent reported being sexually abused in some way before age 12. Nearly a third (32 percent) reported being sexually abused before they were 16 years old (Anderson et al 1993; Romans et al 1995a). The sexual abuse identified included non-contact abuse involving exposure, spying or indecent suggestions, non-genital contact, non-penetrative genital contact, and attempted or completed intercourse. Nearly 4 percent of women reported being abused by way of completed intercourse (Table 11.2.2).

Table 11.2.2: Childhood sexual abuse recalled by Otago women aged 18–65 years

<i>Experience</i>	<i>Percent</i>
Total abused before age 12	20.3
Total abused before age 16	31.9
Non-contact abuse before age 16	6.8
Non-genital contact abuse before age 16	5.5
Touched in the genital area before age 16	7.1
Genital touching of the abuser before age 16	5.4
Attempted intercourse by abuser before age 16	3.5
Completed intercourse by abuser before age 16	3.8

Source of data:
Anderson et al, 1993.

Sexual abuse occurred most often when the women were between eight and 12 years of age. Males were the abusers in 98 percent of cases, and in most instances the victims knew their abusers (46 percent of abusers were acquaintances, 38 percent were family members and 15 percent were strangers). Sixty-five percent of victims were first abused before the onset of menses. For 10 percent of the abuse victims (about 2 percent of women taking part in the study), episodes of abuse were inflicted over a period of three or more years. Only 7 percent of the abused women had ever reported the abuse to social work services or the police. Abuse by close family members was much less likely to be reported than abuse by acquaintances or strangers (Romans et al 1995a; Romans et al 1996).

School bullying

High levels of physical and emotional bullying have been identified in New Zealand schools. In a 1995 study of 259 Form One and Two children (ages 11–13 years) from eight schools, 49 percent of children reported having been punched, kicked, beaten, or hit by other children at their school in the last nine months. Sixty-seven percent indicated they had been threatened, frightened or called names by other children. Over half recalled being ganged up on, left out or not spoken to by other children. About a quarter of children who had been physically or emotionally bullied by other children rated these experiences as being one of the three worst things that had ever happened to them (Maxwell and Carroll-Lind 1997).

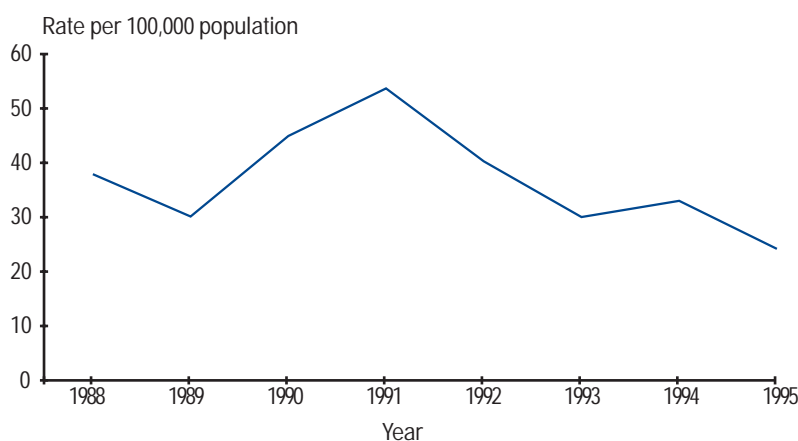
CYPFS statistics

Statistics collected by the Children, Young Persons and Their Families Service (CYPFS) show that for the 12 months to 1 July 1997, a total of 6128 New Zealand children or young people were assessed by the service as having been severely neglected or seriously abused physically, emotionally or sexually (Children, Young Persons and Their Families Service, personal communication, December 1997).

Hospitalisation

In 1995, a total of 194 children aged 0–14 were hospitalised for injuries classified as being purposely inflicted by others. The hospitalisation rate of 23 per 100,000 for 1995 was the lowest recorded in the eight years from 1988 (Figure 11.2.3).³

Figure 11.2.3: Hospitalisation of children aged 0–14 years for child battering and other maltreatment, and all other injuries purposely inflicted by others (ICD-9 codes E960–E969), 1988–95



Source of data:
Ministry of Health 1997c.

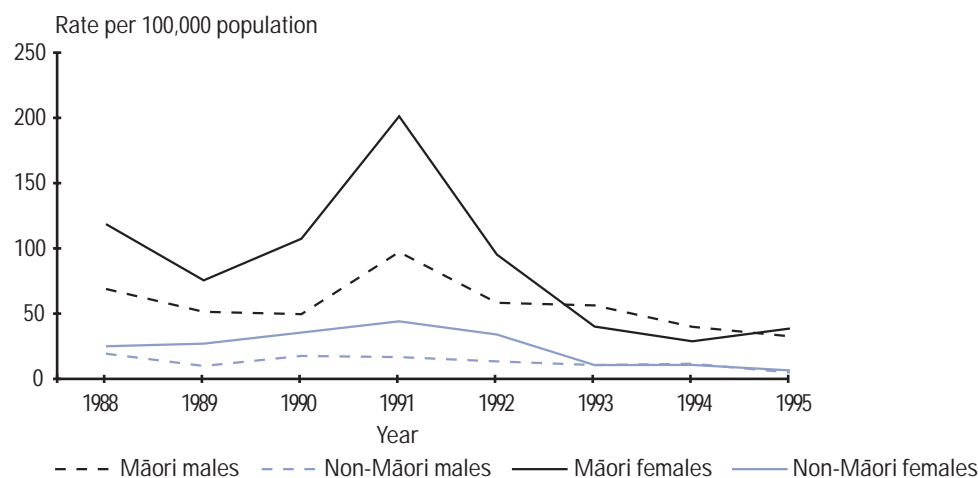
Note:
Causes of hospitalisation include fight, brawl, rape, corrosive or caustic substances, poisoning, hanging, strangulation, submersion, firearms, explosives, cutting and piercing and child battering and other maltreatment.

In recent years, Māori aged 0–14 years have continued to be hospitalised for child battering and other maltreatment at a greater rate than non-Māori. However, there are indications that this differential has narrowed in the three years from 1993–95 (Figure 11.2.4).

A detailed study of child abuse hospitalisation data for 1988 showed that physical abuse was the main cause of these hospitalisations (61 percent), followed by sexual abuse (39 percent). Hospitalised boys were more likely to have been physically abused, while hospitalised girls were more likely to have been sexually abused. Hospitalisation for physical abuse was most common among preschool children (1–4 years old) and hospitalisation for sexual abuse was most common for younger primary school children (5–9-year-olds). In over 80 percent of physical abuse cases resulting in hospitalisation, the abuser was the child's parent or de facto parent (Kotch et al 1993).

³ It should be remembered that rates of hospitalisation are likely to be influenced by other factors apart from actual patterns of abuse.

Figure 11.2.4: Hospitalisation of children aged 0–14 years for child battering and other maltreatment (ICD-9 code E967), by sex and ethnicity, 1988–95



Source of data:
Ministry of Health 1997c.

Police statistics on offences against children

Data on offences against children reported to the New Zealand police provide another general indication of levels of childhood physical and sexual abuse. However, it is important to interpret these figures with caution as they may not reflect the true incidence of these offences. Reporting of offences against children may be influenced by a number of factors, including greater public emphasis on disclosure and increased public confidence that reports will be acted on by authorities (Ministry of Health 1996). It is also important to remember that only a proportion of reported offences result in charges being laid and a subsequent conviction in a court of law.

In 1996/97, a total of 3901 offences against children were reported to the police, an increase of 190 on the previous year. As in earlier years, sexual offences were the most frequent, making up nearly half (48 percent) of all the offences reported. Assault of children 0–13 years old made up a further 29 percent of the reported offences.

Convictions for sexual offences against children

Most court convictions for violent sexual offences are for offences committed on children and young people under 17 years of age. In 1995, there was a total of 1914 convictions in the New Zealand courts for violent sexual offences (rape, unlawful sexual connection, attempted sexual violation or indecent assault). Of these convictions, 746 (40 percent) involved offences on children under the age of 12, mainly girls. A further 634 (33 percent) involved children aged 12–16 years. Convictions were most commonly made for indecent assault and unlawful sexual connection. There were 60 convictions for rape involving girls younger than 12 years of age (Ministry of Justice 1996).

Changes over time

Physical abuse

Results from a nationwide telephone survey conducted in 1993 suggest that, compared to parents in the 1960s and 1970s, a smaller proportion of New Zealand parents may now be using more severe forms of physical punishment on their children, such as hitting with a strap or stick. The survey also identified what appears to be an increase in the proportion of parents using explanation or discussion with their children to deal with concerns, rather than physical punishment. However, over 80 percent of parents considered there were circumstances when it was all right for a parent to smack a child – a level of support for smacking very similar to that found in earlier New Zealand surveys (Maxwell 1993).

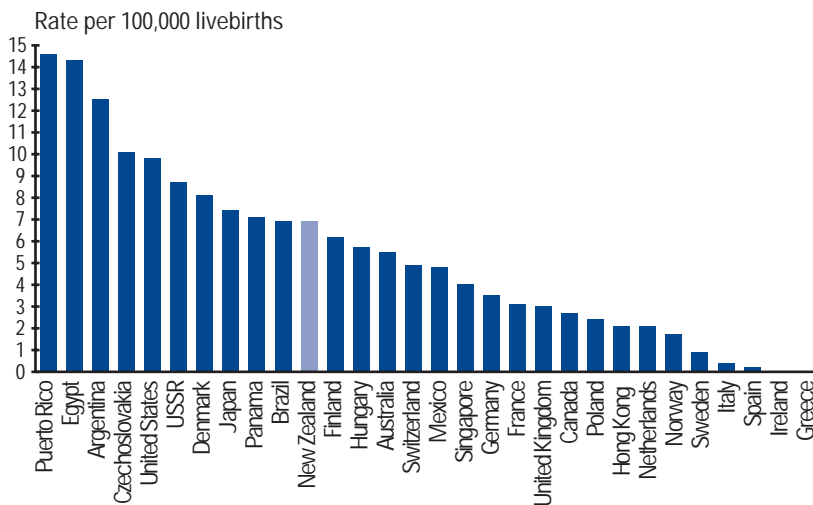
Sexual abuse

Results from the 1989–90 Otago study of women aged 18–65 years suggest that female childhood sexual abuse rates have remained roughly similar over the last 50 years. However, in keeping with findings in other countries, younger adult women appear to be more likely to report being subjected to the most intrusive forms of sexual abuse during childhood (that is, serious contact abuse, including intercourse) (Anderson et al 1993).

International comparisons

Comparing child abuse statistics across countries is very difficult, not least because of the many different recording systems used internationally (Ministry of Health 1996). The only recently published attempt to compare rates of abuse between countries used ICD-9 code data on homicide and ‘deaths from injury undetermined whether accidentally or purposely inflicted’ (Belsey 1993). While considerable caution must be used when comparing abuse statistics between countries, the results suggest that New Zealand’s rate of infant abuse was probably higher between 1985 and 1990 than in other developed countries such as Australia, the United Kingdom, Ireland, Italy, France, Canada, Norway, and Sweden (Figure 11.2.5).

Figure 11.2.5: Presumed child abuse death rate of infants (aged 0–12 months) in selected countries, 1985–90



Source of data:

Belsey, 1993. 'Presumed child abuse death rate' calculated using national available data on ICD-9 codes B55 (homicides) and B56 (deaths from injury undetermined whether accidentally or purposely inflicted).

Note:

Comparisons between countries must be treated with caution. In countries with a small population where the annual number of infant homicides is low, small variations in the number of homicide deaths will produce large fluctuations in mortality rates.

Risk factors

New Zealand studies have identified a wide range of factors associated with children being at increased risk of sexual abuse or physical violence. In particular, research has highlighted the importance of social and family factors. Compared to their non-abused peers, young people in the Christchurch Health and Development Study (Fergusson and Lynskey 1997) who reported receiving abusive or harsh physical treatment in childhood were more likely to:

- come from single-parent families
- be the children of young mothers
- be the children of mothers who lacked formal educational qualifications
- experience more than two changes of parents or parent figures up to age 15
- experience high levels of parental conflict
- have parents with a history of criminal offending and substance use problems
- come from economically disadvantaged families
- experience childhood adversity and disadvantage (for example, a low level of preschool education, low participation in preventive health care)
- be exposed to childhood sexual abuse.

The Christchurch study found similar factors underlying the risk of sexual abuse (Fergusson et al 1996b). Compared to young women who reported no childhood sexual abuse, young women who reported childhood sexual abuse were more likely to:

- be raised by a young mother
- be raised by a mother who lacked formal educational qualifications
- experience at least one change of parent or parent figure before age 15
- be raised with a step-parent
- be exposed to high levels of parental conflict
- be raised in a disadvantaged home environment
- report frequent or severe physical punishment during childhood
- report poor parental attachment
- have parents who used illicit drugs
- have parents who reported alcohol problems or alcoholism.

The Christchurch Health and Development Study also identified clear overlaps between the risks for childhood sexual and physical abuse. Thirty-seven percent of the 18-year-olds who experienced severe or harsh physical punishment in childhood had also been sexually abused as children. This compares to 9.9 percent of 18-year-olds who did not experience severe or harsh physical punishment in childhood (Fergusson and Lynskey 1997).

Other New Zealand studies have identified factors that can exacerbate, or alternatively protect against, the long-term negative effects of childhood sexual abuse. Women sexually abused in childhood appear to be more likely to experience negative outcomes as adults if, during their childhood and adolescence, they also experience inadequate mother-father and parent-child relationships, early pregnancy and poor academic, sporting and social performance. Positive long-term outcomes are more common in abused women who have a good relationship with their father, who participated in sport as a teenager, and who have formed a supportive and positive relationship with a husband or partner in adulthood. These protective factors appear to help curb the development of low self-esteem and psychiatric disorder (Romans et al 1995a).

Studies suggest that child abuse may be more likely to occur in homes already characterised by spousal abuse (McKay 1994).

Other studies have found that, compared to children who do not live in households where spousal violence occurs, children living in households where spousal violence occurs are more likely to be anxious, withdrawn or distressed, and have lower self-esteem. They are also more likely to be disobedient, aggressive and destructive. In addition, there are indications that boys and girls brought up in households where spousal violence occurs are themselves more likely to become spouse abusers as adults (Robertson and Busch 1994).

Results from a 1995 study suggest that about half of New Zealand 11–13-year-olds have witnessed adults verbally or physically fighting each other. This violence was witnessed mainly at home or in the community and usually involved at least one of the children's parents (Maxwell and Carroll-Lind 1996).

References

- Anderson J, Martin J, Mullen P, et al. 1993. Prevalence of childhood sexual abuse experiences in a community sample of women. *J American Academy Child & Adolescent Psychiatry* 32(5): 911–19.
- Beautrais A, Joyce P, Oakley-Browne M. 1994. Child sexual abuse and risks of suicidal behaviour. In: P Joyce, R Mulder, M Oakley-Browne, et al (eds). *Development, Personality, and Psychopathology*. Christchurch: Christchurch School of Medicine: 141–8.
- Belsey MA. 1993. Child abuse: measuring a global problem. *World Health Statistics Quarterly* 46: 69–77.
- Briggs L, Joyce PR. 1997. What determines post-traumatic stress disorder symptomatology for survivors of childhood sexual abuse? *Child Abuse & Neglect* 30(6): 575–82.
- Bushnell JA, Wells JE, Oakley-Browne MA. 1992. Long-term effects of intrafamilial sexual abuse in childhood. *Acta Psychiatr Scand* 85(2): 136–42.
- Diekema DS, Quan L, Holt VL. 1993. Epilepsy as a risk factor for submersion injury in children. *Pediatrics* 92: 612–16.
- Dowswell T, Towner EML, Simpson G, et al. 1996. Preventing childhood unintentional injuries – what works? A literature review. *Injury Prevention* 2: 140–9.
- Fergusson DM, Horwood LJ, Lynskey MT. 1996a. Childhood sexual abuse and psychiatric disorders in young adulthood: part I: the prevalence of sexual abuse and the factors associated with sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry* 35: 1355–64.
- Fergusson DM, Horwood LJ, Lynskey MT. 1996b. Childhood sexual abuse and psychiatric disorders in young adulthood: part II: psychiatric outcomes of sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry* 35: 1365–74.
- Fergusson DM, Horwood LJ, Lynskey MT. 1997. Childhood sexual abuse, adolescent sexual behaviors and sexual revictimization. *Child Abuse and Neglect* 21 (8): 789–803.
- Fergusson DM, Lynskey MT. 1997. Physical punishment/maltreatment during childhood and adjustment in young adulthood. *Child Abuse and Neglect* 21(7): 617–30.
- Gafford JE, Silva PH, Langley JD. 1996. Injuries. In PA Silva, WR Stanton (eds). *From Child to Adult: The Dunedin Multidisciplinary Health and Development Study*. Auckland, Oxford University Press: 98–112.
- Graham CJ, Dick R, Rickert VI, et al. 1993. Left-handedness as a risk factor for unintentional injury in children. *Pediatrics* 92: 823–6.
- Kotch JB, Chalmers DJ, Fanslow JL; et al. 1993. Morbidity and death due to child abuse in New Zealand. *Child Abuse & Neglect* 17(2): 233–47.
- Langley JD, Smeijers J. 1997. Injury mortality among children and teenagers in New Zealand compared with the United States of America. *Injury Prevention* 3: 195–9.
- Maxwell GM. 1993. *Physical Punishment in the Home in New Zealand*. Wellington: Office of the Commissioner for Children [Occasional paper number 2 – September].
- Maxwell GM, Carroll-Lind J. 1996. *Children's Experience of Violence*. Wellington: Office of the Commissioner for Children.

- Maxwell GM, Carroll-Lind J. 1997. *The Impact of Bullying on Children*. Wellington: Office of the Commissioner for Children [Occasional paper number 6 – October].
- McKay MM. 1994. The link between domestic violence and child abuse: assessment and treatment considerations. *Child Welfare* 73(1): 29–39.
- Ministry of Health. 1996. *Child Abuse Prevention: The health sector's contribution to the 'Strengthening Families' initiative*. Wellington: Public Health Group, Ministry of Health.
- Ministry of Health. 1997a. *Mortality and Demographic Data 1994*. Wellington: Ministry of Health.
- Ministry of Health. 1997b. *Progress on Health Outcome Targets 1997. Te Haere Whakamua ki ngā Whainga Hua mō te Hauora: The state of the public health in New Zealand 1997*. Wellington: Ministry of Health.
- Ministry of Health. 1997c. *Public Hospital and Selected Morbidity Data 1995*. Wellington: Ministry of Health.
- Ministry of Justice. 1996. *Conviction and Sentencing of Offenders in New Zealand: 1986 to 1995*. Wellington: Ministry of Justice.
- Moller J and Kreisfeld R. 1997. Progress and current issues in child injury prevention. *Australian Injury Prevention Bulletin* 15: 1–16.
- Mullen PE, Martin JL, Anderson JC, et al. 1996. The long-term impact of the physical, emotional, and sexual abuse of children: a community study. *Child Abuse and Neglect* 20(1): 7–21.
- Rivara FP, Grossman DC. 1996. Of traumatic deaths to children in the United States: how far have we come and where do we need to go? *Pediatrics* 97:791–7.
- Roberts I, Norton R, Jackson R, et al. 1995. Effect of environmental factors on risk of injury of child pedestrians by motor vehicles: a case-control study. *Brit Med J* 310: 91–4.
- Robertson N, Busch R. 1994. Not in front of the children: spousal violence and its effects on children. *Butterworths Family Law Journal* (6): 107–15.
- Romans S, Martin J, Mullen P. 1996. Women's self-esteem: a community study of women who report and do not report childhood sexual abuse. *Br J Psychiatry* 169(6): 696–704.
- Romans SE, Martin JL, Anderson JC, et al. 1995a. Factors that mediate between child sexual abuse and adult psychological outcome. *Psychological Medicine* 25(1): 127–42.
- Romans SE, Martin JL, Anderson JC, et al. 1995b. Sexual abuse in childhood and deliberate self-harm. *Am J Psychiatry* 152(9): 1336–42.
- Romans SE, Martin JL, Anderson JC, et al. 1996. The 'anatomy' of female child sexual abuse: who does what to young girls? *Aust NZ J Psychiatry* 30(3): 319–25.
- Romans SE, Martin JL, Morris EM. 1997. Risk factors for adolescent pregnancy: how important is child sexual abuse? Otago Women's Health Study. *NZ Med J* 110: 30–3.
- Simon PA, Baron RC. 1994. Age as a risk factor for burn injury requiring hospitalisation during early childhood. *Archives of Pediatric and Adolescent Medicine* 148: 394–7.
- Stevenson MR, Jamrozik KD, Spittle J. 1995. A case-control study of traffic risk factors and child pedestrian injury. *Int J Epidemiol* 24: 957–64.
- Sullivan PF, Bulik CM, Carter FA, et al. 1995. The significance of a history of childhood sexual abuse in bulimia nervosa. *British Journal of Psychiatry* 167(5): 679–82.