

INJURIES ARISING FROM THE ASSAULT, NEGLECT OR MALTREATMENT OF CHILDREN

Introduction

Longitudinal studies suggest that 4–10% of New Zealand children experience physical abuse and 11–20% experience sexual abuse during childhood and that the long term consequences for these children are significant [1]. During the 1990s, New Zealand ranked 3rd highest amongst rich nations for its child maltreatment death rates [2], with 49 children <15 years dying as a result of maltreatment between 1996 and 2000. This situation does not appear to have improved over time, with mortality rates almost doubling during the late 1980s and changing very little since then [3]. Mortality represents the tip of the iceberg however, with the number of notifications to Child Youth and Family (CYF) for possible abuse or neglect increasing each year. In the 2009/2010 year, CYF received around 125,000 notifications, with just over half of such notifications each year typically requiring further action [4]. This is of concern, as in addition to the physical effects, research has shown that survivors of childhood abuse often suffer long term psychological sequelae including depression, post-traumatic stress disorder, substance abuse, suicide / suicide attempts and high risk sexual behaviour [5].

The following section explores hospital admissions and mortality from injuries arising from the assault, neglect or maltreatment of children aged 0–14 years using information from the National Minimum Dataset and the National Mortality Collection.

Data Source and Methods

Definition

1. Hospitalisations for Injuries Arising From the Assault / Neglect / Maltreatment of Children Aged 0–14 Years
2. Deaths from Injuries Arising from the Assault / Neglect / Maltreatment of Children Aged 0–14 Years

Data Source

1. Hospital Admissions

Numerator: National Minimum Dataset: Hospital admissions of children (0–14 years) with a primary diagnosis of injury (ICD-10-AM S00–T79) and an external cause code of intentional injury (ICD-10-AM X85–Y09) in any of the first 10 External Cause codes. As outlined in **Appendix 2**, in order to ensure comparability over time, all cases with an Emergency Department Specialty Code (M05–M08) on discharge were excluded.

Denominator: NZ Statistics NZ Estimated Resident Population.

2. Mortality

Numerator: National Mortality Collection: Deaths in children (0–14 years) with a clinical code (cause of death) of Intentional Injury (ICD-10-AM X85–Y09).

Denominator: NZ Statistics NZ Estimated Resident Population.

Interpretation

The limitations of the National Minimum Dataset are discussed at length in **Appendix 2**. The reader is urged to review this Appendix before interpreting any trends based on hospital admission data.

Indicator Category Admissions Proxy C; Mortality Ideal B

New Zealand Distribution and Trends

New Zealand Trends

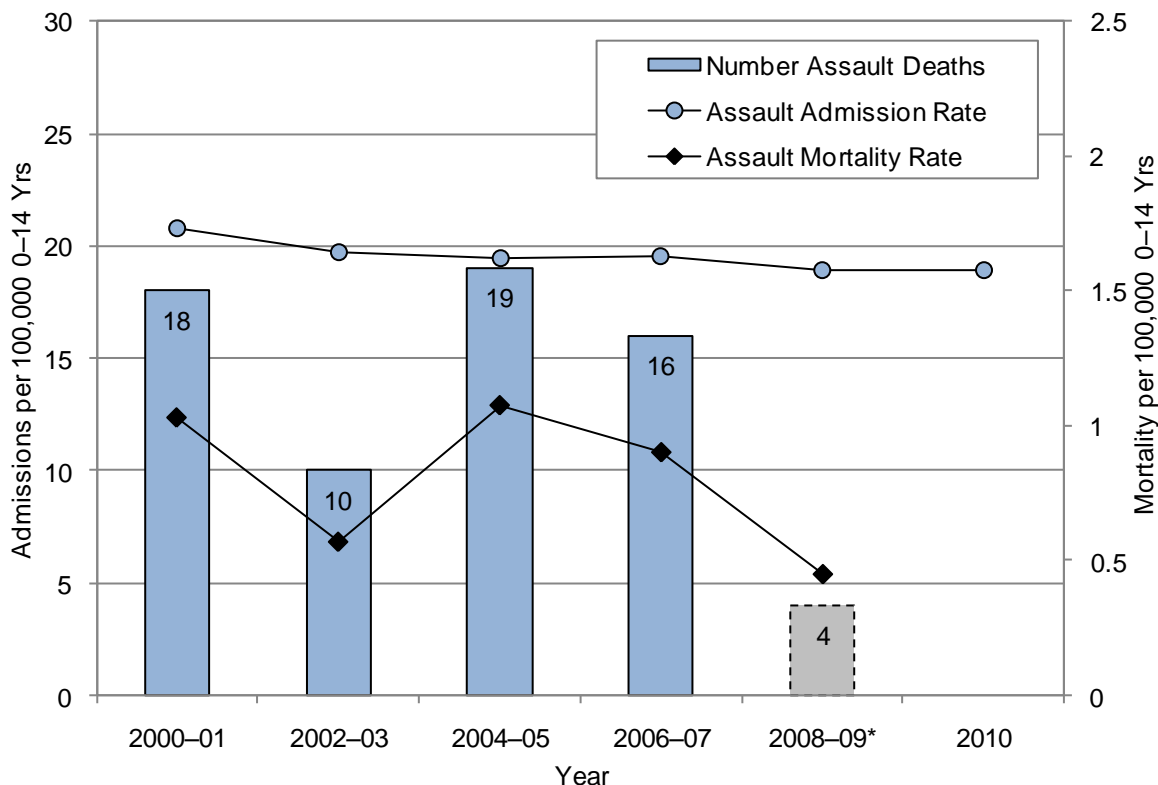
In New Zealand during 2000–2010, hospital admissions for injuries arising from the assault, neglect or maltreatment of children declined very gradually, while mortality during 2000–2008 fluctuated from year to year. On average during 2000–2008, 7.4 children per year died as a result of injuries arising from assault, neglect or maltreatment (**Figure 1**).

New Zealand Distribution by Age and Gender

In New Zealand during 2006–2010, hospital admissions for injuries arising from the assault, neglect or maltreatment of children exhibited a U-shaped distribution with age, with rates being higher for infants <1 year and those > 11 years of age. In contrast, mortality was highest for infants < 1 year. While the gender balance for admissions was relatively even during infancy and early childhood, admissions for males became more predominant as adolescence approached (**Figure 2**).

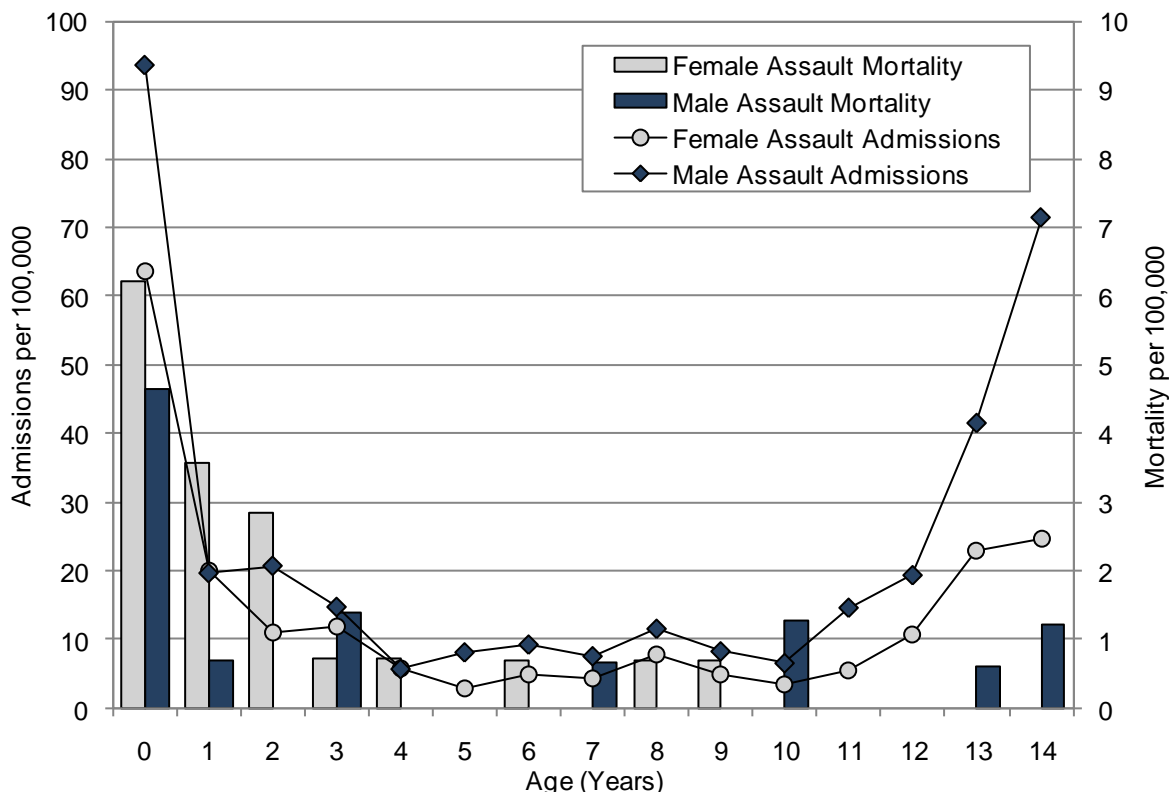


Figure 1. Hospital Admissions (2000–2010) and Deaths (2000–2008) due to Injuries Arising from the Assault, Neglect or Maltreatment of New Zealand Children 0–14 Years



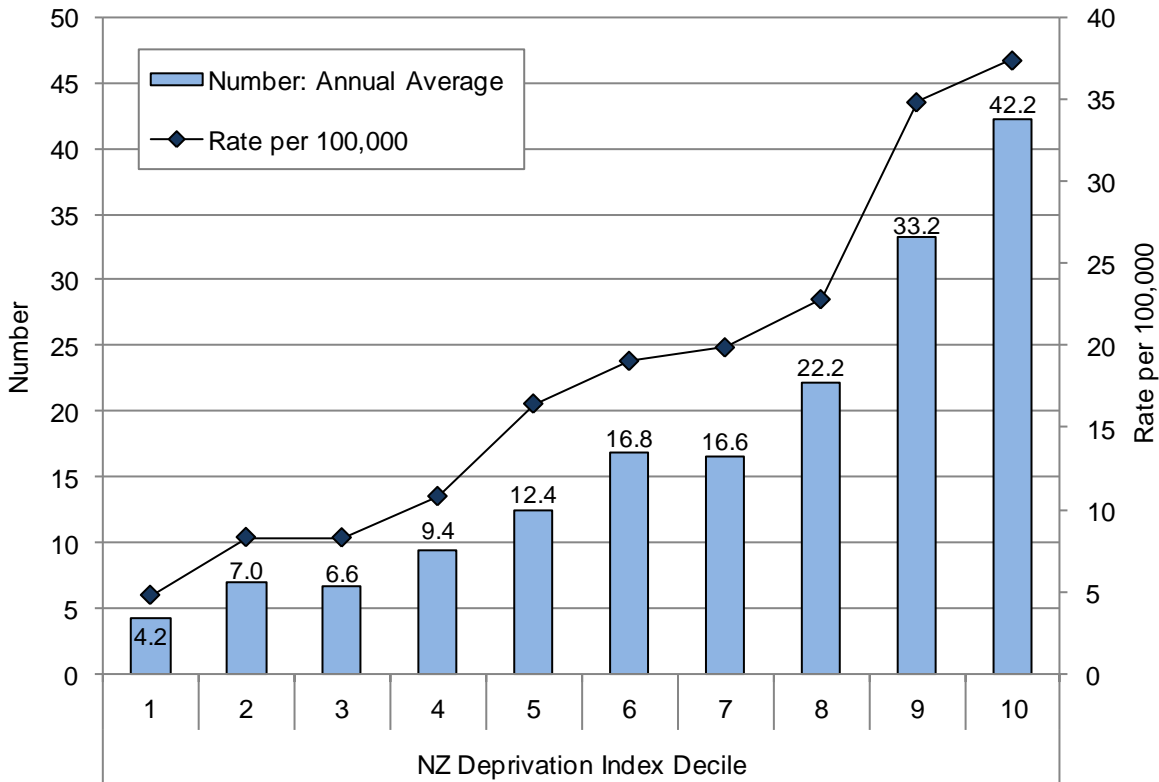
Source: Numerator Admissions: National Minimum Dataset; Numerator Mortality: National Mortality Collection; Denominator: Statistics NZ Estimated Resident Population. *Note: Numbers are per 2-year period with the exception of 2008 which is for a single year only.

Figure 2. Hospital Admissions (2006–2010) and Deaths (2004–2008) due to Injuries Arising from the Assault, Neglect or Maltreatment of New Zealand Children by Age and Gender



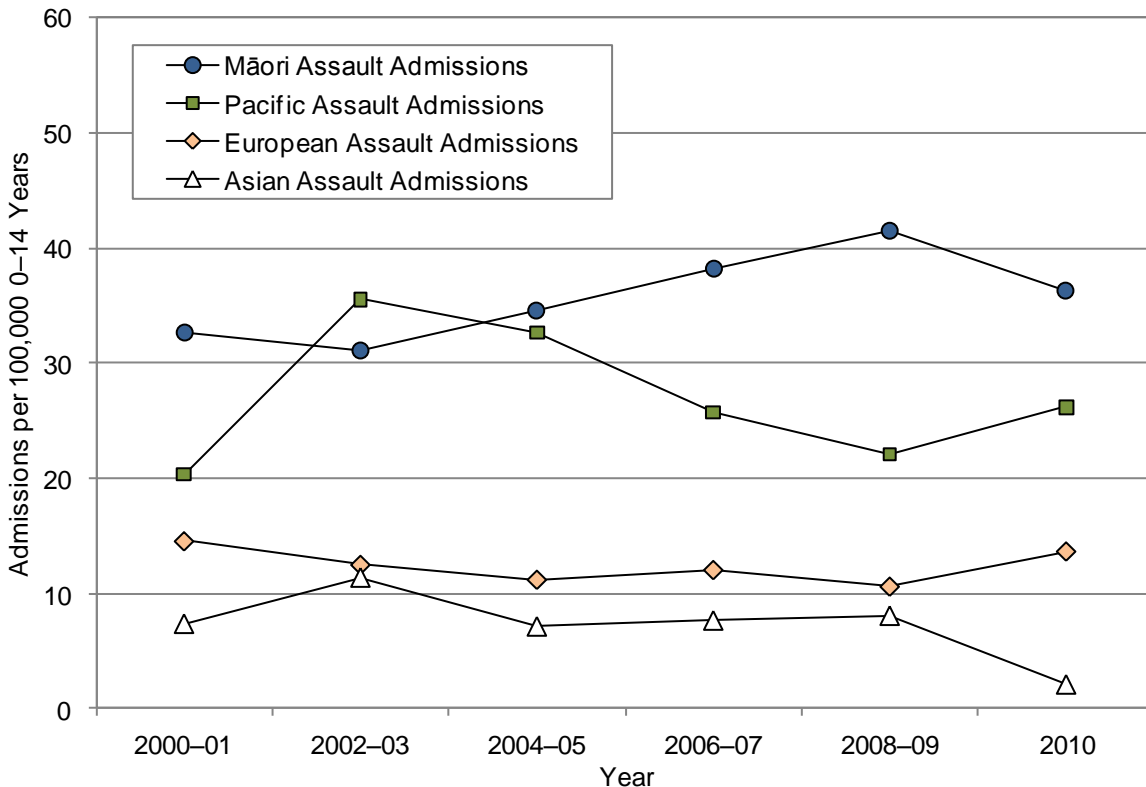
Source: Numerator Admissions: National Minimum Dataset; Numerator Mortality: National Mortality Collection; Denominator: Statistics NZ Estimated Resident Population

Figure 3. Hospital Admissions for Injuries Arising from the Assault, Neglect or Maltreatment of Children 0–14 Years by NZ Deprivation Index Decile, New Zealand 2006–2010



Source: Numerator: National Minimum Dataset; Denominator: Statistics NZ Estimated Resident Population

Figure 4. Hospital Admissions for Injuries Arising from the Assault, Neglect or Maltreatment of Children 0–14 Years by Ethnicity, New Zealand 2000–2010



Source: Numerator: National Minimum Dataset; Denominator: Statistics NZ Estimated Resident Population. Note: Ethnicity is Level 1 Prioritised.



Table 1. Distribution of Hospital Admissions for Injuries Arising from the Assault, Neglect or Maltreatment of Children 0–14 Years by Ethnicity, NZ Deprivation Index Decile and Gender, New Zealand 2006–2010

Variable	Number: Total 2006–2010	Number: Annual Average	Rate per 100,000	Rate Ratio	95% CI
NZ Deprivation Index Decile					
Decile 1	21	4.2	4.8	1.00	
Decile 2	35	7.0	8.3	1.74	1.02–3.00
Decile 3	33	6.6	8.3	1.74	1.01–3.01
Decile 4	47	9.4	10.8	2.27	1.36–3.80
Decile 5	62	12.4	16.4	3.46	2.11–5.68
Decile 6	84	16.8	19.0	4.01	2.49–6.47
Decile 7	83	16.6	19.9	4.18	2.59–6.75
Decile 8	111	22.2	22.8	4.80	3.01–7.66
Decile 9	166	33.2	34.9	7.34	4.66–11.55
Decile 10	211	42.2	37.4	7.87	5.03–12.33
NZ Deprivation Index Quintile					
Decile 1–2	56	11.2	6.5	1.00	
Decile 3–4	80	16.0	9.6	1.48	1.05–2.08
Decile 5–6	146	29.2	17.8	2.75	2.02–3.75
Decile 7–8	194	38.8	21.5	3.31	2.46–4.46
Decile 9–10	377	75.4	36.2	5.59	4.22–7.41
Gender					
Female	302	60.4	13.9	1.00	
Male	554	110.8	24.3	1.75	1.52–2.01
Prioritised Ethnicity					
Asian	28	5.6	6.6	0.56	0.38–0.82
European	293	58.6	11.8	1.00	
Māori	420	84.0	39.1	3.32	2.86–3.85
Pacific	104	20.8	24.4	2.07	1.65–2.59

Source: Numerator: National Minimum Dataset; Denominator: Statistics NZ Estimated Resident Population. Note: Rate is per 100,000 per year; Rate Ratios are unadjusted; Ethnicity is Level 1 Prioritised.

New Zealand Distribution by Gender, Ethnicity and NZ Deprivation Index Decile

In New Zealand during 2006–2010, hospital admissions for injuries arising from the assault, neglect or maltreatment of children were *significantly* higher for males, Māori > Pacific > European > Asian children, and those living in average / more deprived (NZDep decile 2–10) areas (**Table 1**).

Similarly, during 2000–2010 hospital admissions for injuries arising from the assault, neglect or maltreatment of children were consistently higher for Māori and Pacific > European > Asian children, with rates also being higher for Māori than for Pacific children from 2004–05 onwards (**Figure 4**).

Nature of the Injury Sustained

During 2006–2010, the most common specific injury types sustained as the result of the assault, neglect or maltreatment of children aged 0–4 years were subdural haemorrhages and superficial head injuries, followed by fractures of the skull and face, and fractures of the femur.



For children aged 5–12 years, head, upper limb and abdominal / spinal / pelvic injuries predominated, with superficial head injuries, fractures of the skull and facial bones and concussions being amongst the most common specific injury types documented (**Table 2**).

Table 2. Nature of Injury Arising from Assault, Neglect or Maltreatment in Hospitalised Children 0–12 Years by Age Group, New Zealand 2006–2010

Nature of Injury	Total Number 2006–2010	Annual Average	% of Injuries in Age Group
Children 0–4 Years			
Traumatic Subdural Haemorrhage (S065)	116	23.2	29.4
Superficial Head Injury (S00)	62	12.4	15.7
Fracture Skull or Facial Bones (S02)	17	3.4	4.3
Other Head Injuries (Remainder S00–S09)	44	8.8	11.1
Injuries to Abdomen, Spine and Pelvis (S30–S39)	28	5.6	7.1
Injuries to Thorax (Including Rib Fractures) (S20–S29)	11	2.2	2.8
Injuries to Upper Limb (S40–S69)	27	5.4	6.8
Fracture of Femur (S72)	16	3.2	4.1
Other Injuries to Lower Limb (S70–S99)	19	3.8	4.8
Maltreatment (T74)	36	7.2	9.1
Other Injuries	19	3.8	4.8
Total	395	79.0	100.0
Children 5–12 Years			
Superficial Head Injury (S00)	30	6.0	15.5
Fracture Skull or Facial Bones (S02)	18	3.6	9.3
Concussion (S060)	16	3.2	8.2
Other Head Injuries (Remainder S00–S09)	35	7.0	18.0
Injuries to Abdomen, Spine and Pelvis (S30–S39)	23	4.6	11.9
Injuries to Thorax (Including Rib Fractures) (S20–S29)	3	0.6	1.5
Injuries to Upper Limb (S40–S69)	29	5.8	14.9
Injuries to Lower Limb (S70–S99)	11	2.2	5.7
Maltreatment (T74)	11	2.2	5.7
Other Injuries	18	3.6	9.3
Total	194	38.8	100.0

Source: National Minimum Dataset

Summary

In New Zealand during 2006–2010, hospital admissions for injuries sustained as the result of the assault, neglect or maltreatment of children exhibited a U-shaped distribution with age, with rates being highest for infants < 1 year, and those > 11 years of age. In contrast, mortality was highest for infants < 1 year. While the gender balance for admissions was relatively even during infancy and early childhood, hospital admissions for males became more predominant as adolescence approached. In addition, admissions were also significantly higher for males, Māori > Pacific > European > Asian children, and those in average / more deprived (NZDep decile 2–10) areas.



References

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