New Plymouth District 2006 Community Injury Prevention Needs Assessment

Prepared for New Plymouth injurySafe by

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Disclaimer

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List of Acronyms

ACC	Accident Compensation Corporation
ASR	Age-standardised rate
ATV	All terrain vehicle
CYF, CYFS	Child, Youth and Family Service
DHB	District Health Board
DOL	Department of Labour
ED	Emergency Department
GP	General practitioner
HPU	Health Promotion Unit (of the Taranaki District Health Board)
HSE Centre	Health Safety and Environment Centre
ICD	International Classification of Diseases
NPD	New Plymouth District
NPDC	New Plymouth District Council
NPiS	New Plymouth injurySafe
NZDep2001	New Zealand deprivation index, 2001
NZHIS	New Zealand Health Information Service
NZIPS	New Zealand Injury Prevention Strategy
NZQA	New Zealand Qualifications Authority
PHO	Primary Health Organisation
SCFNZ	Safe Communities Foundation New Zealand
SHORE	Centre for Social and Health Outcomes Research and Evaluation (Massey University)
SPARC	Sport & Recreation New Zealand
TCP	Thinksafe Community Projects
TLA	Territorial Local Authority
TMG	Te Rito Management Group
WHO	World Health Organization
WISE	Waitara Initiatives Supporting Employment

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Report Summary

This report presents the results of the 2006 New Plymouth District community injury prevention needs assessment. The assessment was commissioned by the Taranaki District Health Board Health Promotion Unit for New Plymouth injurySafe (NPiS) and undertaken by Research and Evaluation Services Ltd (New Plymouth) in association with HealthSearch Ltd (Auckland).

The main aim of the needs assessment was to compile relevant statistical and qualitative information to identify patterns of injury in New Plymouth District. This information will be used by NPiS to:

- help monitor progress in reducing the incidence and severity of injury in the District
- identify future injury prevention priorities and strategies for addressing them.

Information for the needs assessment was obtained in three main ways:

- analysing injury data from local and national statistical collections, including mortality, hospitalisation, emergency department, injury insurance claim (ACC) and road crash injury data
- consulting with key people and organisations in New Plymouth District with an interest in injury and injury prevention
- reviewing published reports and other literature examining the development of New Plymouth injurySafe and other recent New Zealand injury prevention initiatives.

Development of New Plymouth injurySafe

New Plymouth injurySafe (NPiS) is a coalition of people with links to a wide range of New Plymouth District organisations, businesses and groups with an interest in injury prevention and community safety. The origins of NPiS can be traced back to early 2001, when personnel from five local agencies (Tui Ora Ltd, the Kidsafe Taranaki Trust, the community development section of New Plymouth District Council, the Health Promotion Unit of Taranaki Health, and Plunket) agreed to meet together on a regular basis to try to better align and co-ordinate their injury prevention priorities and activities. Later that year, with funding support from ACC, the group commissioned the first New Plymouth District community injury prevention needs assessment. This involved the analysis of local and national injury statistics and extensive consultation with a range of local organisations and individuals with an interest in injury prevention. Out of this work, five priority issues for future intersectoral action in the district were identified:

- Falls among older people
- Children's falls
- Youth, in relation to roads and violence
- Injuries to Mäori
- Farm injuries.

Once these priorities had been confirmed, the group undertook further networking in the community to publicise and build support for the priorities and encourage local agencies to initiate joint action to address them. Subsequently, in 2002, key personnel from a number of agencies in the district agreed to

join together to form New Plymouth injurySafe (NPiS); an ongoing, district-wide injury prevention initiative based on voluntary, informal collaboration.

Later that year, the New Plymouth District was selected as a site for one of ACC's 23 ThinkSafe Community Projects. This resulted in NPiS receiving financial and technical assistance from ACC specifically to support the running of a local, collaborative injury prevention project. The focus of the project was the five priority areas identified during the needs assessment, plus the addition of workplace injuries as a priority.

Activities in 2002 and 2003

Specific intersectoral projects and activities begun or continued in 2002 by organisations linked to the NPiS collaboration included: a child falls prevention project, a school playground safety training project, a pony club safety education programme, various road safety initiatives, a farm safety programme for secondary school students, Kidsafe Week (pedestrian and water safety focus), an older people's falls prevention project, and the 'Think Before You Buy Under 18s Drink' social marketing campaign.

New projects introduced in 2003 included: a sports coach-targeted training programme, a two-day Taranaki-wide Health and Safety Expo, a home safety programme for older people, a modified Tai Chi programme for people over the age of 65, and the internationally recognised Otago Exercise Programme for people over the age of 80.

Activities in 2004 and 2005

In 2004 several existing projects were expanded and a range of new projects were introduced or piloted. These included: the *THINK*smart responsible alcohol management accreditation programme for sports clubs, the Better Homes – Safer Children project, the safer driving initiative targeted at secondary school students, and the 'driver reviver' project. The New Plymouth District Council also hosted a community Injury Prevention Symposium.

Key developments during 2005 included: the official opening of the Health Safety and Environment Centre and the inaugural *THINK*smart Club of the Year trophy awards. The Kidsafe Trust also ran two parent-targeted child car restraint safety check clinics.

Accreditation as a WHO Safe Community

Early in 2005, NPiS and the New Plymouth District Council formally agreed to work together to apply for New Plymouth District to become officially accredited as a World Health Organisation (WHO) Safe Community. Criteria for becoming an accredited Safe Community of the WHO Safe Community Network include having an infrastructure governed by a cross-sectoral group and running long-term sustainable injury prevention programmes that cover both genders, all ages and all environments and situations.

Following preparation and submission of an extensive application document, a site visit by WHO representatives was conducted in New Plymouth on 12 and 13 September 2005. Just over one month later, on 27 October 2005, the New Plymouth District was designated the 95th WHO Safe Community.

Strategic planning and development

In 2005 NPiS developed a three-year Strategic Plan. The plan expressed the commitment of the NPiS partners and participating organisations to continue to work collaboratively towards a shared vision of

New Plymouth District becoming a safe community without the burden of injury. An annual implementation plan for 2005-2006 was also developed at this time. This indicated more precisely the strategies, indicators and measures to be used during that financial year to achieve the NPiS objectives.

Currently the core partners of NPiS are Tui Ora Ltd, the Health Promotion Unit of the Taranaki District Health Board, the New Plymouth District Council, Kidsafe Taranaki Trust, ACC and the New Plymouth Police. NPiS's current intersectoral network includes 24 organisations whose interest areas cover children, young people and older people's health and wellbeing, sport and recreation, industry including farming, and road safety. Recently, NPiS has obtained funding for a co-ordinator.

Social profile of New Plymouth District

The New Plymouth District is situated on the west coast of the North Island of New Zealand. It is the northernmost of the three Territorial Local Authorities (TLAs) in the Taranaki region, the others being Stratford District and South Taranaki District.

In 2001 a total of 66,603 people were usually resident in New Plymouth District. This was 65 percent of the Taranaki population (103,026).

Compared to the whole New Zealand population, the New Plymouth District (NPD) has a higher proportion of older people and a lower proportion of working age adults.

In 2001, Mäori comprised 13 percent of the New Plymouth District population.

Almost three-quarters (72 percent) of the population of the New Plymouth District live in the urban and suburban areas of New Plymouth itself.

Deaths from injury

On average each year, almost 30 NPD residents die as a result of injury.

About two-thirds of injury deaths among New Plymouth District residents are due to *unintentional* causes, with most of the remainder due to *intentional* causes.

In 2000-2003, most of the deaths due to *unintentional* injuries involved:

- transport accidents (8 per year)
- falls (6 per year)
- drowning / submersion (1 per year)
- accidental poisoning (1 per year).

The vast majority (85 percent) of deaths due to *intentional* injury were caused by intentional self-harm – suicide and other types of self-inflicted injury (7 per year).

In the four year period 2000-2003, the average annual age-standardised death rate for injury among New Plymouth District residents was slightly higher than that of New Zealand as a whole.

Injury death rates in NPD were highest in the oldest age group (80+) and lowest among 0-9 year-olds. Another (lower) peak in rates occurred for 20-29 year olds.

Intentional injuries (predominantly suicide and other self-inflicted injuries) contributed to nearly half of all injury deaths among 20-29 year olds, 30-39 year olds and 40-49 year olds. This contrasts with the pattern for all other age groups where *unintentional* causes were far more common than *intentional* causes.

The age-standardised injury death rate for males living in the New Plymouth District was just over double the female rate.

The age-standardised rate of injury deaths among Mäori was nearly twice that of non-Mäori.

People living in the most socio-economically deprived areas of NPD had higher injury death rates than people living in less deprived areas.

Trends in injury-related death rates in NPD are quite difficult to analyse because of small numbers and a change in classification systems in 2000. However, looking at longer term trends over the period 1989-2003, injury mortality rates in NPD appeared to be below the national average during the early 1990s, but were very similar to the national average in the mid 1990s. In the late 1990s, the NPD rates again were slightly below that of New Zealand as a whole. From 2000-2003, NPD rates were initially higher, then became lower than the national rates.

Hospitalisations for injury

In the five year period 2001-2005 an average of 1364 NPD residents per annum were admitted to hospital due to injuries (includes both *intentional* and *unintentional*). Over this same period, 87 percent of these admissions were for *unintentional* injuries and just 8 percent of admissions were due to *intentional* injuries.

The most common groups of injuries were:

- falls (42 percent)
- exposure to inanimate mechanical forces (15 percent)
- transport-related accidents (14 percent).

Overall the male hospitalisation rate for injury was 1.6 times that for females. Males had higher hospitalisation rates than females in all age groups except the 70-79 and 80+ age groups.

On an age-adjusted basis, Mäori and non-Mäori in NPD had an almost equal chance of being hospitalised due to injury.

In all age groups, people living in the most socio-economically deprived areas of NPD were more likely to be hospitalised for injury than people living in less deprived areas.

From 1989 until 1997 the rates of hospitalisation for injury in NPD were higher than for New Zealand as a whole. However, in 1998 the trend reversed and in recent years NPD has had an injury hospitalisation rate somewhat lower than New Zealand as a whole.

Emergency department attendances for injury

In the year 2005, there were 7253 Emergency Department clinic (ED) attendances for injuries among NPD residents.

The ED attendance injury rate for males was 72 percent higher than for females (age-standardised rates).

Ten to 19 year-old males and females, 20-29 year-old males and 80+ year-old females were the most likely to attend ED for injuries.

The non-Mäori age-standardised rate of ED attendance was slightly higher than the rate for Mäori.

The three leading causes of injuries for which NPD residents attended EDs in 2005 were:

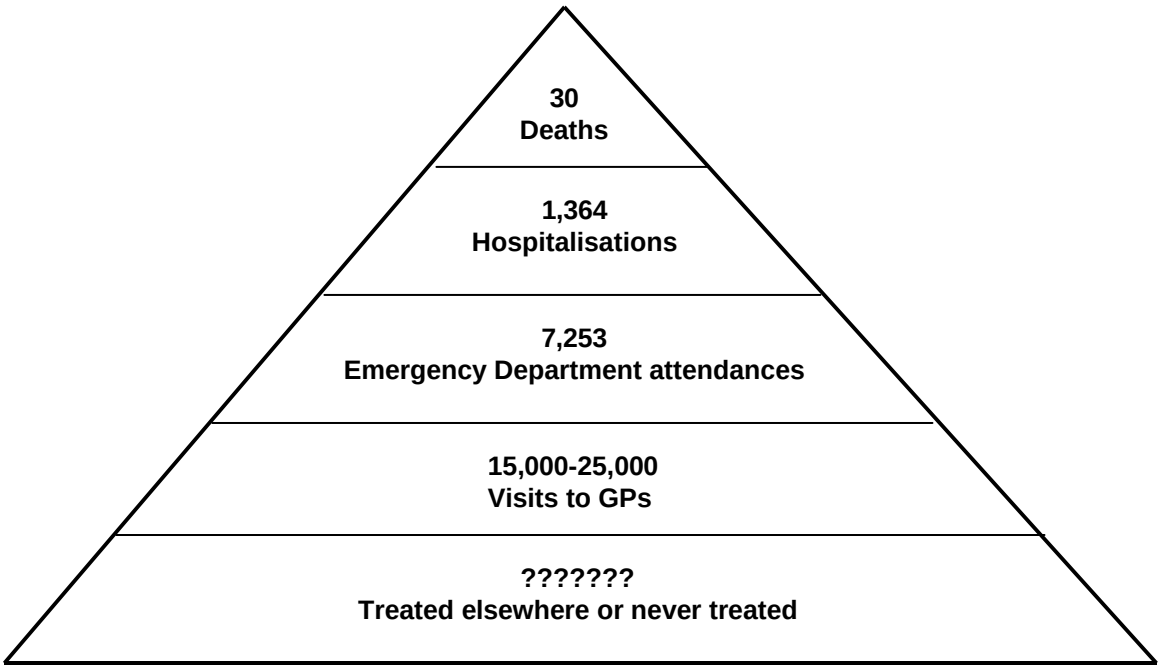
- falls (32 percent of all attendances)
- blunt trauma (30 percent)
- penetrating trauma (10 percent).

People living in the most socio-economically deprived parts of New Plymouth District were much more likely to attend public hospital EDs for injury than those living in less deprived areas.

The three most common sites where injuries occurred among NPD residents who attended ED were:

- domestic situations (48 percent)
- sports / recreation venues (14 percent)
- workplaces (12 percent).

Injury pyramid for New Plymouth District 2006



Source: Figure by authors

Note: Number of GP visits estimated from data in Ministry of Health (1999), Ministry of Health (2004), Crengle et al. (2005).

ACC injury claim statistics

In the 2005 / 2006 financial year in NPD, a total of 2167 new entitlement claims were recorded by ACC.

The NPD ACC new claim rate was slightly higher than the New Zealand average.

NPD males were twice as likely as NPD females to have ACC new claims over the 2005 / 2006 period.

For males, the highest claim rates were among 20-29 year-olds. For females, 50-59 and 65+ year-olds had the highest claim rates.

Children aged 0-9 years had by far the lowest claim rates.

Eighty-three percent of NPD claimants were European / Pakeha, 10 percent were Mäori and 4 percent were of other ethnicities.

The highest numbers of NPD claims were made for injuries that occurred:

- in home / other domestic situations – 37 percent (compared to 30 percent for NZ as a whole)
- at local sports / recreation venues – 18 percent (compared to 15 percent for NZ as a whole).

In 2005/ 2006 males were more likely than females to make claims for injuries sustained on farms, at industrial places and at sports / recreation venues; whereas females were more likely to claim for injuries that occurred in the home.

In the 2005 / 2006 financial year, over $10 million was spent on ACC new entitlement claims in New Plymouth District. On average, each claim cost $4,770. This was slightly less than the national average of $4,993.

Road traffic crash statistics

In the 10 years from 1996-2005, a total of 1823 road traffic crashes in NPD involving injury were reported to the Police. A total of 2622 people were injured in these crashes.

From 1999 through to 2002 the total number of *serious* or *fatal* road traffic crashes that occurred in NPD moved progressively downwards, before spiking markedly up again in 2003 and 2004. However, in 2005 the total fell to 26, the lowest recorded in the 10-year period.

In 2001-2005 a total of 195 fatal or serious crashes were reported in NPD, compared to 259 in 1996-2000.

Most crashes involving injury in NPD occurred on urban roads. However, crashes that occurred on rural roads more often involved serious and fatal injuries.

Of the 2622 traffic casualties in NPD between 1996 and 2005, just over half (51 percent) were drivers of cars or vans, while slightly less than a quarter (24 percent) were passengers in cars or vans.

Twenty-three percent of all road crash casualties in New Plymouth District were aged 15-19. The other leading casualty groups were 20-24 year olds and 25-29 year olds. Altogether, 42 percent of all road crash casualties were aged between 15 and 29.

The most common types of vehicle movements involved in *urban* road injury crashes were:

- crossing / turning movements
- rear end / obstructions
- loss of control / or head on collisions on road bends.

On *rural* roads the most common types of vehicle movements involved in urban road injury crashes resulted from:

- loss of control / or head on collisions on road bends
- crossing / turning movements
- loss of control / or head on collisions on straight roads.

Poor observation and failure to give way or stop were the two most common contributing factors to injury crashes on *urban* roads in the New Plymouth District. On *rural* roads, poor observation was the most common factor contributing to injury crashes followed by poor vehicle handling.

Intersections are a common site for injury crashes in the New Plymouth District, more so than the rest of New Zealand.

The proportion of crashes involving alcohol was lower in NPD compared to New Zealand as a whole.

The most recent surveys show the rate of front seat belt use, rear seat belt use and child restraint use is higher in NPD compared to New Zealand as a whole. Cycle helmet use was also slightly higher than it was for all New Zealand.

Police statistics

In 2005, violent and sexual offences together contributed to 20 percent of all recorded offences in New Plymouth Policing Area, compared to 13 percent of all recorded offences nationally.

From 1996 to 2005, the annual numbers of recorded violent offences in NPD increased by 42 percent (from 627 to 890). A similar trend was evident for New Zealand as a whole.

The total numbers of recorded sexual offences were similar in NPD in 1996 (70) and in 2005 (75).

Coroner's suicide data

Over the ten-year period 1996-2005, 93 suicides were investigated by the local coroner. Eighty percent of these suicides were by males. The most common ages for committing suicide were 30-39 (contributing to 27 percent of suicides) and 20-29 (20 percent). The most common suicide methods were hanging (42 percent) and carbon monoxide poisoning (26 percent).

Summary of injury patterns, New Plymouth District

DEATHS	
Average annual number (2000-2003)	30
Average injury rates (overall) (2000-2003)	38 per 100,000
Average unintentional injury rates (2000-2003)	23 per 100,000
Average intentional injury rates (2000-2003)	12 per 100,000
Most common groups of injuries (ranked)	Transport accidents Intentional self-harm Falls
HOSPITALISATIONS	
Average annual number (2001-2005)	1,364
Injury rates (overall) (2005)	1,754 per 100,000
Unintentional injury rates (2001-2005)	1,536 per 100,000
Intentional injury rates (2001-2005)	170 per 100,000
Most common groups of injuries (ranked)	Falls Exposure to inanimate mechanical forces Transport accidents
EMERGENCY DEPARTMENT ATTENDANCES	
Annual number (2005)	7,253
ED attendance rates (2005)	11,567 per 100,000
Most common types of injuries	Falls Blunt trauma Penetrating trauma
Most common injury locations (scenes)	Domestic Sports / recreation Work
ACC NEW ENTITLEMENT CLAIMS	
Annual number (2005 / 2006 financial year)	2,167
Claims rates (2005 / 2006 financial year)	2,999 per 100,000
Most common injury diagnoses	Soft tissue injuries Fracture / dislocations Lacerations / puncture wounds
Most common injury locations (ranked)	Home / community Sports / recreation
ROAD TRANSPORT INJURY CRASHES	
Annual number of reported injury crashes (2005)	180
Annual number of reported casualties (2005)	248
Annual number of serious and fatal crashes (2005)	26
Annual number of serious and fatal casualties (2005)	35
CRIMES	
Average annual number of violent crimes (2001-2005)	852
Average annual number of sexual offences (2001-2005)	66

Summary of injury patterns, New Plymouth District, by sex

	MALES	FEMALES
DEATHS		
Average annual number (2000-2003)	19	11
Injury rates (overall)	Over twice female rate	Less than half male rate
Most common types of injuries (ranked)	Transport accidents Intentional self-harm Falls	Falls Transport accidents Intentional self-harm
HOSPITALISATIONS		
Average annual number (2000-2005)	742	623
Injury rates (overall)	1.6 times female rate	0.6 times male rate
Most common groups of injuries (ranked)	Falls Exposure to inanimate mechanical forces Transport accidents	Falls Transport accidents Exposure to inanimate mechanical forces
EMERGENCY DEPARTMENT ATTENDANCES		
Annual number (2005)	4,153	2,742
ED attendance rates	1.6 times female rate	0.6 times male rate
Most common types of injuries	Blunt trauma Falls Penetrating trauma	Falls Blunt trauma Strain
Most common injury locations rates	Domestic Sports / recreation Work	Domestic Sports/ recreation Vehicle
ACC NEW ENTITLEMENT CLAIMS		
Annual number (2005 / 2006 financial year)	1,342	824
Claims rates	Slightly more than double the female rate	Slightly less than half the male rate
Most common injury locations (ranked)	Home Sports / recreation Industrial sites	Home Sports / recreation Road / street

Summary of injury patterns, New Plymouth District, by age groups

	YOUNG CHILDREN (0-9)	OLDER CHILDREN AND ADOLESCENTS (10-19)	YOUNG ADULTS (20-29)	MID-AGED ADULTS (30-59)	OLDER PEOPLE (60+)
DEATHS					
Average annual number (2000-2003)	1	3	4	11	10
Injury rates (overall)	Low	Medium	High	Medium	Medium-very high
Unintentional injury rates	Low	Medium	Medium	Low-medium	Low-very high
Intentional injury rates	Very low	Low	High	Medium-high	Low
Most common groups of injuries (ranked)	Accidental drowning and submersion Other accidental threats to breathing	Transport accidents Accidental poisoning Intentional self-harm	Intentional self-harm Transport accidents	Intentional self-harm Transport accidents	Falls Transport Accidents
HOSPITALISATIONS					
Average annual number (2001-2005)	168	183	139	398	476
Injury rates (overall)	Medium	High	High	Low-medium	Medium-very high
Unintentional injury rates	Medium	Medium	Medium	Low	Medium-very high
Intentional injury rates	Very low	High	High	Medium-high	Low-medium
Most common groups of injuries (ranked)	Falls Exposure to inanimate mechanical forces Transport accidents	Falls Transport accidents Exposure to inanimate mechanical forces	Exposure to inanimate mechanical forces Transport accidents Falls	Exposure to inanimate mechanical forces Falls Transport accidents	Falls Exposure to inanimate mechanical forces Transport accidents
EMERGENCY DEPARTMENT ATTENDANCES					
Annual number (2005)	1,017	1,684	1,146	2,381	1,021
ED attendance rates	Medium	High	High	Low-medium	Low-high
Most common types of injuries	Falls Blunt trauma	Blunt trauma Falls	Blunt trauma Falls	Blunt trauma Falls	Falls Blunt trauma
Most common injury locations (scene of injury)	Domestic School	Domestic Sports / recreation	Domestic Sports / recreation	Domestic Work	Domestic
ACC NEW ENTITLEMENT CLAIMS					
Annual number (2005 / 2006 financial year)	12	244	352	1,089	469
Claims rates	Very low	Low	High	Medium-high	Medium-high

Summary of injury patterns, New Plymouth District, by ethnicity

	MÄORI	NON-MÄORI
DEATHS		
Average annual number (2000-2003)	5	25
Injury rates (overall)	Slightly less than double the non-Mäori rate (but note small numbers)	Just over half the Mäori rate
Most common types of injuries (ranked)	Intentional self-harm Transport accidents	Transport accidents Intentional self-harm Falls
HOSPITALISATIONS		
Average annual number (2001-2005)	151	1,213
Injury rates (overall)	Slightly higher than non-Mäori rate	Slightly lower than Mäori rate
Most common types of injuries (ranked)	Falls Exposure to inanimate mechanical forces Transport accidents	Falls Exposure to inanimate mechanical forces Transport accidents
EMERGENCY DEPARTMENT ATTENDANCES		
Annual number (2005)	923	5,972
ED attendance rates	Slightly lower than non-Mäori rate	Slightly higher than Mäori rate
ACC NEW ENTITLEMENT CLAIMS		
Annual number (2005 / 2006 financial year) *	209	1,889

* 69 people were of unknown ethnicity.

Results from the community consultation

The consultation process identified eight priority groups for future injury prevention work in NPD. The groups, ranked according to how frequently consultation participants nominated them as being the most important, were:

1. Road users (nominated by 14 people)
2. Older people / kaumätua - mainly falls (11)
3. Intentional injuries - domestic violence, suicide, assaults (8)
4. Young people / rangatahi (7)
5. Children / tamariki – mainly poisonings and falls (7)

6= People in the workplace (6)

7= Mäori (6)

8. People participating in sport or recreational activities (1).

Road users

The consultation suggested that efforts to reduce road crashes 'should stay up there' despite the district's reducing road toll. Key reasons for maintaining road user injuries as an injury prevention priority included the high long-term impact and cost of these injuries at a societal, economic and personal level, and the fact that so many road crashes are preventable. Road injury groups perceived to be most at risk of death and injury on roads were:

- children
- young drivers
- older drivers
- truck drivers
- pedestrians.

Older people/ kaumätua

Falls, bumps at home, sprains / strains during veteran sports and elder abuse were identified as being common injuries among older people in the community. There was considerable optimism and praise for the work that had been done in the district over the past five years in terms of setting up sound injury prevention interventions for older people. However, the general perception was that demand for the Tai Chi programme was outstripping the supply of suitably qualified tutors. The high public health and personal costs resulting from injuries among older people and the ageing of the country's population were the two main reasons given for ranking older people / kaumätua so highly as a priority.

Intentional injuries

Suicides, attempted suicides, domestic violence (including child, parent and elder abuse) and violent assaults were among the most frequently identified forms of intentional injuries. Several programmes and services were said to exist in the district to help victims of intentional injuries and violence. Some optimism was expressed about the forthcoming Te Rito family violence prevention public awareness campaign. However, others saw this as likely to create a demand for already stretched services. Others

saw the whole intentional injury prevention area as possibly in the 'too hard basket.' Two participants saw a need to implement the New Zealand Suicide Prevention Strategy.

Young people / rangatahi

Injuries resulting from sport and recreational activity, falls, vehicle crashes and assaults (and to a lesser degree sexual assaults) were among the more commonly identified injuries that occurred in the 15-25 year age group. Alcohol and drug use, including the use of party pills, were seen to underpin a large proportion of the assaults and road crash injuries in the younger age group. Many consultation participants saw the alcohol and drug abuse phenomena among young people as largely a consequence of poor parenting, particularly the failure of parents to set and maintain boundaries for their offspring.

Children / tamariki

Poisonings, cuts, fractures, bruises, burns and scalds were identified as common children's injuries. There was general consensus among participants working directly in the area of promoting child health that current interventions appear to be working, evidenced by a slight decrease in children's admissions to hospital. However, most of these same participants saw 'no room for complacency.' Some expressed concern about what they saw as a fall off in child car seat compliance. Most children's injuries were said to occur in the home and in schools. Child pedestrians were seen as another high-risk injury group. Safety around school crossings was an important issue for the child-focused participants. Reduction and enforcement of speed limits and improvement of road signage around school crossings and schools in general were seen as possibly the most effective intervention for preventing school-aged children's injuries. Injury prevention interventions at an intermediate school level were seen as a current injury prevention gap.

People in the workplace

Types of workers identified as priorities for future injury prevention included: young manual workers, older workers, migrant workers, shift workers (including truck drivers) and farming families. The bigger energy, construction and transportation companies in the New Plymouth District (and the wider Taranaki region) were generally congratulated for successfully reducing their workplace injuries. This success was attributed to having established robust health and safety monitoring systems, good training programmes, and generally promoting a workplace safety culture designed to reach beyond the workplace gates. However, there was seen to be some way to go in terms of reducing hazards and injuries in some of the district's medium and small sized companies. The recent opening of the award winning, inter-agency sponsored Health Safety and Environment Centre in New Plymouth was considered a 'ground-breaking achievement' and one that several other districts were reportedly seeking to emulate.

Mäori

In general, injury patterns among Mäori were considered similar to those for non-Mäori. However, there was some suggestion that many of the injuries sustained by Mäori are more serious. Mäori were also seen as a population with higher health needs. Tamariki (falls, burns and scalds and poisonings), rangatahi (vehicle crashes, assaults and sports and recreation injuries) and kaumätua (falls) were all considered priority groups within the Mäori population. Two participants with specific knowledge of injuries impacting on Mäori considered there were important barriers to Mäori accessing treatment for injuries, which required consideration and specific interventions. Evidence indicated clear differences between Mäori and non-Mäori in terms of ACC entitlement claims, with Mäori proportionately making fewer claims compared to non-Mäori.

Sports and recreation participants

Taranaki's population generally was seen as one of the more physically active in New Zealand. However, this higher level of participation in physical activity also brought with it a higher risk of injury. Consultation participants identified a number of factors possibly contributing to NPD's 'high level' of sports and recreational injuries. These included the increasing number of veterans continuing to participate in sports and recreational activities, high levels of participation in extreme sports such as mountaineering, surfing and mountain biking, poor technique and use of sub-standard equipment.

Community awareness and readiness

New Plymouth District was seen by many of the consultation participants to have a solid history of working collaboratively to identify and implement effective solutions to the district's injury risk areas. The inter-agency approach was considered 'the only way to go' as it spread resources, reduced the risk of duplication of effort, ensured consistency of approach and was suitably targeted and holistic. High profile examples of successful interagency injury prevention initiatives included: the KidSafe Trust promotional work, the 'Think Before You Buy Under 18s Drink' alcohol initiative, the 'Better Homes – Safer Children' project and the Health Safety and Environment Centre. New Plymouth District was recently accredited Word Health Organisation (WHO) Safe Community status. This and the recent attainment of four national safety awards were seen as due acknowledgement of the district's good work in injury prevention. These awards were also seen to have stimulated an increased readiness among the district's agencies to become involved in injury prevention.

Conclusion

This needs assessment has updated statistics on injury patterns among New Plymouth District residents since the previous needs assessment in 2001. It has also described the development of the New Plymouth injurySafe community injury prevention initiative during this time; and sought feedback from community representatives about priority injury prevention issues in the District.

There have been positive changes in some of the injury statistics during the period, although there are still some groups in the community that are at relatively high risk of injury. NPiS has been very active through the projects it has been involved in, its planning processes and its successful application to become a WHO Safe Community. NPiS is now continuing to strengthen its infrastructure and expand its activities, and this should help it to address some of the injury issues that are still causing concern in the community.

Introduction

This report presents the results of the New Plymouth District community injury prevention needs assessment, conducted between June and August 2006. The assessment was commissioned by the Taranaki District Health Board Health Promotion Unit for New Plymouth injurySafe (NPiS) and undertaken by Research and Evaluation Services Ltd (New Plymouth) and HealthSearch (Auckland).

The aim of the needs assessment was to compile relevant statistical and qualitative information to identify patterns of injury in New Plymouth District. This information will be used by New Plymouth injurySafe to assist with monitoring progress in reducing the incidence and severity of injury and to identify future injury prevention priorities and strategies.

Research methods and data sources

The information in the report comes from three main sources:

- analysis of available injury statistics
- consultation with key people and organisations in New Plymouth District with an interest in injury and injury prevention
- examination of evaluation literature and other reports and publications relevant to the development of New Plymouth injurySafe and other New Zealand injury prevention initiatives.

Analysis of injury statistics

A range of existing data sources were used to examine the most up to date information available on the types of injuries experienced by people living in New Plymouth District. The sources included:

- New Zealand Health Information Service (NZHIS) mortality (death) and hospitalisation data
- data from Taranaki District Health Board on emergency department attendances
- data from Accident Compensation Corporation (ACC) on new entitlement claims
- road crash injury statistics from Land Transport New Zealand
- crime statistics from the New Zealand Police
- suicide statistics from the local Coroner's Office.

These data sources were used because they were readily accessible and able to be accommodated within the budget of the needs assessment. Most of them focused on relatively serious injuries. No suitable statistical information were available for more minor injuries, such as those treated by GPs and other primary health care providers, injuries treated with first aid only, and injuries that were not treated at all.

All data were analysed and charts prepared using Microsoft Excel worksheets.

Injury rates (per 100,000 population) for different types of injuries were calculated for each age group using 1991, 1996 and 2001 census data, as appropriate. Detailed 2006 census data for New Plymouth District were not available in time for the study.

Age-standardised rates were calculated in order to compare various sub-populations, to compare local New Plymouth District data with the national average, and to examine trends in local injury rates over time.

A particular focus of the report was to examine changes in the incidence and rates of injury since New Plymouth injurySafe started operating. However, it should be recognised that from a statistical and scientific standpoint any changes identified cannot be attributed necessarily to activities undertaken by NPiS or any other agency.

Because of the small numbers of injury cases for some of the analyses (e.g. mortality), data in some places have been aggregated together by either grouping injury types together, combining data for several age groups or for both sexes, adding several years' data together, or calculating running averages.

Further detail on the analytical methods used for each source of injury statistics is provided in the relevant chapters below.

The community consultation

The community consultation involved four main steps:

1. identification of key individuals and groups to consult
2. development and management of a consultation checklist
3. revision of the consultation questionnaire
4. conducting interviews.

Identification of key groups and individuals to consult

Individuals and groups to be interviewed were selected in consultation with NPiS's needs assessment project managers and were drawn from a broad spectrum of sectors and community organisations. Many individuals and groups interviewed in the first New Plymouth District community injury prevention needs assessment (conducted in 2001) were again included in the consultation list for 2006. However, new names / agencies were added if an agency's representative had moved on since the 2001 interview or an agency had 'come on board' with injury prevention since 2001.

Development and management of a consultation checklist

A checklist was developed that included 32 agencies / groups and their representatives, their contact details and appointment arrangements. All 32 interviews were completed by the New Plymouth based member of the research team. Appendix B provides the full list of the consultation interviewees, their respective agencies and their positions in those agencies.

Revision of the consultation questionnaire

Due to budget constraints it was agreed that the research team would use the same interview schedule that was used in 2001 (see Appendix C for a copy of this). However, minor modifications were made to some of the questions.

Conducting interviews

The community agencies interviews
As noted above, a total of 32 face-to-face interviews were conducted for the consultation programme. The interviews included two group interviews, the first consisting of three rural women and the second involving two health promoters. Two persons representing government agencies on the original interviewee list declined to be interviewed. The first declined on the basis that she was unfamiliar with injury prevention while the second provided two alternative agencies / names that it was thought could provide more informed insight as both agencies worked at the coalface of the treatment of injuries. One of these agencies was approached but declined to be interviewed because of time constraints and other commitments. The other was not interviewed because the client wanted the interviews to be focused on injury prevention not injury treatment.

NPiS email interviews
On completion of the community interviews it was agreed that members of the NPiS coalition team should be asked to contribute their views on how patterns of injury had changed over the past few years in the New Plymouth District and what they felt were the most important extra things that could be carried out over the next five years to prevent injuries. Appendix C provides a full copy of the question sheet used for this component of the consultation. The set of 7 questions was emailed out to each of the 7 NPiS Coalition members during August 2006. All 7 members responded although one declined to complete the questionnaire as he had only recently been appointed to NPiS and felt he had little to contribute at this early stage.

Data analysis

All consultation questionnaire data were entered into a Microsoft Excel database and subsequently coded and content analysed.

Literature review

The focus of the literature review was New Zealand injury prevention documents published since 2001. In particular, the review aimed to provide a chronological account of activities undertaken by New Plymouth injurySafe since 2001, set within the context of broader national developments in community injury prevention such as ACC's ThinkSafe initiative, the NZ Injury Prevention Strategy and the Safe Communities Foundation.

The review also examined the issue of community readiness to change in relation to injury prevention initiatives, as this is relevant to New Plymouth injurySafe's future planning for community-based activities involving the general public.

Relevant evaluation reports, journal articles, newsletters and other documentation were identified by New Plymouth injurySafe staff and by searching library catalogues, bibliographic databases and the internet.

1 Community injury prevention activities in New Plymouth District

This chapter provides a brief history of the New Plymouth injurySafe project. It also discusses broader national level injury prevention initiatives that have had a hand in shaping the work that has gone on in New Plymouth District.

First steps

In 2000, a small group of New Plymouth health and community professionals met to explore the possibility of developing a collaborative, intersectoral community injury prevention project for the district. Initially known as the New Plymouth Injury Safe Advisory Group, the group included representatives from five local organisations:

- Tui Ora Ltd, a Mäori development organisation representing six Taranaki iwi
- the Kidsafe Taranaki Trust
- the Community Development section of the New Plymouth District Council
- Health Promotion Unit of Taranaki Health
- Plunket.

Personnel from these organisations had been involved in the delivery of injury prevention projects in New Plymouth District for some years. However, the group recognised the potential for these and other local organisations to work more closely together to better align priorities, objectives and activities related to injury prevention in the District. This reflected the principles of the World Health Organisation's (WHO) Safe Communities model, first applied in Sweden and subsequently adopted in New Zealand in places such as Waitakere City and Waimakariri District.

As a first step towards realising this goal, with funding support from ACC's Community Injury Prevention and Safety Promotion programme, the group commissioned an independent research team to conduct a detailed assessment of the district's injury patterns and injury prevention needs. The researchers analysed a range of statistical information from national and local collections, as well as surveying the opinions of key people from a cross-section of New Plymouth health, community and social services agencies.

Findings from the assessment project were then used by the New Plymouth Injury Safe Advisory Group, in consultation with other community organisations and the public, to identify a range of priority issues to be addressed by future intersectoral injury prevention action in the district. The issues selected were:

- Falls among older adults
- Children's falls
- Youth, in relation to roads and violence
- Injuries to Mäori
- Farm injuries.

Creation of New Plymouth injurySafe (NPiS)

Once these priorities had been confirmed, the group undertook further networking in the community to publicise and build support for the priorities and encourage local agencies to initiate joint action to address them. As a result, in 2002 key personnel from a number of agencies in the district, including ACC, agreed to join together to form New Plymouth injurySafe (NPiS); an ongoing, district-wide injury prevention initiative based on voluntary, informal collaboration.

Later that year, the initiative received a major boost when the New Plymouth District was selected as a site for one of ACC's 23 ThinkSafe Community Projects. This resulted in NPiS receiving financial and technical assistance from ACC specifically to support the running of a local, collaborative injury prevention project. Linked to this support, local projects were expected to include a focus on occupational injury and involve employers and businesses as partners or stakeholders (Coggan et al. 2003).

Activities in 2002

NPiS undertook a range of specific project activities in 2002.[1] Some of these were extensions or refinements of existing activities already underway before NPiS was formed; others were entirely new projects.

Parent and caregiver education sessions to promote the prevention of child falls were first introduced in 2002, building on several years of significant child safety work by the Kidsafe Taranaki Trust. Held at early childhood centres around the district, the sessions aimed to highlight to parents and caregivers how the risk of falls relates to a child's stage of development and various ways to avoid falls. Between 2002 and 2005, over a hundred of these sessions were delivered to more than a thousand parents and caregivers (New Plymouth injurySafe 2005).

In the area of playground safety, Kidsafe Taranaki developed and organised a series of training seminars on risk management for staff representatives from primary schools across the district. Three quarters of the 46 primary schools in the district participated in these seminars either in 2002 or in subsequent years (New Plymouth injurySafe 2005).

An education programme to reduce recreational falls among 10-15 year olds also began in 2002. Called 'Horsing Around', the programme was offered to junior New Zealand Pony Clubs Association members and their parents by tutors from Agriculture New Zealand (New Plymouth injurySafe 2005). The programme focused on improving horse-riding knowledge and skills, as well as promoting rider safety and the use of protective equipment.

Also in 2002, the Police in conjunction with ACC, Health Promotion and Mäori providers continued to run regular safety belt campaigns in the district. Other regular road safety initiatives targeted speeding (e.g. the ACC Speed Trailer operated as part of Roadsafe Taranaki's Down with Speed campaign) and drink-driving (e.g. the ACC Stop Bus).

In June, the issue of farm safety was highlighted during the ThinkSafe Farm Safety Team Challenge. In this competition, teams of agriculture students from seven Taranaki secondary schools competed in safety modules involving high risk activities such as driving farm bikes and tractors, handling stock, firearms and electrical equipment, and mixing chemicals. Scores were based on safety knowledge and

[1] The information in this and subsequent sections describing NPiS activities is drawn mainly from editions of the New Plymouth Injury Safe Community Projects Update, a newsletter that has been published by NPiS on a regular basis since May 2002.

practice. As in earlier years, the initiative was supported by Agriculture New Zealand, the Eltham Young Farmers Club, New Plymouth Police and Occupational Safety and Health.

A successful Kidsafe Week was held from 18-25 October, with the main themes being pedestrian safety and water safety.

Also in 2002, a falls prevention component was introduced into the regular series of 'Move It or Lose It' exercise programmes run by Arthritis Taranaki for older people. The new component included specific exercises intended to improve balance and increase lower limb strength, as well as guest speakers who spoke about how the risk of falls can be influenced by visual impairment or medication.

NPiS also contributed to a high profile, multi-agency 'Think Before You Buy Under 18s Drink' social marketing campaign, launched in September. Run by a team of community workers, licensing inspectors, health promotors, Police and the district's Safer Community Council Co-ordinator, the campaign aimed to reduce alcohol-related harm to young people by getting parents and others to think about the quantity and circumstances in which they provided alcohol to teens.

Another notable feature of 2002 was the inclusion of New Plymouth injurySafe in a formative evaluation of the first year of the ThinkSafe community projects (TCPs). The evaluation was based mainly on interviews with NPiS personnel and members of community organisations. The evaluation found that in New Plymouth District the NPiS project had contributed to an increase in partnerships between ACC and community-based organisations, more information sharing between agencies and more joint involvement by local agencies in injury prevention initiatives (Coggan et al. 2003: 76). The contribution of the ACC consultant to NPiS was also highly valued. The formative evaluation concluded that 'the multi-sectoral collaboration under the umbrella of the ACC TCP is working well in New Plymouth' (Coggan et al. 2003: 82). Community commitment to safety promotion and injury prevention was rated as 'high' and to have positively facilitated the growth and development of the ThinkSafe community project.

Activities in 2003

In 2003, similar projects to those described for 2002 were continued, including the ongoing 'Think Before You Buy Under 18s Drink' campaign (this time focusing on sports clubs), Kidsafe Week, and the ThinkSafe Farm Safety Team Challenge. Kidsafe Taranaki education inititiatives also covered topics such as car seat safety, burns and poisons. In other projects, Sport Taranaki was funded by ACC to train sports coaches and managers on how to deal with common soft tissue injuries, while the New Plymouth District Council introduced a programme aimed at reducing falls among older people living in its rental housing.

In May, a two-day Taranaki wide Health and Safety Expo, 'Are You Safe? Recognise the Risk', was held at Yarrow Stadium. Supported by Taranaki Industries, the expo included celebrity guests, interactive displays, practical demonstrations, competitions and prizes, with the emphasis on safety at work, home, on the farm, at play and in the community.

As part of the third year of the Down With Speed project, the 'Kids say 'Slow Down!' project saw students from 12 New Plymouth schools in high crash risk areas distributing café cards featuring students' artwork promoting the slow down message to motorists.

In October, the first of a series of modified Tai Chi classes began for people over the age of 65. Provided in conjunction with Positive Ageing New Plymouth, the classes were another strategy aimed at reducing key risk factors for falls in older people. The number of classes offered increased in

subsequent years, with 378 older adults enrolling for classes between July 2004 and the end of 2005 (New Plymouth injurySafe 2005).

Similarly, the Otago Exercise Programme, an internationally recognised programme especially suited to people aged 80 and over living at home, was introduced during 2003. Again the aim was to reduce falls among older adults. Delivered by physiotherapists from Taranaki Base Hospital, the programme focused on the promotion of strength and balance exercises and included an initial assessment and follow-up visits and phone calls . Sixty-four older people began the programme in 2003 and a further 75 were enrolled in 2004-05 (New Plymouth injurySafe 2005).

Activities in 2004

In 2004, some NPiS project activities were expanded. For example, Kidsafe's Child Falls Programme was extended to include Mäori health providers in North Taranaki and South Taranaki, with Piki te Ora Nursing Services and Ruanui Health contracted to provide information about child falls during home visits and in group meetings.

New projects were also started. Early in the year, building on the previous year's 'Think Before You Buy under 18s Drink' campaign, a new initiative, 'The *THINK*smart Sports Club Accreditation Programme', was introduced. The programme targeted sports clubs and aimed to increase responsible alcohol management at these venues, reduce access by minors to alcohol and challenge the link between youth alcohol consumption and sport. The accreditation process included attendance at a hands-on workshop and distribution of a safer social environments resource kit.

In May 2004, the New Plymouth District Council hosted a Community Injury Prevention Symposium to review how far NPiS had come since the first plans for action were laid out in 2001. The symposium was attended by some 70 representatives including people from NPiS partner and provider organisations and other interested parties.

Early 2004 also saw the piloting of the 'Better Homes – Safer Children' project, which offered simple in-home safety checks and safety information to families with young children, as part of an ongoing programme of subsidised 'Better Homes' energy audits and retrofits run by WISE (Waitara Initiatives Supporting Employment).

Other new activities promoting safety in the home included Housing New Zealand working jointly with ACC to deliver a falls prevention initiative. This targeted Housing New Zealand's approximately 200 tenants in Taranaki aged over 65 and included home safety assessments. However a planned distribution of falls prevention information to tenants was not implemented due to Housing New Zealand regulations.

In the area of road safety, 2004 saw the introduction for the first time in the district of the 'It's About Choice' programme. Initially developed by the Police Education Service and Mothers in Support of Safe Driving in South Auckland, the programme was delivered in secondary schools and promoted safer driving choices by presenting first hand accounts of victim impacts and crash analysis reports.

Other new road safety initiatives included ACC and Police collaborating to set up a 'driver reviver' campaign alerting motorists to the dangers of driving for long periods without a break. With the help of mothers from the local Tainui Playgroup, Driver Reviver stops were set up at Mokau during Labour weekend (October 2004) and Auckland Anniversary Day (January 2005). Information packs were distributed which included tips on recognising and dealing with driver fatigue. Vouchers were also handed out to encourage people to take a proper break at local cafés.

Activities in 2005

There were several key developments in 2005. In March, the Taranaki Health Safety and Environment Centre was officially opened by the Prime Minister, Rt Hon Helen Clark. Supported by major Taranaki businesses, the centre provides practically-based, New Zealand Qualifications Authority (NZQA) accredited safety training for workers, school leavers and tertiary students as well as the wider community.

In May, the inaugural *THINK*smart Club of the Year trophy and a prize of $2000 was awarded to the Inglewood United Rugby Football and Netball Club, in recognition of the club's host responsibility practices and efforts to challenge the links between sport and alcohol. At this time, 101 of the 112 licensed clubs in Taranaki were signed up to the *THINK*smart accreditation programme.

In June, Kidsafe ran two clinics offering free checks of child car restraints for parents and caregivers of babies and children aged under seven. Vouchers for tether straps and bolt fitting were given to those who required them.

Applying for WHO Safe Community Accreditation

Early in 2005, NPiS and the New Plymouth District Council formally agreed to work together to apply for New Plymouth District to become officially accredited as a World Health Orgaisation Safe Community. The WHO Safe Communities model emphasises the importance of building partnerships between people and agencies in local communities to increase action on injury prevention and safety promotion. Administered from Stockholm's Karolinska Institute for Social Medicine, the scheme includes an internationally peer-reviewed accreditation system that aims to formally recognise the efforts of organisations and people in communities throughout the world who have successfully implemented local safety strategies.

WHO criteria for becoming an accredited Safe Community of the WHO Safe Community Network include having an infrastructure governed by a cross-sectoral group and running long-term sustainable programmes covering both genders and all ages, environments and situations.

Following preparation and submission of an extensive application document, an accreditation site visit was conducted in New Plymouth on 12 and 13 September 2005. Just over a month later, on 27 October 2005, at a ceremony at Puke Ariki, the New Plymouth District was designated the 95th World Health Organisation Safe Community.

The WHO accreditation was presented by the Director of the Safe Communities Foundation New Zealand (SCFNZ), representing the World Health Organisation. The Safe Communities Foundation New Zealand is a not-for-profit national organisation established in December 2004 to advocate for and to support the development of community-based safety promotion and injury prevention, both in New Zealand and internationally. This includes promoting the World Health Organisation's (WHO) Safe Communities and International Safe Schools models (Safe Communities Foundation 2006, 2006a). SCFNZ staff also provide information, research, training and resources to improve knowledge of existing community-based safety and prevention strategies. This includes advocating for evidence-based practice.

In August 2005, SCFNZ was appointed as a Certifying Centre on behalf of the WHO Collaborating Centre on Community Safety Promotion, with the authority to designate. Safe Communities Foundation

New Zealand criteria for becoming accredited include being a coalition or group that demonstrates leadership in injury prevention and safety promotion in the community, and running programmes based on proven or promising intervention strategies.

To date, five communities in NZ, including New Plymouth District, have been designated Safe Communities of the WHO Safe Community Network. The others are Waitakere, Waimakariri, Whangarei and Wellington.

Several other communities in NZ are working towards WHO accreditation or have expressed interest in the concept, including Christchurch, Rotorua, and Tauranga.

Current features of NPiS and future plans

At present, the core partners of NPiS are Tui Ora Ltd, the Health Promotion Unit of the Taranaki District Health Board, the New Plymouth District Council, Kidsafe Taranaki Trust, ACC and New Plymouth Police. Other participating organisations and groups include:

Plunket
Age Concern
Fire Service
Sport Taranaki
Employers / industry
Agriculture New Zealand
Workplaces
Rural schools recreation
Land Transport New Zealand
Transit New Zealand
Roadsafe Taranaki
Education services
Early childhood centres
Rural women
Safer Community Council
Waitara Initiatives Supporting Employment
Positive Ageing Trust
Coastguard New Zealand
Pony Clubs Association
Taranaki Rugby Football Union
Young Farmers Clubs
Farmsafe
Te Rito Coalition
Health and Safety Network.

Using these linkages, NPiS intends to continue working towards achieving a positive safety culture and safer environments for all people within the New Plymouth District. This includes ensuring that key injury prevention priorities are being addressed, and that duplication and gaps in service delivery are avoided (New Plymouth injurySafe 2005). NPiS's five specific objectives are:

1. To monitor injury issues in New Plymouth District and provide information on needs, priorities and programmes.

2. To establish effective partnerships with others working towards improving safety in New Plymouth District

3. To raise awareness, commitment and motivation to improve injury prevention within organisations and throughout the community

4. To guide and support the development of plans for effective injury prevention interventions at a community level within the framework of the New Zealand Injury Prevention Strategy

5. To assist New Plymouth District to meet the WHO criteria for Safe Communities.

As part of fulfilling these objectives, NPiS aims to strengthen community capacity and encourage groups in the community for whom injury prevention is not a core business to become more actively involved in injury prevention.

Direct funding to support the ongoing running of NPiS come from sources including the local ACC injury prevention budget, the Ministry of Health's budget for injury prevention contracts, delivered via the Taranaki DHB's Health Promotion Unit and other local providers such as Tui Ora, and Land Transport New Zealand funding for road safety initiatives. It has been estimated that staff time equivalent to 4.2 Full Time Equivalents are dedicated to injury prevention in ACC, the Health Promotion Unit, the New Plymouth District Council and Tui Ora (New Plymouth injurySafe 2005). Further time is allocated by some staff in agencies such as Police, the Fire Service, Plunket, the Department of Labour, Occupational Safety and Health, and so on.

Other funding comes from individual partner organisations periodically for specific projects and tends to vary from year to year. A range of in-kind contributions such as discounted products or free equipment are also provided by partner organisations, again usually related to specific, time-limited projects.

Decisions by members of the NPiS group on which injury prevention priorities to focus on continue to be guided by the findings of the 2001 needs assessment, as well as the goals and objectives of the New Zealand Injury Prevention Strategy.

A significant piece of work by NPiS in 2005 was the development and dissemination of a three year Strategic Plan, covering the financial years July 2005- June 2008 (New Plymouth injurySafe 2005a). The plan expresses a commitment by NPiS partner and participating organisations to continue to work collaboratively towards a shared vision of New Plymouth District becoming a safe community without the burden of injury.

The plan includes a list of projects to be undertaken over the three-year period. These are grouped according to the relevant age-groups of the project participants or target population. i.e. Children (0-14), Young People (15-24), Older Adults, Adults. Examples of project topics include:

For Children:
- Playgrounds
- Child Cycle Safety
- Child Falls

For Young People:
- Youth and Alcohol
- Young horse riders
- Young drivers

For Older Adults:
- Otago Exercise Programme
- Modified Tai Chi
- Home safety checks

For Adults:
- Speed
- Water Safety
- Workplace Safety
- Farm Safety

Annual Implementation Plan 2005-2006

Annual implementation plans have also been developed based on the 2005-08 Strategic Plan. These indicate more precisely the strategies, indicators and measures to be used during a particular financial year to achieve the NPiS objectives. For example, the annual implementation plan for 2005-2006 (New Plymouth injurySafe 2006) includes the following five strategies intended to fulfil Objective 2: 'To establish effective partnerships with others working towards improving safety in New Plymouth District':

1. Deliver presentations to community stakeholder groups to engage them in injury prevention safety promotion
2. Seek to increase the network of injury prevention partners and collaborators and to strengthen existing linkages
3. Establish a co-ordinator's role for NPiS
4. Identify Council Champions
5. Encourage New Plymouth District Council to take a lead role in community safety through expressed commitment in the Long Term Council Community Plan.

The 2005-2006 annual implementation plan then lists expected success indicators or measures for each of these strategies. For example, for strategy 3 the success indicator is 'co-ordinators position for NPiS established'.

The 2005-2006 implementation plan also lists the community safety projects that will be run within that financial year. These projects focus on falls, burns, poisons, home safety, road safety, workplace safety, and farm safety across different age groups and audiences and include initiatives such as:

- A resource kit for early childhood centres and Kohanga Reo on falls, burns and poisoning amongst 0-4 years olds
- Walking School Bus
- Bikewise
- *THINK*smart Sports Clubs accreditation
- Farm Safety competition
- Safety belt campaign
- Driver reviver stops
- Exercise programmes for Adults 80 and over.

Annual implementation plans are periodically reviewed and updated through the year. For example, the annual implementation plan for 2005-2006 was reviewed in March and July 2006.

Evaluation techniques used in the community injury prevention programmes to assess the progress and outcomes of projects delivered in conjunction with NPiS include: pre and post intervention surveys and questionnaires, random telephone surveys, participant focus groups, individual interviews and injury data analysis.

New Zealand Injury Prevention Strategy (NZIPS)

Looking at the wider New Zealand context now, a key development in 2003 was the release in June of the New Zealand Injury Prevention Strategy (NZIPS). Developed by a consortium of representatives from government and non-government agencies, led by ACC, the strategy aims to provide a consistent national framework and guide for action for policy development and service delivery. This is expected to encourage more effective use of resources and the development of better focused injury prevention efforts (Dyson 2003).

The 10 key objectives of the strategy are to:

1. Raise awareness and commitment to injury prevention

2. Strengthen injury prevention capacity and capability

3. Design and develop safe environments, systems and products

4. Maintain and enhance the legislative and policy framework supporting injury prevention

5. Integrate injury prevention activity through collaboration and co-ordination

6. Advance injury prevention knowledge and information

7. Develop and implement effective injury prevention interventions

8. Ensure appropriate resource levels for injury prevention

9. Develop, implement and monitor national injury prevention strategies for priority areas

10. Foster leadership in injury prevention.

For each of these objectives, the strategy details actions intended to help meet them. The strategy also specifies six national injury prevention priority areas (New Zealand Injury Prevention Strategy 2006):

- motor vehicle traffic crashes
- suicide and deliberate self-harm
- falls
- workplace injuries (including occupational diseases)
- assault
- drowning.

In October 2003 an Implementation Plan for the strategy was officially launched (Dyson 2003a). This identified specific work items to be undertaken by government agencies in support of the strategy during the financial year 1 July 2004 - 30 June 2005.

A formative evaluation report on the first year of implementing the strategy was published in May 2006 (Safe Communities Foundation New Zealand 2006b). The evaluation found the implementation of the strategy had been successful to date and showed promise. However, it also identified some barriers to further progress. Solutions proposed to address these included:

- forming a high level group of the government ministers responsible for portfolios that impact on injury prevention and community safety

- providing more direction and guidance to community groups on the practical application of the strategy, including how to progress injury prevention programmes from an evidential basis.

The evaluation also identified a need to increase the level of awareness and use of the strategy at government, local government and the community level. Improved levels of funding and resourcing were also required to increase capacity and capability in local communities (Safe Communities Foundation New Zealand 2006b).

In June 2004, as part of the work of the strategy, a national stocktake was completed of government and non-government agencies involved in injury prevention (Coggan, Fill and Williden 2004).

More recently, various status reports have been completed providing national baseline indicators of injury prevention performance (mortality and hospitalisation) prior to the implementation of the strategy (e.g. Davie et al. 2006, Cryer et al. 2006). This is a starting point for tracking trends over time as the New Zealand Injury Prevention Strategy is implemented in the years ahead.

In July 2005, a new Implementation Plan was released for the strategy covering the three years 1 July 2005 - 30 June 2008. This identified seven key areas for action (Safe Communities Foundation New Zealand 2006b):

- Raise awareness of the burden and preventability of injury to achieve commitment to injury prevention activities, and affirm the role of the strategy as a framework in achieving this awareness

- Improve the skills across the injury prevention, community safety and injury prevention research workforce, through the advancement of training and career development pathways

- Support the development of safe environments, systems and products including the dissemination of information on the same

- Strengthen and support effective injury prevention activity at the community level

- Maintain reductions in injury fatality rates and lower the rate of serious injuries

- Support and monitor the development and delivery of the implementation actions of the strategies for the six national injury prevention priority areas, as well as the development of the measurement against relevant indicators

- Reduce the risk of alcohol-related injury and encourage inter-agency collaboration on alcohol-related injury prevention projects.

Local Government Act 2002

Another noteworthy development at the national level has been changes to local government legislation. These have enhanced and broadened the responsibility of local territorial authorities and regional councils for health and safety issues in their communities (Department of Internal Affairs 2005; New Zealand Injury Prevention Strategy nd).

In 2002, the Local Government Act 1974 was revised, and the new Act defined the purpose of local government as being:

(a) to enable democratic local decision-making and action by, and on behalf of, communities; and
(b) to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future (Part 2, section 10 of the Local Government Act 2002).

The New Zealand Injury Prevention Strategy (nd: 101) states:

> The responsibility for social, economic and cultural wellbeing of communities is one of the key principles underlying the Act. This is supported by the requirement that authorities be involved in sustainable development; that they consult with communities in all decision-making, and operate open and transparent governance.

This legislative change applies to one of the core partners of NPiS - the New Plymouth District Council, and has implications for the broad role it may be able to have in local injury prevention initiatives.

Some of the specific safety responsibilities that territorial authorities have under the Local Government Acts include (New Zealand Injury Prevention Strategy nd):

- building control
- civil defence
- environmental health
- facilities for the safety, health or convenience of the public
- roading / transport
- traffic control and enforcement
- footpath maintenance
- pedestrian safety areas
- sewerage
- water / storm water
- waste management
- fire hydrants and pipes
- removal of objects in water ways, roads and drains that may cause injury or threaten safety
- liquor control
- navigational safety in harbours.

Working intersectorally

The previous New Plymouth District injury prevention needs assessment report reviewed literature from New Zealand and overseas about how to work in effective ways across different sectors, particularly with regard to community injury prevention (McClellan et al. 2001).

Since then, a considerable amount of new literature has been published on working intersectorally. This includes several New Zealand publications that have examined success factors and presented a number of local case studies of community initiatives, for example:

- *A Meta-analysis of Community Action Projects: Volumes I and II* (Greenaway et al. 2004, 2004a)
- *'Headline' Local Partnerships in Aotearoa / New Zealand* (Larner and Butler 2003)
- *New Zealand Intersectoral Initiatives for Improving the Health of Local Communities: An Updated Literature Review Examining the Ingredients for Success* (Ministry of Health 2005)
- *Mosaics - Whakaahua Papariki: Key Findings and Good Practice Guide for Regional Co-ordination and Integrated Service Delivery* (Ministry of Social Development 2003).

There is general agreement in the literature that working intersectorally is justified when sectors working together in a group[2] can achieve better and more sustainable outcomes than a single sector working on its own. This is usually for issues where the determinants / influences on the well-being of populations and communities are diverse, complex and multifactorial (Lasker and Weiss 2003; Ministry of Health 2005). Injury prevention can be considered to be this type of issue.

Community development approaches addressing the social, health and economic needs of communities are often now used in these types of intersectoral initiatives in New Zealand (Greenaway et al 2004).

Working intersectorally is not a process to be entered into lightly. Shortell et al. (2002: 51) suggest 'this effort involves a huge managerial and leadership challenge involving the management of complex interorganizational relationships'. A number of people and organisations have to make significant shifts in their assumptions about who they are, how they work, and the stance they should adopt in their relations with others in the community. The success, or otherwise, of initiatives run by community-based intersectoral groups / coalitions depends on a wide range of factors, that can be grouped under six main headings, originally listed by Harris et al. (1995).

These six groups of 'success' factors, taking into account more recent literature, were updated by the Ministry of Health's 2005 report:

1) Clear agreement exists on the necessity for intersectoral action

The nature of the organisations / groups that are promoting the action
How intersectoral groups are built up
Size and diversity of intersectoral groups
Choosing partners
Agreeing that working together is necessary and desirable
Having a shared vision
Sharing language, philosophy and understanding

[2] Sometimes called a 'coalition' in the literature.

2) **Support exists in the wider community for action**
   Political, central and local government influences
   Other contextual features such as a history of previous intersectoral action in the community

3) **Capacity exists to carry through the planned action**
   Capacity of intersectoral groups themselves (e.g. leadership and co-ordination skills, funding, timeframes, commitment of partner organisations)
   Capacity of the community to participate (e.g. existing community organisations, general public, Mäori, Pacific peoples, young people)

4) **Relationships (within the group) enabling action are well-defined and developed**
   Planning relationships
   Defining and formalising relationships
   Defining roles
   Sharing accountability
   Power inequalities
   Maintaining partnerships
   Conflict resolution
   Trust and respect
   Recognising relationship life cycles

5) **Agreed actions are planned and implemented**
   Initial planning
   Programme logic and clear goals
   Needs assessments
   Prioritising action
   Carrying out activities /actions
   Balancing action and planning
   Renegotiating plans
   Planning for sustainability

6) **Outcomes are monitored and evaluated**
   Monitoring and reporting
   Evaluation.

The SHORE / Whäriki meta-analysis of 10 community action projects in New Zealand identifies three general phases that these initiatives tend to move through (Greenaway et al. 2004):

- an **activation** phase – identifying the need for a project, matching funding to projects, building and facilitating project relationships and participation, creating project structures, negotiating visions and planning, and creating activities
- a **consolidation** phase – skill development, accessing people with community development knowledge and skills, developing a project culture, sharing project experiences, managing conflict, accessing resources, developing knowledge, and carrying out evaluations
- a **transition** phase that includes completion of the funding term and a focus on issues linked to organisational change and sustainability.

Community readiness

Linked to some of the ideas described in the previous section is the concept of 'community readiness', developed by researchers at the Tri-Ethnic Center for Prevention Research at Colorado State University in the early 1990s (Oetting et al. 1995). Essentially, this model states that the success of any community-based prevention initiative depends to a significant extent on how 'ready' the local community is to respond to the initiative. An initiative will not be successful unless the organising group is aware how ready the target community is to change, and then designs its initiative accordingly. Often an initiative that has worked well in one community may not be effective in another, because the communities are at different stages of readiness (Edwards et al. 2000; Feinberg et al 2004; Slater et al. 2005).

The community readiness model draws on a) the stages of change model and b) community development models (Slater et al. 2005).

The stages of change model applies to an individual's psychological readiness to change his or her health-related behaviour (e.g. smoking). In this model, there are five stages a person goes through to eventually achieve a behavioural change. These stages are: precontemplation; contemplation; preparation; action; and maintenance (Gielen and Sleet 2003; Prochaska and DiClemente 1983; Slater et al. 2005). However, this model cannot be applied directly to communities, as they are more complex than individuals and involve group processes.

The two main community development models that influenced the community readiness model are: Rogers' (1983) stages of diffusion of innovation (knowledge, persuasion, decision, implementation, confirmation); and Warren's (1978) social action process (stimulation of interest, initiation, legitimisation, decision to act, action) (Slater et al. 2005). However, it is felt that these models do not include some stages of community readiness nor do they adequately reflect its multi-dimensional nature (Edwards et al. 2000).

Combining elements of the above models, the community readiness tool was designed to firstly assess the current stage of readiness of a community to respond to an initiative, and then to help plan appropriate action to 'mobilise' the community (Edwards et al. 2000; Oetting et al. 2001; Slater et al. 2005; Thurman et al. 2003). The tool uses semi-structured interviews with a range of key informants to describe a community along six dimensions:

- existing efforts – programmes, activities, policies
- community knowledge / awareness of these efforts
- leadership – appointed leaders and influential community leaders
- community climate – existing community attitudes to a particular issue
- community knowledge about the issue
- resources available to address the issue – including funding, trained staff and time.

Depending on the scores for all these dimensions, the community is then characterised as being in one of nine stages of readiness (Edwards et al. 2000; Oetting et al. 2001; Slater et al. 2005; Thurman et al. 2003):

1. **No awareness** – there is a lack of awareness in the community that the issue is a problem.
2. **Denial / resistance** – a few community members see the issue as a problem, but most community members do not agree that it is, or that anything can be done about it.

3. **Vague awareness** – community members generally agree there is a problem, but are not motivated to take action. There are no leaders with an interest in the issue.
4. **Preplanning** – there is a general recognition that something should be done, but efforts are not focused or detailed. There are identifiable leaders.
5. **Preparation** – there is focused planning and moderate support from the community, leadership is active.
6. **Initiation** – new programmes and activities are launched on the basis of information that these are needed. Staff are being trained and there is great enthusiasm among leaders.
7. **Stabilisation** – there are experienced project staff, several programmes / activities are running and good support exists from community leaders and administrators.
8. **Confirmation / expansion** – initiatives are evaluated and there is community support to use and expand existing programmes. Some programmes have been modified and new ones are being planned / introduced in order to meet the needs of more, or different groups of, people.
9. **Professionalisation / community ownership** – the community fully supports the initiative and there is a detailed and sophisticated degree of knowledge about the issue; programme staff members are highly trained; related issues are starting to be addressed; effective evaluation is being used to test and modify programmes.

In order to move a community to the next stage of readiness, the appropriate dimensions must be addressed, such as raising community awareness of efforts and knowledge of issues, providing more resources for the initiative, training staff, nurturing leaders and so on (Edwards et al. 2000).

2 Social Profile of New Plymouth District

Introduction

This chapter presents a brief demographic profile of the people living in the New Plymouth District. This establishes a context for the injury statistics presented in subsequent chapters. The demographic information comes mainly from the 2001 Census of Population and Dwellings, since at the time of writing (August 2006) most 2006 Census results for New Plymouth were still to be released by Statistics NZ.[3]

Location

The New Plymouth District is situated on the west coast of the North Island of New Zealand. It is the northernmost of the three Territorial Local Authorities (TLAs) in the Taranaki region, the others being Stratford District and South Taranaki District.

Significant geographic features of the District include the scenic coastline along its northwestern boundary and Mount Taranaki and Egmont National Park on its southern boundary.

Population

In 2001 a total of 66,603 people were usually resident in New Plymouth District. This was 65 percent of the Taranaki population (103,026). The population of South Taranaki District was 27,537 and the population of Stratford District to the east was 8886.

The provisional 2006 census night count of the number of people in New Plymouth District (including visitors as well as usual residents) indicates that in the last five years (2001-2006) the District has experienced a 3.7 percent population increase, reversing the negative growth of 1996-2001 (see Table A.1, Appendix A).

Children, adults and older people

In 2001, the New Plymouth population consisted of:

- 15,192 children (0-14 year-olds) (23 percent of the population)
- 41,496 adults aged 15-64 (62 percent)
- 9,906 older people aged 65 or more (15 percent).

Compared to the whole New Zealand population, the New Plymouth District has a higher proportion of older people (15 percent versus 12 percent) and a lower proportion of working age adults (62 percent versus 65 percent). The proportion of children is virtually identical to that of the New Zealand population (see Table A.2, Appendix A).

[3] Other useful profiles of the District and the Taranaki region have been published by the New Plymouth District Council (2000), Venture Taranaki (2001) and, more recently, the Taranaki Regional Council (2006).

Table 2.1: Usually resident Mäori and non-Mäori population of New Plymouth District, by age group, 2001

	MÄORI		NON-MÄORI	
AGE GROUP	No.	%	No.	%
0-4	1,113	13.1	3,387	5.8
5-9	1,077	12.6	4,014	6.9
10-14	1,104	13.0	4,497	7.7
15-19	861	10.1	3,804	6.5
20-24	633	7.4	2,718	4.7
25-29	594	7.0	3,093	5.3
30-34	555	6.5	3,777	6.5
35-39	624	7.3	4,350	7.5
40-44	564	6.6	4,710	8.1
45-49	393	4.6	4,257	7.3
50-54	294	3.5	4,038	7.0
55-59	216	2.5	3,087	5.3
60-64	177	2.1	2,751	4.7
65-69	126	1.5	2,535	4.4
70-74	99	1.2	2,460	4.2
75-79	39	0.5	2,091	3.6
80-84	24	0.3	1,365	2.3
85+	18	0.2	1,149	2.0
TOTAL	8,517	100.0	58,086	100.0
Total Children (0-14)	3,294	38.7	11,898	20.5
Total Adults (15+)	5,217	61.3	46,185	79.5
Total Younger Adults (15-64)	4,911	57.7	36,585	63.0
Total Older (Adults 65+)	306	3.6	9,600	16.5

Source: Statistics NZ, 2001 Census of Population and Dwellings

Mäori in New Plymouth

In 2001, there were 8517 Mäori living in New Plymouth - 13 percent of the population.[4]

Several iwi are located in the district including Te Atiawa, Ngati Tama, Ngati Mutunga, Ngati Maru and Taranaki.

Compared to the non-Mäori population of New Plymouth, the Mäori population is particularly youthful, with a very high percentage of 0-14 year old children (39 percent). Reflecting this, 22 percent of all children living in New Plymouth District are Mäori.

The youthfulness of the New Plymouth Mäori population is a product not just of its greater fertility (birthrate) but also of its higher rates of early death in the adult age groups compared with non-Mäori.

[4] This compares to 14 percent of the whole New Zealand population.

As indicated in Table 2.1 above, 17 percent of non-Mäori in the New Plymouth District were aged 65 or older, whereas just 4 percent of New Plymouth Mäori were this old.

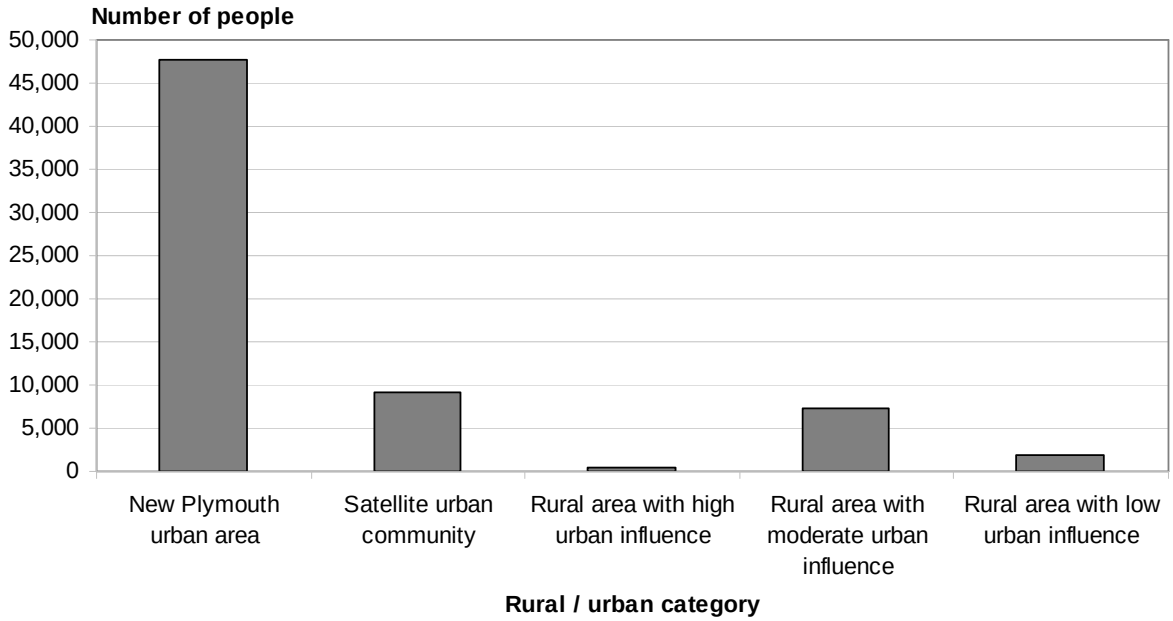
Other ethnic groups

Compared to the rest of New Zealand, much smaller percentages of Pacific and Asian peoples live in New Plymouth District. In 2001, there were 759 Pacific people in New Plymouth, just 1 percent of the population.[5]

Urban / rural areas

Almost three-quarters (72 percent) of the population of the New Plymouth District live in the urban and suburban areas of New Plymouth itself. A further 14 percent live in the satellite urban areas of Waitara and Inglewood. Just 15 percent of the District's population live in rural areas, including 11 percent who live in rural areas considered to be under the 'moderate influence' of an urban area (Figure 2.1).

Figure 2.1: Number of people usually resident in New Plymouth District, by rural / urban category, 2001



Source: Statistics NZ, 2001 Census of Population and Dwellings

Note: Data in Appendix Table A.3

[5] This compares to 5 percent of the whole New Zealand population.

Industries and occupations

Of the 51,402 adults aged 15 and over living in New Plymouth District in 2001, 57 percent or a total of 29,046 were in some form of paid or unpaid employment (Appendix Table A.4). This includes:

- 21,408 who were employees
- 3774 who were self-employed without having employees
- 2424 who were employers.

Table 2.2: Industries worked in by employed adults usually resident in New Plymouth District, by sex, 2001

	Male		Female		Total	
INDUSTRY TYPE	No.	%	No.	%	No.	%
Agriculture, Forestry and Fishing	1,686	10.9	1,047	7.7	2,733	9.4
Mining	288	1.9	48	0.4	333	1.1
Manufacturing	3,042	19.6	930	6.9	3,969	13.7
Electricity, Gas and Water Supply	168	1.1	48	0.4	216	0.7
Construction	1,533	9.9	249	1.8	1,785	6.1
Wholesale Trade	915	5.9	456	3.4	1,368	4.7
Retail Trade	1,827	11.8	2,049	15.1	3,876	13.3
Accommodation, Cafes and Restaurants	405	2.6	828	6.1	1,230	4.2
Transport and Storage	747	4.8	237	1.8	984	3.4
Communication Services	159	1.0	135	1.0	297	1.0
Finance and Insurance	213	1.4	333	2.5	543	1.9
Property and Business Services	1,458	9.4	1,137	8.4	2,595	8.9
Government Administration and Defence	324	2.1	393	2.9	717	2.5
Education	624	4.0	1,620	12.0	2,244	7.7
Health and Community Services	507	3.3	2,421	17.9	2,928	10.1
Cultural and Recreational Services	240	1.5	297	2.2	534	1.8
Personal and other Services	507	3.3	696	5.1	1,203	4.1
Not Elsewhere Included	876	5.6	615	4.5	1,491	5.1
TOTAL	15,510	100.0	13,533	100.0	29,043	100.0

Source: Statistics New Zealand, 2001 Census of Population and Dwellings

The industries in which New Plymouth District men most often worked were (see Table 2.2):

- manufacturing (20 percent of all employed men)
- retail trade (12 percent)
- agriculture / forestry / fishing (11 percent)
- construction (10 percent)
- property and business services (9 percent).

The industries in which New Plymouth District women most often worked were:

- health and community services (18 percent of all employed women)

- retail trade (15 percent)
- education (12 percent)
- property and business services (8 percent)
- agriculture / forestry / fishing (8 percent)
- manufacturing (7 percent).

The most common occupational groups for New Plymouth District men in 2001 were (see Appendix Table A.5):

- trades workers (17 percent of all employed men)
- legislators, administrators and managers (13 percent)
- plant and machine operators and assemblers (13 percent)
- agriculture and fishery workers (12 percent).

The most common occupational groups for New Plymouth District women in 2001 were (see Appendix Table A.5):

- service and sales workers (22 percent of all employed women)
- clerks (19 percent)
- professionals (16 percent)
- technicians and associate professionals (11 percent).

Income and income sources

In 2001, the range of annual personal incomes in the New Plymouth District was reasonably similar to New Zealand as a whole, although slightly more New Plymouth adults had modest personal incomes of $20,000 or under (43 percent versus 39 percent for all New Zealand). For more detail see Appendix Table A.6.

Eleven percent of New Plymouth District adults did not specify their level of personal income in Census 2001.

The most frequent types of income sources for New Plymouth District adults were wages and salaries, investments and self-employment (Appendix Table A.7).

Compared to New Zealand as a whole, a higher proportion of New Plymouth District adults obtained income from New Zealand Superannuation (20 percent versus 16 percent). This is consistent with New Plymouth District's comparatively high proportion of people in the 65+ age bracket.

Home ownership

There were 25,275 private dwellings in New Plymouth District in 2001. Of these, 17,568 or 70 percent were owned or partly owned by the usual residents (either with or without a mortgage). This compares to a national home ownership rate of 65 percent (Table 2.3).

Table 2.3: Housing tenure of private dwellings in New Plymouth District and New Zealand, 2001

TYPE OF HOUSING TENURE	New Plymouth District		New Zealand	
	No.	%	No.	%
Dwelling Owned or Partly Owned by Usual Resident(s)	17,568	69.5	868,656	64.6
Dwelling Not Owned by Usual Resident(s)	6,702	26.5	412,197	30.7
Not Elsewhere Included	1,005	4.0	63,411	4.7
Total Households	25,275	100.0	1,344,267	100.0

Source: Statistics New Zealand, 2001 Census of Population and Dwellings

In terms of rental accommodation, 27 percent of residential dwellings in New Plymouth District were not owned by the usual residents. This compares to 31 percent of dwellings in New Zealand as a whole, indicating that renting is less common in New Plymouth than elsewhere.

Access to telecommunications and motor vehicles

Only 3 percent of New Plymouth District households did not have access to telecommunications systems such as telephone, fax or the internet (Table 2.4).

Table 2.4: Types of telecommunication systems available in private households in New Plymouth District and New Zealand, 2001

	New Plymouth District		New Zealand	
TYPE OF ACCESS	No.	%	No.	%
Access to a Telephone	23,658	96.6	1,240,830	96.3
Access to a Fax Machine	5,157	21.1	325,554	25.3
Access to the Internet	8,205	33.5	482,361	37.4
No Access to Telecommunication Systems	828	3.4	46,815	3.6
Total Households (Includes Households Specifying One or More Access to Telecommunications Systems and No Access)	24,498	100.0	1,289,127	100.0
Total Households	25,275		1,344,267	

Source: Statistics New Zealand, 2001 Census of Population and Dwellings

Just over a third of households (34 percent) had internet access, slightly lower than the average for New Zealand in 2001 (37 percent).

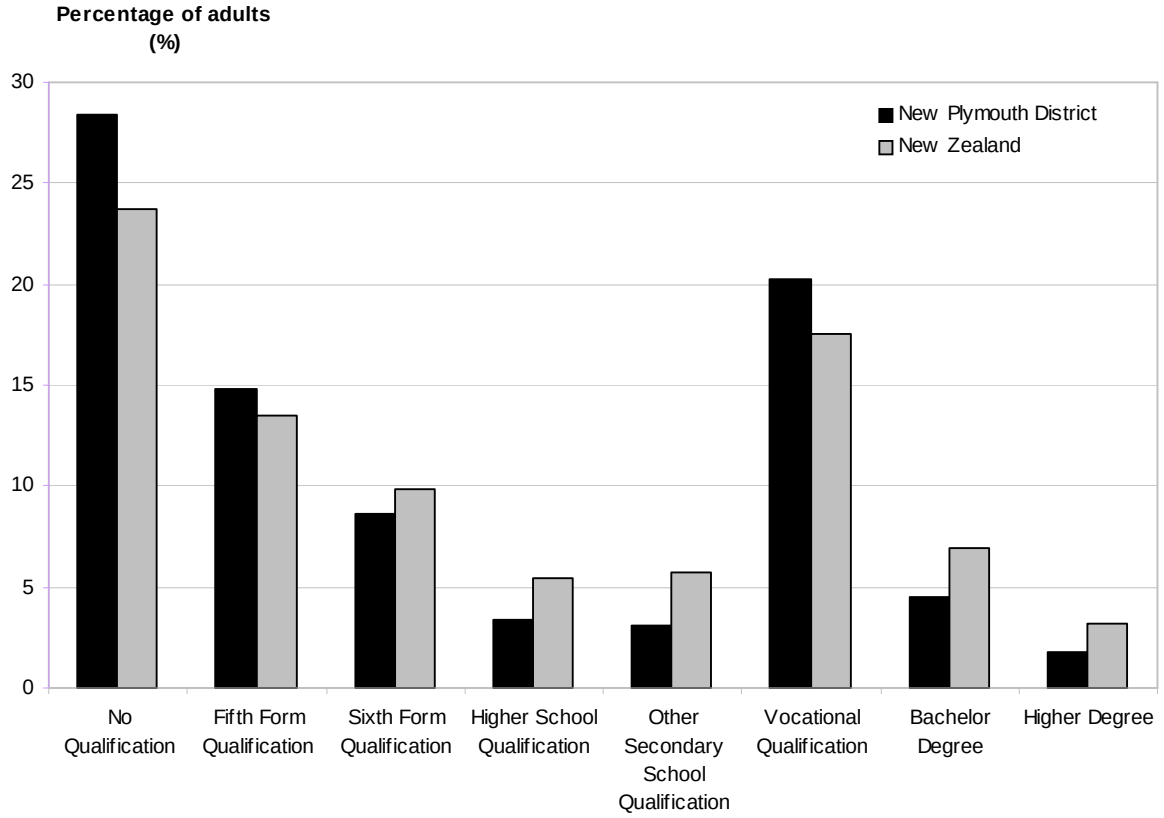
Ninety-seven percent of households had access to a phone, while 21 percent has access to a fax machine.

Eleven percent of households in New Plymouth District had no access to a motor vehicle in 2001, almost the same as for New Zealand as a whole (10 percent) (see Appendix Table A.8).

Education

Compared to New Zealand as a whole, in 2001 adults in the New Plymouth District were more likely to have no educational qualifications and less likely to have higher school and university qualifications (Figure 2.2). Twenty percent of New Plymouth District adults had vocational qualifications, which was two percentage points higher than the rate for New Zealand as a whole.

Figure 2.2: Highest educational qualification attained by adults age 15 and over usually resident in New Plymouth District and New Zealand, 2001



Source: Statistics New Zealand, 2001 Census of Population and Dwellings

Note: Data in Appendix Table A.9

Chart does not show percentages for category 'Not elsewhere included'.

Relative deprivation index (NZDep2001)

NZDep2001 is a measure or 'index' of the level of socio-economic deprivation in different geographic areas of New Zealand. The index ranges from 1 to 10. A score of 1 indicates that people are living in the least deprived 10 percent of New Zealand's areas, while a score of 10 indicates that people are living in the most deprived 10 percent of New Zealand's areas (Howden-Chapman and Tobias 2000, Salmond and Crampton 2002).

The index is calculated using the following variables derived from the Census of Population and Dwellings:

Variable	Description
Communication	No access to telephone
Income	Aged 18-59 receiving means-tested benefit
Employment	Aged 18-59 unemployed
Income	Living in households with equivalised income below an income threshold
Transport	No access to a car
Support	Aged less than 60 years living in single-parent family
Qualifications	Aged 18-59 years without any qualifications
Owned home	Not living in own home
Living space	Living in households below equivalised bedroom occupancy threshold

Source: Howden-Chapman and Tobias (2000)

Note: 'equivalised' means adjusted for household composition.

Table 2.5 shows deprivation index rankings for 2001 for the 36 area units in the New Plymouth District.[6]

Carrington, Fernleigh and Highlands Park were in the least deprived areas (ranked as category 1), and Waitara West and Marfell were in the most deprived areas (ranked as category 10).

[6] Area units are generally equivalent to suburbs in urban areas.

Table 2.5: NZDep2001 rankings of New Plymouth District area units

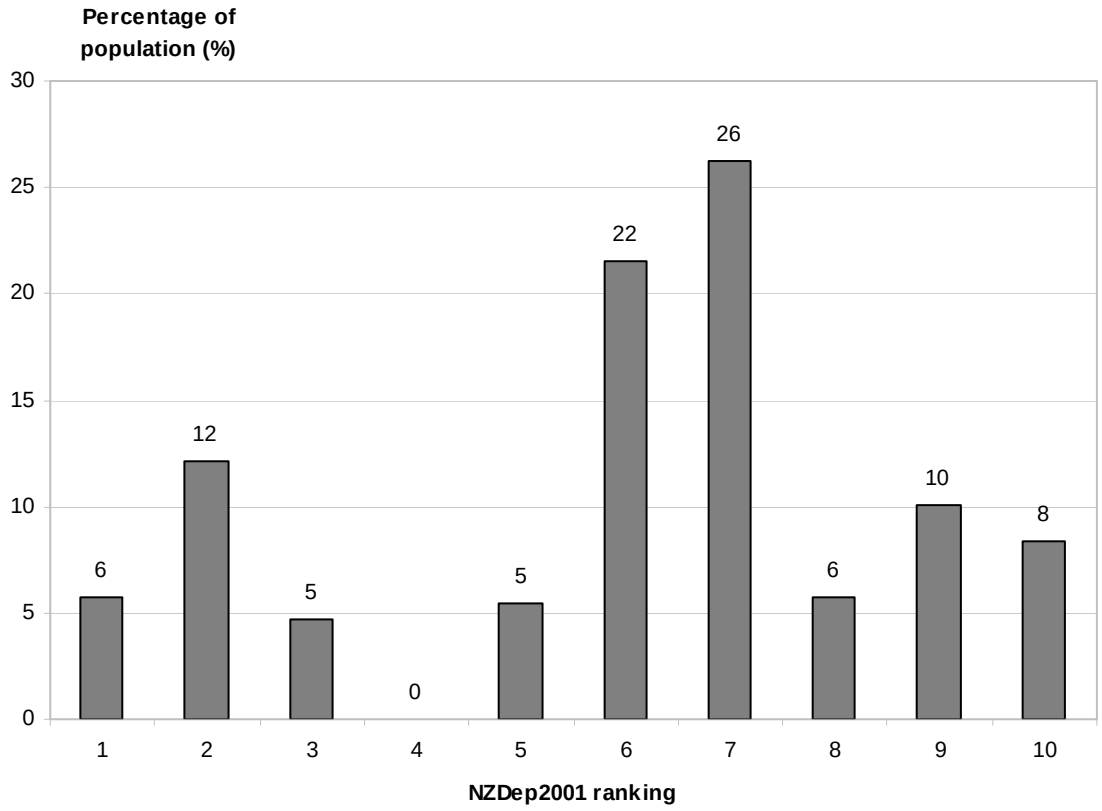
Area unit	NZDep2001	Area unit	NZDep2001	Area unit	NZDep2001
Carrington	1	Bowden	5	Inglewood	7
Fernleigh	1	Mangaoraka	5	Kawaroa	7
Highlands Park	1	Okoki-Okau	5	Lynmouth	7
Barrett	2	Paraite	5	Marsland Hill	7
Egmont Village	2	Urenui	5	Spotswood	7
Kaimata	2	Fitzroy	6	Okato	8
Kaitake	2	Glen Avon	6	Westown	8
Lepperton	2	Merrilands	6	Moturoa	9
Oakura	3	Mount Bryan	6	New Plymouth Central	9
Omata	3	Struan Park	6	Waitara East	9
Upper Westown	3	Welbourn	6	Marfell	10
		Bell Block	7	Waitara West	10
		Frankleigh	7		

Source: Statistics New Zealand, 2001 Census of Population and Dwellings

In New Plymouth District in 2001, 72 percent of the population lived in relatively deprived areas, NZDep2001 6-10 (Figure 2.3). In particular, 18 percent of the District's population lived in NZDep2001 9-10 areas (i.e. Waitara West, Marfell, Waitara East, New Plymouth Central and Moturoa).

At the other end of the spectrum, 23 percent of the population lived in NZDep2001 1-3 areas, the less deprived areas (i.e. Carrington, Fernleigh, Highlands Park, Barrett, Egmont Village, Kaimata, Kaitake, Lepperton, Oakura, Omata and Upper Westown).

Figure 2.3: Percentage of New Plymouth District population living in NZDep2001 categories 1-10, at 2001 census



Source: Statistics New Zealand, 2001 Census of Population and Dwellings

3 Deaths from injury

Introduction

The most serious injury events in the community result in deaths. This chapter presents injury mortality data for the New Plymouth District and compares these data with those for all New Zealand.

Where possible, data have been analysed by different types of injuries and various demographic factors. However, due to small number of deaths in the region (as expected from the relatively small population), it has been necessary to aggregate data for many of the analyses (thus losing some degree of detail).

ICD codes

The 2001 needs assessment analysis of mortality data defined 'injuries' using the International Classification of Diseases (ICD-9-CMA-II) coding system's E-codes. E-codes describe *external causes* of diseases / health conditions such as motor vehicle crashes, falls, poisoning. This set of codes was chosen as being most relevant for the issue of injury *prevention* (rather than injury *treatment*).[7] Injuries were defined as including all available E-codes except 'medical misadventure' and 'adverse reactions to therapeutic agents' such as drugs (E-codes 870-879 and 930-949). The reason for excluding these two causes was because they related to risk factors in hospitals and in other health-care settings, rather than in the wider community.[8]

Since the first needs assessment was conducted, the New Zealand Health Information Service has started to code mortality and hospitalisation data using the new ICD-10 classification system.[9] This differs from ICD-9 systems to some extent with regard to injury. E-codes have been replaced with codes ranging from V to Y, individual codes have been grouped under different headings and a few new categories have been added.

For most analyses of mortality and hospitalisation data in the current needs assessment, we have used ICD-10 and have chosen injury codes that are as similar as possible to the E-codes we used for the previous needs assessment. Included in our definition of injury are the following ICD-10 codes from Chapter XX (External causes of morbidity and mortality):

V01–V99 – Transport accidents
W00–X59 – Other external causes of accidental injury
X60–X84 – Intentional self-harm
X85–Y09 – Assault
Y10–Y34 – Event of undetermined intent
Y85 – Sequelae of transport accidents
Y86 – Sequelae of other accidents
Y87 – Sequelae of intentional self-harm, assault and events of undetermined intent.

[7] This contrasts with ICD-9-CMA-II's other way of defining injuries as the type of injury and body location (e.g. leg fractures, head injuries, open wound of hand) in Chapter XVII Injury and poisoning.

[8] The University of Otago's Injury Prevention Research Unit has published a number of papers and reports on defining 'injury' using ICD and other classification systems (e.g., Cryer et al. 2004; Langley et al. 2002; Langley and Brenner 2004).

[9] The New Zealand Health Information Service has used ICD-10-AM to code causes of mortality from 1 January 2000 onwards and hospitalisation data from 1 July 1999 onwards.

Excluded from our definition of injury are:

Y40–Y84 – Complications of medical and surgical care
Y88 – Sequelae with surgical and medical care as external cause
Y89 – Sequelae of other external causes
Y90 –Y98 – Supplementary factors related to causes of morbidity and mortality classified elsewhere.

Because of the change in ICD classification systems, this section of the report does not attempt to compare mortality data presented in the previous needs assessment report with the more recent mortality data.

Underlying cause

The mortality data presented in this section are based on information about the *underlying* cause of a person's death. This means that the external cause of the injury is recorded as the underlying cause (V to Y codes in Chapter XX), rather than the resulting injuries to the body (S and T codes in Chapter XIX).

Number of deaths

In the period 2000-2003, the last four years for which mortality data are available, there were 119 injury-related deaths among residents of New Plymouth District – an average of almost 30 injury deaths per year. [10]

Deaths from different types of injuries

In the four years 2000-2003, just under two out of three (65 percent) of all injury deaths among New Plymouth District residents were due to *unintentional* causes.[11] Twenty-eight percent were due to *intentional* causes (Figure 3.1).[12,13]

Each year, this is equivalent to an average of approximately:

- 19 unintentional injury deaths
- 8 intentional injury deaths.

The national pattern for the same period shows a similar proportion (64 percent) of injury deaths being due to *unintentional* causes, and a slightly higher proportion (32 percent) being due to *intentional* causes.

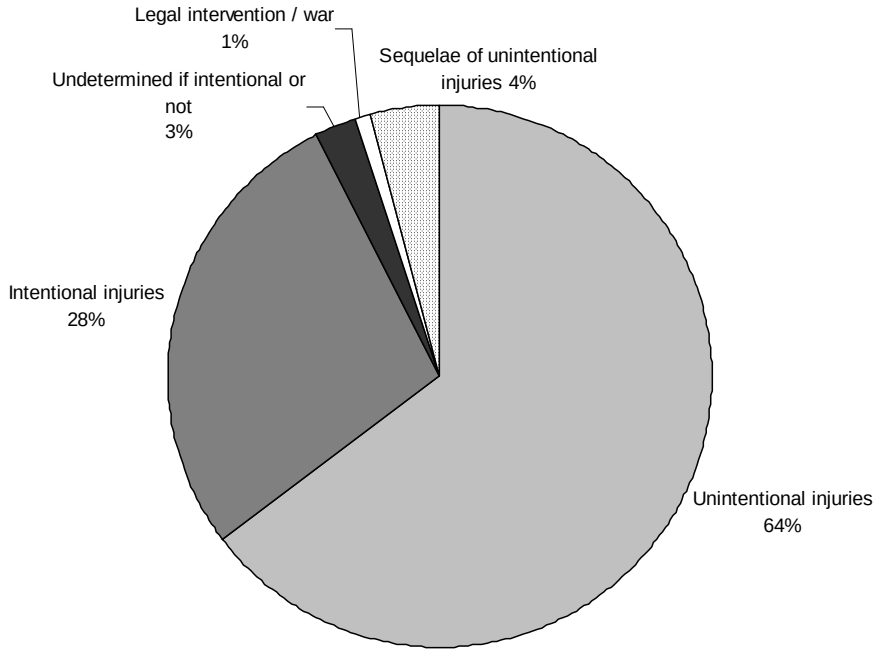
[10] Note mortality data for 1999 were not available mapped to ICD-10-AM. Therefore they have not been able to be added to the subsequent four years data to get information for a full five-year period.

[11] Unintentional causes include ICD-10 codes V01-X59 (transport accidents and other external causes of accidental injury.

[12] Intentional causes include ICD-10 codes X60-Y09 (intentional self-harm and assault).

[13] Eight percent were 'Other' causes of injury including ICD-10 codes Y10-Y34, Y35-Y36, Y85-Y87 (events of undetermined intent, legal intervention and operations of war, sequelae – late effects – of unintentional and intentional injury).

Figure 3.1: Percentage of injury deaths from intentional, unintentional and other injuries, New Plymouth District residents 2000-2003 (n=119)



Source: Data supplied by New Zealand Health Information Service

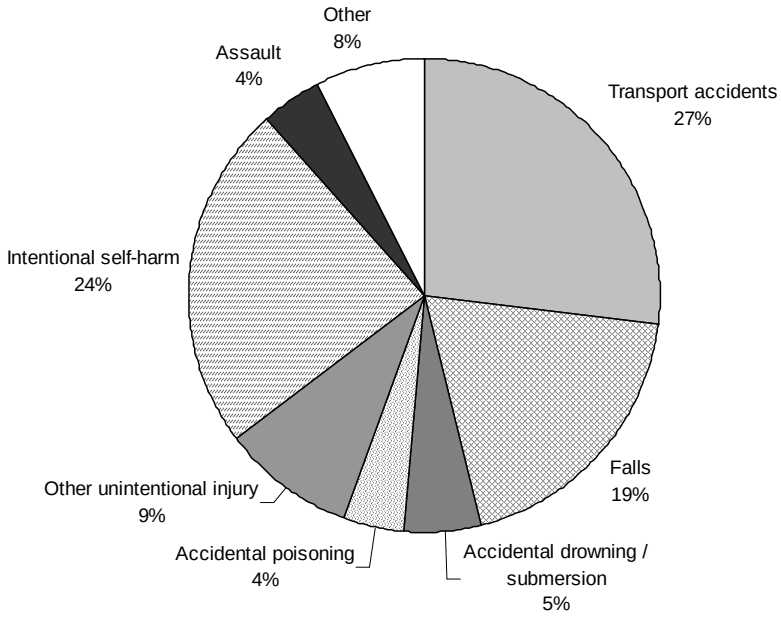
In 2000-2003, most of the deaths due to *unintentional* injuries involved:

- transport accidents (8 per year)
- falls (6 per year)
- drowning / submersion (1 per year)
- accidental poisoning (1 per year).

Together these four groups of injuries contributed to over half (56 percent) of all injury deaths.

The vast majority (85 percent) of deaths due to *intentional* injury were caused by intentional self-harm – suicide and other types of self-inflicted injury (7 per year) (Figure 3.2).

Figure 3.2: Percentage of injury deaths from different groups of injuries, New Plymouth District residents 2000-2003 (n=119)



Source: Data supplied by New Zealand Health Information Service

Table 3.1 below ranks the groups and specific causes of injury death among New Plymouth District residents for the years 2000-2003.

Table 3.1: Groups and specific types of injury deaths from different types of injuries, New Plymouth District residents 2000-2003, ranked

ICD-10 code	Description	Average annual number	Total for 4 years 2000-2003
V01-X59	**UNINTENTIONAL INJURY**	***19***	***77***
V01-V99	***Transport accidents***	***8.0***	***32***
V42-V44	Car occupant injured in collision with motor vehicle (excluding trains)	3.3	13
V40-V41,V45-V49	Car occupant injured in other transport accident	1.3	5
V80-V89	Other land transport accidents	1.0	4
V20-V21,V25-V29	Motorcycle rider injured in other transport accident	0.8	3
V02-V04	Pedestrian injured in collision with motor vehicle (excluding trains)	0.5	2
V12-V14	Pedal cyclist injured in collision with motor vehicle (excluding trains)	0.3	1
V22-V24	Motorcycle rider injured in collision with motor vehicle (excluding trains)	0.3	1
V52-V54	Occupant of pickup truck injured in collision with motor vehicle (excluding trains)	0.3	1
V70-V71,V75-V79	Bus occupant injured in other transport accident	0.3	1
V95-V97	Air and space transport accidents	0.3	1
W00-W19	***Falls***	***5.8***	***23***
W00, W02, W18	Other fall on same level	1.5	6
W01	Fall on same level from slipping, tripping or stumbling	1.5	6
W04-W08, W14-W17	Other fall from one level to another	1.0	4
W19	Unspecified fall	1.0	4
W11-W12	Fall on or from ladder or scaffolding	0.5	1
W65-W74	***Accidental drowning and submersion***	***0.3***	***6***
X40-X49	***Accidental poisoning by and exposure to noxious substances***	***1.5***	***5***
X45-X49	Accidental poisoning by and exposure to other and unspecified chemical and noxious substances	1.3	3
X40-X44	Accidental poisoning by drugs, medicaments and biological substances	0.8	2
X00-X09	***Exposure to smoke, fire and flames***	***0.8***	***3***
X00	Exposure to uncontrolled fire in building or structure	0.5	2
X08-X09	Exposure to other or unspecified smoke, fire and flames	0.3	1
W20-W49	***Exposure to inanimate mechanical forces***	***0.5***	***2***
W28-W29,W31	Contact with other and unspecified machinery	0.5	2
W75-W84	***Other accidental threats to breathing***	***0.5***	***2***
W78-W80	Inhalation / ingestion of food etc. causing obstruction of respiratory tract	0.5	2
X30-X39	***Exposure to forces of nature***	***0.5***	***2***
X31	Exposure to excessive natural cold	0.5	2
W50-W64	***Exposure to animate mechanical forces***	***0.3***	***1***
W53, W55-W59	Bitten, stung, struck, or crushed by another animal	0.3	1
X58-X59	***Accidental exposure to other and unspecified factors***	***0.3***	***1***

Table 3.1 (continued)

ICD-10 code	Description	Average annual number	Total for 4 years 2000-2003
X60-X84	**INTENTIONAL INJURY**	***8.3***	***33***
X60-X84	***Intentional self-harm***	***7.0***	***28***
X70	Intentional self-harm by hanging, strangulation and suffocation	3.3	13
X65-X69	Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	1.5	6
X60-X64	Intentional self-poisoning by and exposure to drugs, medicaments and biological substances	1.3	5
X72-X74	Intentional self-harm by firearm discharge	0.8	3
X75-X84	Intentional self-harm by other or unspecified means	0.3	1
X85-Y09	***Assault***	***1.3***	***5***
Y04	Assault by bodily force	0.5	2
X93-X95	Assault by firearm discharge	0.3	1
X99	Assault by a sharp object	0.3	1
Y00	Assault by a blunt object	0.3	1
Y10-Y34	**EVENT OF UNDETERMINED INTENT**	***0.8***	***3***
Y35-Y36	**LEGAL INTERVENTION AND OPERATIONS OF WAR**	***0.3***	***1***
Y35	Legal intervention	0.3	1
Y85-Y87	**SEQUELAE OF UNINTENTIONAL AND INTENTIONAL INJURIES**	***1.3***	***5***
Y86	Sequelae of other accidents	0.8	3
Y85	Sequelae of transport accidents	0.5	2

Source: Data supplied by New Zealand Health Information Service

Note: Shading indicates higher groups of injuries, and non-shading indicates more specific types of injuries under these groups

Injury deaths among different age groups

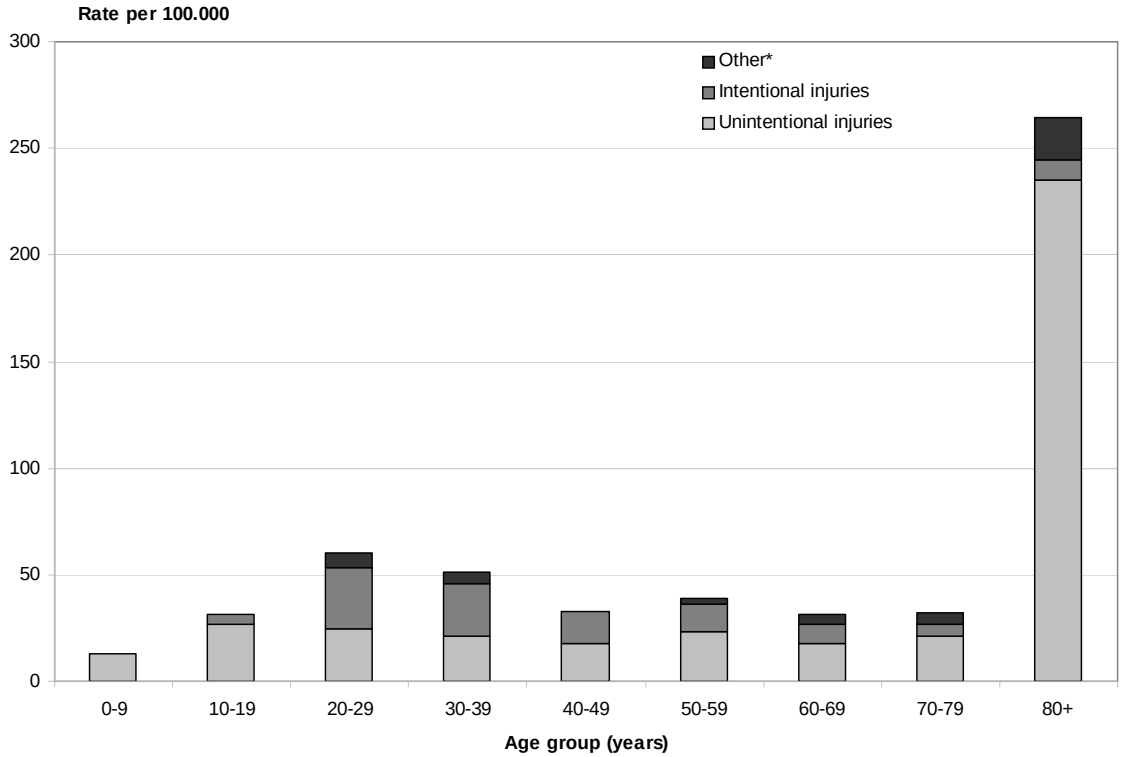
In the four-year period 2000-2003, the average annual age-standardised mortality rate for injury among New Plymouth District residents was slightly higher than that of New Zealand as a whole (38 per 100,000 compared to 36 per 100,000).

In New Plymouth District in the four years 2000-2003, average annual mortality rates for injury were lowest for the youngest 10-year age group (0-9 years), and by far the highest for the oldest age group (80+). Another (lower) peak in rates occurred for 20-29 year olds.

During the same period, there were very similar patterns of age-specific injury rates for all New Zealanders.

During 2000-2003, *intentional* injuries (predominantly suicide and other self-inflicted injuries) contributed to half or nearly half of all injury deaths among 20-29 year olds (47 percent), 30-39 year olds (47 percent) and 40-49 year olds (46 percent). This contrasts with the pattern for other age groups where *unintentional* causes were far more common than *intentional* causes (Figure 3.3).

Figure 3.3: Annual mortality rates (per 100,000) for intentional and unintentional injuries, New Plymouth District residents 2000-2003, by age group



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Table A.10

* Other injuries include events of undetermined intent, legal intervention / war injuries and sequelae (late effects) of injury

Some rates based on relatively small numbers.

Looking at *broader* groups of injuries, in 2000-2003 transport accidents were the most common cause of injury deaths among 10-19 year olds and 50-79 year olds. Transport accidents were also the second- or third-most common cause of injury deaths among all the other age groups.

Intentional self-harm rated as the most frequent cause of injury death among 20-49 year olds, and accidental drowning and submersion and other accidental threats to breathing were most common among children aged 0-9. By far the most common type of injury death among people aged 80 and over was falls (Table 3.2).

Table 3.2: Deaths from *groups* of injuries, New Plymouth District residents 2000-2003, by age group, ranked

0-9		10-19		20-29	
Injury type	**No.**	**Injury type**	**No.**	**Injury type**	**No.**
W65-W74 Accidental drowning and submersion	2	V01-V99 Transport accidents	7	X60-X84 Intentional self-harm	7
W75-W84 Other accidental threats to breathing	2	X40-X49 Accidental poisoning by and exposure to noxious substances	2	V01-V99 Transport accidents	4
V01-V99 Transport accidents	1	X60-X84 Intentional self-harm	2	W50-W64 Exposure to animate mechanical forces	1
		W00-W19 Falls	1	X00-X09 Exposure to smoke, fire and flames	1
		W65-W74 Accidental drowning and submersion	1	X40-X49 Accidental poisoning by and exposure to noxious substances	1
				X85-Y09 Assault	1
				Y10-Y34 Event of undetermined intent	1
				Y35-Y36 Legal intervention and operations of war	1
30-39		**40-49**		**50-59**	
Injury type	**No.**	**Injury type**	**No.**	**Injury type**	**No.**
X60-X84 Intentional self-harm	9	X60-X84 Intentional self-harm	4	V01-V99 Transport accidents	3
V01-V99 Transport accidents	5	V01-V99 Transport accidents	3	W00-W19 Falls	3
W65-W74 Accidental drowning and submersion	2	X85-Y09 Assault	2	X60-X84 Intentional self-harm	3
X40-X49 Accidental poisoning by and exposure to noxious substances	1	X00-X09 Exposure to smoke, fire and flames	1	W20-W49 Exposure to inanimate mechanical forces	1
Y10-Y34 Event of undetermined intent	1	X30-X39 Exposure to forces of nature	1	X85-Y09 Assault	1
Y85-Y89 Sequelae of external causes of morbidity and mortality	1	X40-X49 Accidental poisoning by and exposure to noxious substances	1	Y10-Y34 Event of undetermined intent	1
		X58-X59 Accidental exposure to other and unspecified factors	1		
60-69		70-79		80+	
Injury type	**No.**	**Injury type**	**No.**	**Injury type**	**No.**
V01-V99 Transport accidents	3	V01-V99 Transport accidents	2	W00-W19 Falls	17
W00-W19 Falls	1	W00-W19 Falls	1	V01-V99 Transport accidents	4
X60-X84 Intentional self-harm	1	X30-X39 Exposure to forces of nature	1	Y85-Y89 Sequelae of external causes of morbidity and mortality	2
X85-Y09 Assault	1	X60-X84 Intentional self-harm	1	W20-W49 Exposure to inanimate mechanical forces	1
Y85-Y89 Sequelae of external causes of morbidity and mortality	1	Y85-Y89 Sequelae of external causes of morbidity and mortality	1	W65-W74 Accidental drowning and submersion	1
				X00-X09 Exposure to smoke, fire and flames	1
				X60-X84 Intentional self-harm	1

Source: Data supplied by New Zealand Health Information Service

Table 3.3 (overleaf) examines the frequency of *more specific* causes of injury deaths among New Plymouth District residents in 2000-2003.

Table 3.3: Deaths from *specific types* of injuries, New Plymouth District residents 2000-2003, by age group, ranked

0-9		10-19		20-29	
Injury type	**No.**	**Injury type**	**No.**	**Injury type**	**No.**
W65-W74 Accidental drowning and submersion	2	V40-V41,V45-V49 Car occupant injured other transport accident	2	X70 Intentional self-harm by hanging, strangulation and suffocation	3
W78-W80 Inhalation/ingestion of food etc causing obstruction of respiratory tract	2	V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	2	V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	2
V02-V04 Pedestrian injured in collision with motor vehicle (excluding trains)	1	V12-V14 Pedal cyclist injured in collision with motor vehicle (excluding trains)	1	X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and biological substances	2
		V20-V21,V25-V29 Motorcycle rider injured in other transport accident	1	X65-X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	2
		V80-V89 Other land transport accidents	1	V20-V21,V25-V29 Motorcycle rider injured in other transport accident	1
		W10 Fall on and from stairs and steps	1	V40-V41,V45-V49 Car occupant injured other transport accident	1
		W65-W74 Accidental drowning and submersion	1	W53, W55-W59 Bitten, stung, struck, or crushed by another animal	1
		X40-X44 Accidental poisoning by drugs, medicaments and biological substances	1	X00 Exposure to uncontrolled fire in building or structure	1
		X45-X49 Accidental poisoning by and exposure to other and unspecified chemical and noxious substances	1	X45-X49 Accidental poisoning by and exposure to other and unspecified chemical and noxious substances	1
		X65-X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	1	Y04 Assault by bodily force	1
		X72-X74 Intentional self-harm by firearm discharge	1	Y10-Y34 Event of undetermined intent	1
				Y35 Legal intervention	1

30-39		40-49		50-59	
Injury type	**No.**	**Injury type**	**No.**	**Injury type**	**No.**
X70 Intentional self-harm by hanging, strangulation and suffocation	9	V20-V21,V25-V29 Motorcycle rider injured in other transport accident	1	V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	2
V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	2	V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	1	V40-V41,V45-V49 Car occupant injured other transport accident	1
W65-W74 Accidental drowning and submersion	2	V80-V89 Other land transport accidents	1	W00, W02, W18 Other fall on same level	1
V22-V24 Motorcycle rider injured in collision with motor vehicle (excluding trains)	1	X08-X09 Exposure to other or unspecified smoke, fire and flames	1	W04-W08, W14-W17 Other fall from one level to another	1
V80-V89 Other land transport accidents	1	X31 Exposure to excessive natural cold	1	W10 Fall on and from stairs and steps	1
V95-V97 Air and space transport accidents	1	X45-X49 Accidental poisoning by and exposure to other and unspecified chemical and noxious substances	1	W28-W29,W31 Contact with other and unspecified machinery	1
X40-X44 Accidental poisoning by drugs, medicaments and biological substances	1	X58-X59 Accidental exposure to other and unspecified factors	1	X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and bio	1
Y10-Y34 Event of undetermined intent	1	X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and biological substances	1	X72-X74 Intentional self-harm by firearm discharge	1
Y85 Sequelae of transport accidents	1	X65-X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	1	X75-X84 Intentional self-harm by other or unspecified means	1
		X70 Intentional self-harm by hanging, strangulation and suffocation	1	X93-X95 Assault by firearm discharge	1
		X72-X74 Intentional self-harm by firearm discharge	1	Y10-Y34 Event of undetermined intent	1
		X99 Assault by a sharp object	1		
		Y04 Assault by bodily force	1		

Table 3.3 (continued)

60-69		70-79		80+	
Injury type	**No.**	**Injury type**	**No.**	**Injury type**	**No.**
V40-V41,V45-V49 Car occupant injured other transport accident	1	V02-V04 Pedestrian injured in collision with motor vehicle (excluding trains)	1	W01 Fall on same level from slipping, tripping or stumbling	6
V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	1	V70-V71,V75-V79 Bus occupant injured in other transport accident	1	W00, W02, W18 Other fall on same level	5
V52-V54 Occupant of pickup truck injured in collision with motor vehicle (excluding trains)	1	W19 Unspecified fall	1	V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	3
W11-W12 Fall on or from ladder or scaffolding	1	X31 Exposure to excessive natural cold	1	W04-W08, W14-W17 Other fall from one level to another	3
X65-X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	1	X65-X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	1	W19 Unspecified fall	3
Y00 Assault by a blunt object	1	Y86 Sequelae of other accidents	1	V80-V89 Other land transport accidents	1
Y86 Sequelae of other accidents	1			W28-W29,W31 Contact with other and unspecified machinery	1
				W65-W74 Accidental drowning and submersion	1
				X00 Exposure to uncontrolled fire in building or structure	1
				X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and biological substances	1
				Y85 Sequelae of transport accidents	1
				Y86 Sequelae of other accidents	1

Source: Data supplied by New Zealand Health Information Service

Injury deaths among males and females

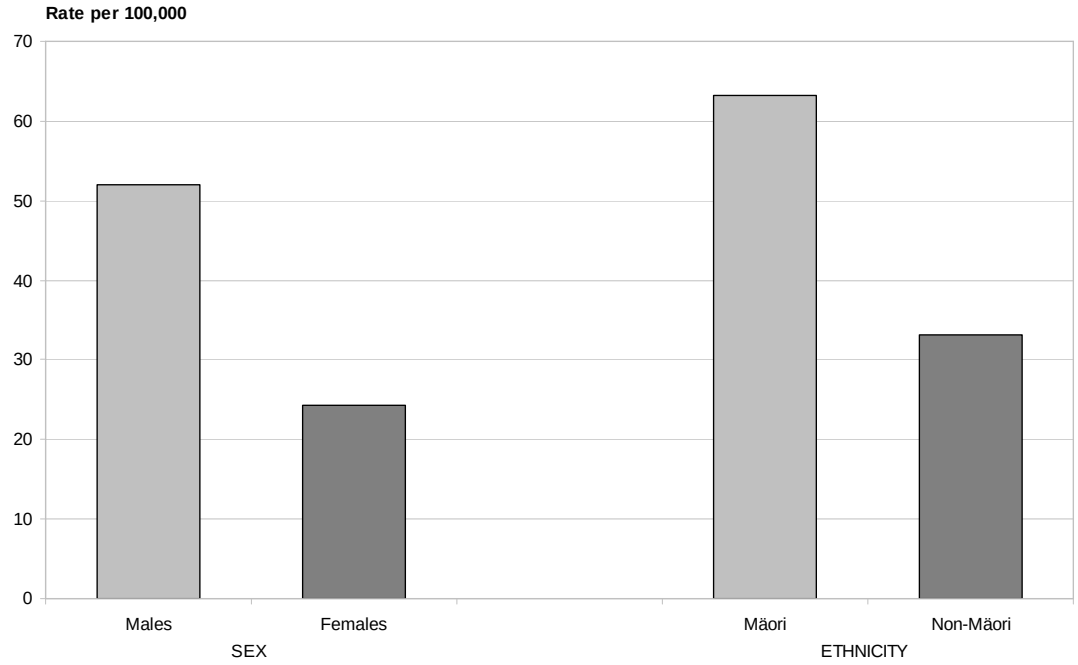
New Plymouth District men are more likely than New Plymouth District women to die from injury.

Over the period 2000-2003, the age-standardised mortality injury rate for males living in the New Plymouth District was just over double the female rate (age-standardised mortality rates of 52 and 24 per 100,000 respectively) (Figure 3.4). The gap in age-standardised mortality injury rates between males and females living in New Plymouth District was less than in New Zealand as a whole, where male rates were more than two and a half times those of females (57 per 100,000 for males and 21 per 100,000 for females).

From 2000-2003, 65 percent of all injury deaths among males and 64 percent of all injury deaths among females were due to *unintentional* causes. Twenty-eight percent of all injury deaths among males and 27 percent of all injury deaths among females were caused *intentionally*.[14]

[14] Four percent of male injury deaths and 5 percent of female injury deaths were due to other causes.

Figure 3.4: Average annual age-standardised mortality rates (per 100,000) for injuries, New Plymouth District residents 2000-2003, by sex and ethnicity



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Table A.11

In the four-year period 2000-2003, the three most common *groups* of injuries (in order of frequency) among New Plymouth District males were transport accidents, intentional self-harm and falls. Among females, the same three causes were most common, although in order of frequency they were: falls, transport accidents, and intentional self-harm (Table 3.4).

Table 3.4: Deaths from *groups* of injuries, New Plymouth District residents 2000-2003, by sex, ranked

Males		Females	
Injury type	**No.**	**Injury type**	**No.**
V01-V99 Transport accidents	21	W00-W19 Falls	13
X60-X84 Intentional self-harm	19	V01-V99 Transport accidents	11
W00-W19 Falls	10	X60-X84 Intentional self-harm	9
W65-W74 Accidental drowning and submersion	4	X85-Y09 Assault	3
X40-X49 Accidental poisoning by and exposure to noxious substances	4	Y85-Y89 Sequelae of external causes of morbidity and mortality	3
W20-W49 Exposure to inanimate mechanical forces	2	W65-W74 Accidental drowning and submersion	2
W75-W84 Other accidental threats to breathing	2	W50-W64 Exposure to animate mechanical forces	1
X00-X09 Exposure to smoke, fire and flames	2	X00-X09 Exposure to smoke, fire and flames	1
X30-X39 Exposure to forces of nature	2	X40-X49 Accidental poisoning by and exposure to noxious substances	1
X85-Y09 Assault	2	Y10-Y34 Event of undetermined intent	1
Y10-Y34 Event of undetermined intent	2		
Y85-Y89 Sequelae of external causes of morbidity and mortality	2		
X58-X59 Accidental exposure to other and unspecified factors	1		
Y35-Y36 Legal intervention and operations of war	1		

Source: Data supplied by New Zealand Health Information Service

Table 3.5 ranks the *more specific* causes of injury deaths among males and females living in New Plymouth District in 2000-2003.

Table 3.5: Deaths from *specific types* of injuries, New Plymouth District residents 2000-2003, by sex, ranked

Males		Females	
Injury type	**No.**	**Injury type**	**No.**
X70 Intentional self-harm by hanging, strangulation and suffocation	12	W00, W02, W18 Other fall on same level	5
V42-V44 Car occupant injured in collision with motor vehicle (excl trains)	9	V40-V41,V45-V49 Car occupant injured other transport accident	4
V80-V89 Other land transport accidents	4	V42-V44 Car occupant injured in collision with motor vehicle (excl trains)	4
W01 Fall on same level from slipping, tripping or stumbling	4	W19 Unspecified fall	3
W65-W74 Accidental drowning and submersion	4	X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and bio	3
X65-X69 Intentional self-poisoning by and exposure to other and unspecified chem	4	V02-V04 Pedestrian injured in collision with motor vehicle (excl trains)	2
V20-V21,V25-V29 Motorcyle rider injured in other transport accident	3	W01 Fall on same level from slipping, tripping or stumbling	2
X45-X49 Accidental poisoning by and exposure to other and unspeciifed chemical a	3	W04-W08, W14-W17 Other fall from one level to another	2
W04-W08, W14-W17 Other fall from one level to another	2	W65-W74 Accidental drowning and submersion	2
W28-W29,W31 Contact with other and unspecified machinery	2	X65-X69 Intentional self-poisoning by and exposure to other and unspecified chem	2
W78-W80 Inhalation/ingestion of food etc causing obstruction of respiratory trac	2	X72-X74 Intentional self-harm by firearm discharge	2
X00 Exposure to uncontrolled fire in building or structure	2	Y85 Sequelae of transport accidents	2
X31 Exposure to excessive natural cold	2	V70-V71,V75-V79 Bus occupant injured other transport accident	1
X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and bio	2	W10 Fall on and from stairs and steps	1
Y10-Y34 Event of undetermined intent	2	W53, W55-W59 Bitten, stung, struck, or crushed by another animal	1
Y86 Sequelae of other accidents	2	X08-X09 Exposure to other or unspecified smoke, fire and flames	1
V12-V14 Pedal cyclist injured in collision with motor vehicle (excl trains)	1	X40-X44 Accidental poisoning by drugs, medicaments and biological substances, ex	1
V22-V24 Motorcycle rider injured in collision with motor vehicle (excl trains)	1	X70 Intentional self-harm by hanging, strangulation and suffocation	1
V40-V41,V45-V49 Car occupant injured other transport accident	1	X75-X84 Intentional self-harm by other or unspecified means	1
V52-V54 Occ of pickup truck injured in collision with motor veh (excl trains)	1	X93-X95 Assault by firearm discharge	1
V95-V97 Air and space transport accidents	1	X99 Assault by a sharp object	1
W00, W02, W18 Other fall on same level	1	Y04 Assault by bodily force	1
W10 Fall on and from stairs and steps	1	Y10-Y34 Event of undetermined intent	1
W11-W12 Fall on or from ladder or scaffolding	1	Y86 Sequelae of other accidents	1
W19 Unspecified fall	1		
X40-X44 Accidental poisoning by drugs, medicaments and biological substances, ex	1		
X58-X59 Accidental exposure to other and unspecified factors	1		
X72-X74 Intentional self-harm by firearm discharge	1		
Y00 Assault by a blunt object	1		
Y04 Assault by bodily force	1		
Y35 Legal intervention	1		

Source: Data supplied by New Zealand Health Information Service

Injury deaths among Mäori and non-Mäori

Mäori in New Plymouth District are more likely than non-Mäori to die as a result of injury.

For the four-year period 2000-2003, Mäori living in New Plymouth District had average annual age-standardised rates of injury deaths nearly twice those of non-Mäori (63 and 33 per 100,000 respectively) (Figure 3.4). During the same period, comparative figures for all New Zealanders were 64 per 100,000 for Mäori and 32 per 100,000 for non-Mäori.[15]

In New Plymouth District, from 2000-2003, 55 percent of Mäori and 67 percent of non-Mäori injury deaths were due to *unintentional* causes. [16] Forty percent of Mäori and 25 percent of non-Mäori injury deaths were *intentionally* caused.

Looking at the *wider groups* of causes of injuries for the four-year period 2000-2003, intentional self-harm and transport accidents were the most frequent causes of fatal injuries among both Mäori and non-Mäori living in New Plymouth District. Falls were also a relatively frequent cause of non-Mäori injury deaths (Table 3.6).

Table 3.6: Deaths from *groups* of injuries, New Plymouth District residents 2000-2003, by ethnicity, ranked

Mäori		Non-Mäori	
Injury type	**No.**	**Injury type**	**No.**
X60-X84 Intentional self-harm	6	V01-V99 Transport accidents	27
V01-V99 Transport accidents	5	X60-X84 Intentional self-harm	22
W00-W19 Falls	2	W00-W19 Falls	21
W65-W74 Accidental drowning and submersion	2	X40-X49 Accidental poisoning by and exposure to noxious substances	5
W75-W84 Other accidental threats to breathing	2	Y85-Y89 Sequelae of external causes of morbidity and mortality	5
X85-Y09 Assault	2	W65-W74 Accidental drowning and submersion	4
Y35-Y36 Legal intervention and operations of war	1	X00-X09 Exposure to smoke, fire and flames	3
		X85-Y09 Assault	3
		Y10-Y34 Event of undetermined intent	3
		W20-W49 Exposure to inanimate mechanical forces	2
		X30-X39 Exposure to forces of nature	2
		W50-W64 Exposure to animate mechanical forces	1
		X58-X59 Accidental exposure to other and unspecified factors	1

Source: Data supplied by New Zealand Health Information Service

Table 3.7 (overleaf) ranks the different *specific* causes of injury deaths among New Plymouth District residents from 2000-2003.

[15] Note that Mäori rates are based on relatively small numbers of cases (20 for the whole four-year period).

[16] See footnote above.

Table 3.7: Deaths from *specific types* of injuries, New Plymouth District residents 2000-2003, by ethnicity, ranked

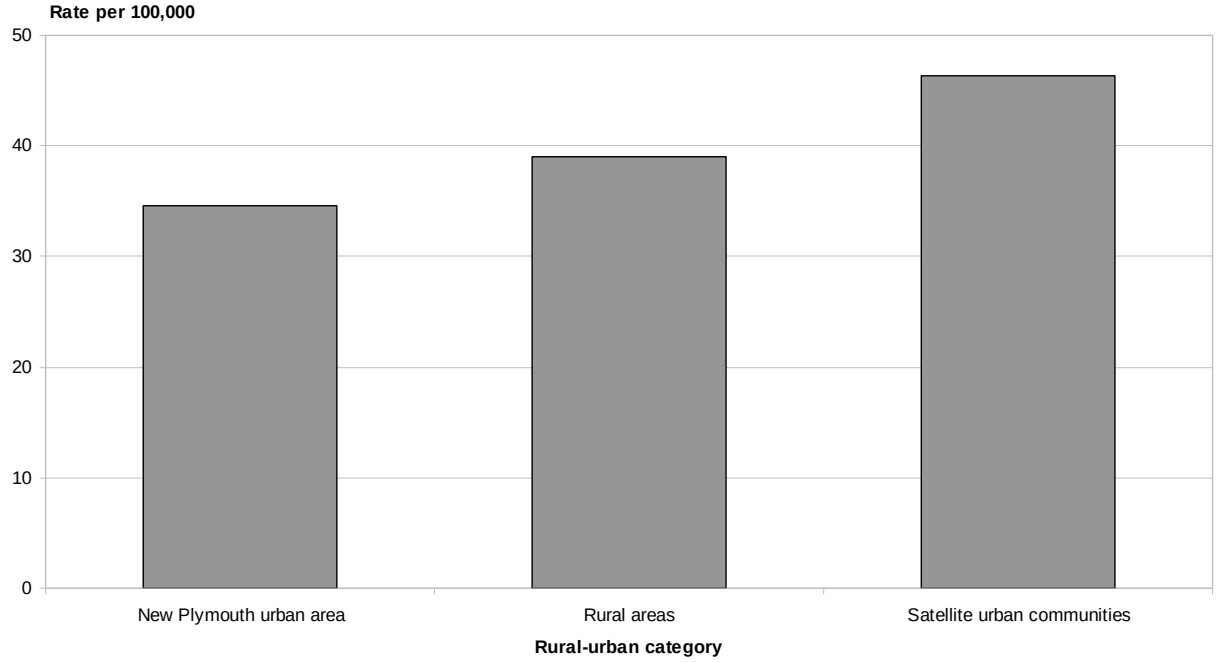
Mäori		Non-Mäori	
Injury type	**No.**	**Injury type**	**No.**
X70 Intentional self-harm by hanging, strangulation and suffocation	5	V42-V44 Car occupant injured in collision with motor vehicle (excl trains)	12
5V40-V41,V45-V49 Car occupant injured other transport accident	2	X70 Intentional self-harm by hanging, strangulation and suffocation	8
W65-W74 Accidental drowning and submersion	2	W00, W02, W18 Other fall on same level	6
W78-W80 Inhalation/ingestion of food etc causing obstruction of respiratory tract	2	W01 Fall on same level from slipping, tripping or stumbling	6
V20-V21,V25-V29 Motorcycle rider injured in other transport accident	1	X65-X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	6
V22-V24 Motorcycle rider injured in collision with motor vehicle (excluding trains)	1	V80-V89 Other land transport accidents	4
V42-V44 Car occupant injured in collision with motor vehicle (excluding trains)	1	W04-W08, W14-W17 Other fall from one level to another	4
W10 Fall on and from stairs and steps	1	W65-W74 Accidental drowning and submersion	4
W19 Unspecified fall	1	X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and biological substances	4
X60-X64 Intentional self-poisoning by and exposure to drugs, medicaments and biological substances	1	V40-V41,V45-V49 Car occupant injured other transport accident	3
X99 Assault by a sharp object	1	W19 Unspecified fall	3
Y04 Assault by bodily force	1	X45-X49 Accidental poisoning by and exposure to other and unspecified chemical and noxious substances	3
Y35 Legal intervention	1	X72-X74 Intentional self-harm by firearm discharge	3
		Y10-Y34 Event of undetermined intent	3
		Y86 Sequelae of other accidents	3
		V02-V04 Pedestrian injured in collision with motor vehicle (excl trains)	2
		V20-V21,V25-V29 Motorcycle rider injured in other transport accident	2
		W28-W29,W31 Contact with other and unspecified machinery	2
		X00 Exposure to uncontrolled fire in building or structure	2
		X31 Exposure to excessive natural cold	2
		X40-X44 Accidental poisoning by drugs, medicaments and biological substances	2
		Y85 Sequelae of transport accidents	2
		V12-V14 Pedal cyclist injured in collision with motor vehicle (excluding trains)	1
		V52-V54 Occupant of pickup truck injured in collision with motor vehicle (excluding trains)	1
		V70-V71,V75-V79 Bus occupant injured other transport accident	1
		V95-V97 Air and space transport accidents	1
		W10 Fall on and from stairs and steps	1
		W11-W12 Fall on or from ladder or scaffolding	1
		W53, W55-W59 Bitten, stung, struck, or crushed by another animal	1
		X08-X09 Exposure to other or unspecified smoke, fire and flames	1
		X58-X59 Accidental exposure to other and unspecified factors	1
		X75-X84 Intentional self-harm by other or unspecified means	1
		X93-X95 Assault by firearm discharge	1
		Y00 Assault by a blunt object	1
		Y04 Assault by bodily force	1

Source: Data supplied by New Zealand Health Information Service

Rural-urban areas

In the four-year period 2000-2003, average annual age-standardised mortality rates for injury were highest for satellite urban areas (Waitara and Inglewood) (46 per 100,000) and lowest in the New Plymouth urban area (35 per 100,000). The rate for rural areas was in between these other two (39 per 100,000).

Figure 3.5: Average annual age-standardised mortality rates (per 100,000) for injuries, New Plymouth District residents 2000-2003, by rural-urban category



Source: Data supplied by New Zealand Health Information Service

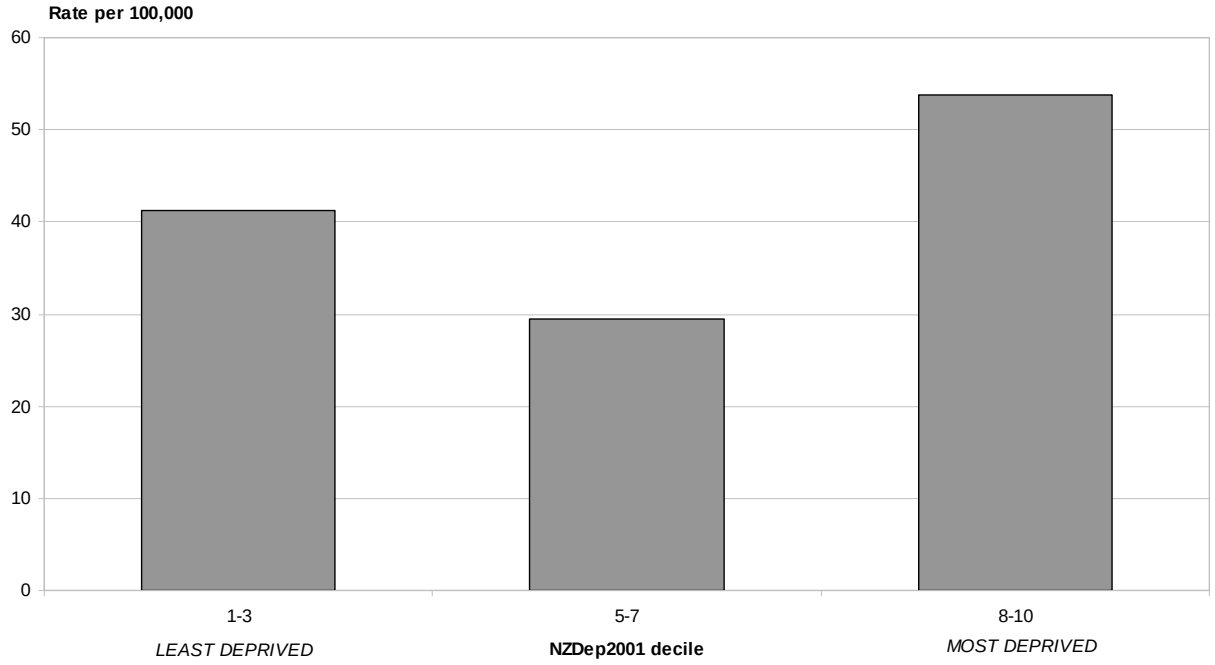
Note: Data in Appendix Table A.12

Rates for rural areas and satellite urban communities based on relatively small numbers.

Socio-economic areas

In 2000-2003, average annual age-standardised mortality rates for injury among people living in the most socio-economically deprived geographic areas of New Plymouth District were higher than for those living in less socio-economically deprived areas. The rate for those living in the most deprived areas (NZDep areas 8-10) was 54 per 100,000 compared with 41 per 100,000 for those living in the least deprived areas (NZDep areas 1-3) and 29 per 100,000 for those living in the middle-rated areas (NZDep areas 5-7) (Figure 3.6).

Figure 3.6: Average annual age-standardised mortality rates (per 100,000) for injuries, New Plymouth District residents 2000-2003, by NZDep2001



Source: Data supplied by New Zealand Health Information Service

Notes: Data in Appendix Table A.13

NZDep2001 is an index or measure of the level of socio-economic deprivation in different geographic areas of New Zealand. It is calculated using 2001 Census data on car and telephone access, receipt of means-tested benefits, unemployment, household income, sole parenting, educational qualifications, home ownership and home living space (Salmond and Crampton 2002)

There are no areas classified as NZDep decile 4 in New Plymouth District.

Trends in injury deaths

Trends in injury deaths have been somewhat difficult to analyse for the current needs assessment due to the change in New Zealand from using the ICD-9-CMA-II system to classify mortality data before 2000 to using ICD-10-AM from 2000 onwards (see introduction to this section of the report).

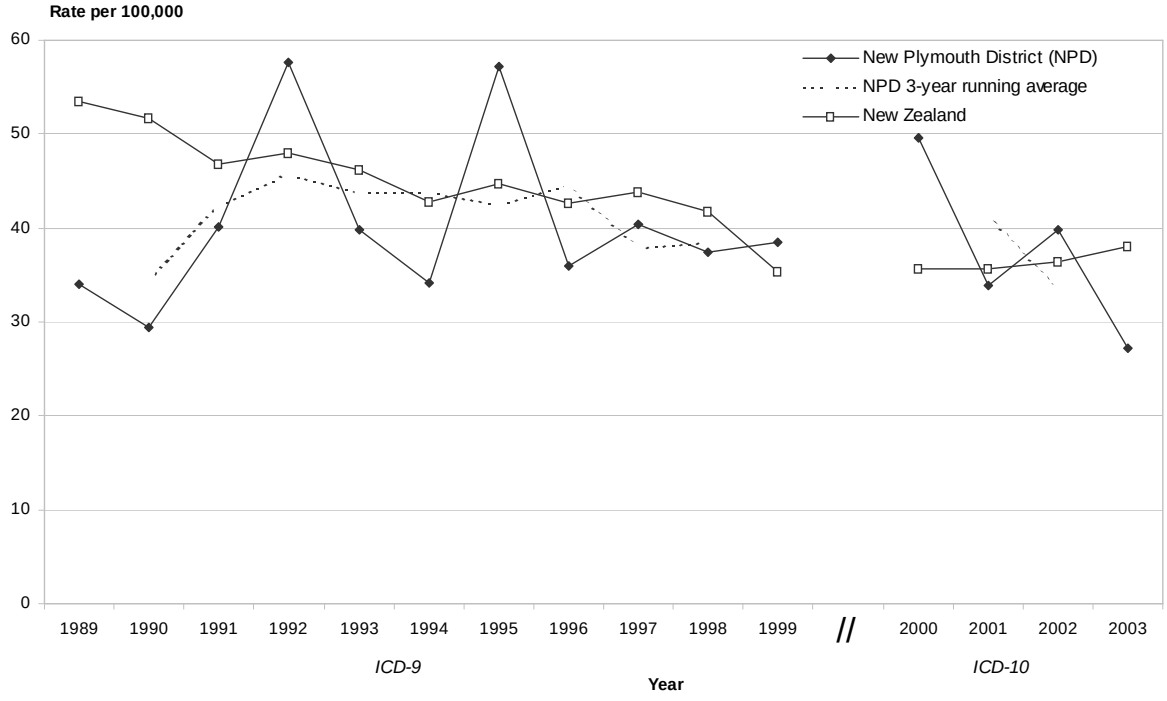
NZHIS were not able to provide us with the earlier mortality data forward-coded to ICD-10, nor the later data back-coded to ICD-9. Therefore, there is a degree of discontinuity in the trend data for these two sets of information.

However, trends in age-standardised injury death rates from 1989-1999 (ICD-9) and 2000-2003 (ICD-10) for New Plymouth District and for New Zealand are presented below (Figure 3.7).

Rates for New Zealand gradually declined over the period 1989-1999. When examined year by year, rates for New Plymouth District fluctuated quite widely, due to the relatively small numbers of deaths from injury in the region. When three-year running averages were calculated, it appears that New Plymouth rates were below the national average in the early 90s, were very similar in the mid 1990s, and in the late 1990s again appeared to be heading to a level slightly below that of New Zealand as a whole.

From 2000-2003, New Zealand injury rates flattened out and then increased slightly. During the same period, New Plymouth District rates started at a higher level, and then dipped below New Zealand rates.

Figure 3.7: Trends in annual age-standardised mortality rates (per 100,000) for injuries, New Plymouth District residents 1989-2003



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix A.14

Some rates for NPD based on relatively small numbers.

4 Hospitalisations for injury

This section looks at injuries that result in people being admitted to hospital. In general, injuries resulting in hospitalisation are more likely to be severe, life-threatening and disabling than injuries treated in non-hospital settings such as health centres or GP clinics. An analysis of injury hospitalisations therefore tends to concentrate on the more traumatic end of the injury spectrum.

Definitions

The data below covers day patient and inpatient admissions to New Zealand public hospitals by people from the New Plymouth District for the five calendar years 2001-2005. A supplementary analysis also examines trends in injury hospitalisation rates for the 17 calendar years from 1989 to 2005. Where appropriate, comparisons are made with injury hospitalisation data for New Zealand as a whole.

The hospitalisation data does not include hospital emergency department attendances, except in cases where emergency department patients are subsequently admitted to hospital as day patients or inpatients. A separate analysis of emergency department data is provided in the next chapter.

It should be noted that changes from year to year in rates of hospitalisation for injury can occur for several reasons. These include increases or decreases in the true incidence of injuries in the population (which in turn can be shaped by a multitude of factors), variations in people's treatment-seeking behaviour, and changes in admission policies or the types of services provided in hospitals or other non-hospital settings in the community that offer emergency care for injuries.

All injury hospitalisations

In the five years 2001-2005 there were a total of 6822 hospitalisations for injury among people residing in the New Plymouth District. This is an average of 1364 injury hospitalisations per year.

Main causes of injury requiring hospitalisation

Analysis of the 6822 hospitalisations indicates which injury causes were the most and least common. For this analysis, injury causes have been grouped into 16 categories of unintentional and intentional injury (see Table 4.1)

Table 4.1: Causes of unintentional and intentional injury hospitalisations in New Plymouth District 2001-2005, ranked in order of frequency

Cause Group	No.	%
UNINTENTIONAL		
Falls	2,845	41.7
Exposure to inanimate mechanical forces	1,013	14.8
Transport-related accidents	948	13.9
Exposure to animate mechanical forces	266	3.9
Over-exertion, travel and privation	265	3.9
Accidental exposure to other and unspecified factors	220	3.2
Accidental poisoning by and exposure to noxious substances	140	2.1
Contact with heat and hot substances	89	1.3
Other accidental threats to breathing	43	0.6
Exposure to smoke, fire and flames	32	0.5
Contact with venomous animals or plants	29	0.4
Exposure to forces of nature	18	0.3
Accidental drowning and submersion	16	0.2
Exposure to electric current, radiation, & extreme ambient air pressure	10	0.1
Total Unintentional	5,934	87.0
INTENTIONAL		
Intentional self-harm	380	5.6
Assault	157	2.3
Total Intentional	537	7.9
OTHER	351	5.1
TOTAL INJURIES (UNINTENTIONAL AND INTENTIONAL)	6,822	100.0

Source: Data supplied by New Zealand Health Information Service

Note: 'Other' includes injuries caused by events of undetermined intent, injuries resulting from legal intervention and operations of war, and injuries as a result of the sequelae of transport accidents, other accidents, intentional self-harm, assaults and events of undetermined intent.

Falls

Falls were by far the most common cause category, being the primary cause of 42 percent of all injury hospitalisations in New Plymouth District in 2001-2005. Table 4.2 indicates the most frequent types of falls.

Table 4.2: Types of falls leading to hospitalisations in New Plymouth District 2001-2005, ranked in order of frequency

ICD-10 Code	TYPE OF FALL	No.	%
W01	Fall on same level from slipping, tripping or stumbling	768	27.0
W00, W02, W18	Other fall on same level	645	22.7
W04-W08, W14-W17	Other fall from one level to another	499	17.5
W19	Unspecified fall	303	10.7
W10	Fall on and from stairs and steps	217	7.6
W09	Fall involving playground equipment	180	6.3
W03	Other fall on same level due to collision with, or pushing by another person	105	3.7
W13	Fall from or out of or through building or structure	81	2.8
W11-W12	Fall on or from ladder or scaffolding	47	1.7
W00-W19	TOTAL ALL FALLS	2,845	100.0

Source: Data supplied by New Zealand Health Information Service

Inanimate mechanical forces

The second ranked cause of injury hospitalisations was exposure to inanimate mechanical forces, which was the primary cause of 15 percent of all injury hospitalisations in 2001-2005. Table 4.3 shows the most common events causing injury in this category.

Table 4.3: Types of inanimate mechanical forces leading to hospitalisations in New Plymouth District 2001-2005, ranked in order of frequency

ICD-10 Code	TYPE OF MECHANICAL FORCE	No.	%
W24, W41-W43, W45, W49	Exposure to other inanimate mechanical forces	192	19.0
W25-W27	Contact with sharp glass, knife, sword, dagger, non-powered hand tool	178	17.6
W28-W29,W31	Contact with other and unspecified machinery	150	14.8
W22	Striking against or struck by other objects	140	13.8
W44	Foreign body entering into or through eye or natural orifice	121	11.9
W23	Caught, crushed, jammed or pinched in or between object	87	8.6
W20	Struck by thrown, projected or falling object	70	6.9
W21	Striking against or struck by sports equipment	39	3.8
W32-W34	Discharge from firearms	16	1.6
W39-W40	Discharge of firework, other explosions	10	1.0
W30	Contact with agricultural machinery	6	0.6
W35-W38	Explosion and rupture of pressurised devices	4	0.4
W20-W49	TOTAL ALL EXPOSURE TO INANIMATE MECHANICAL FORCES	1,013	100.0

Source: Data supplied by New Zealand Health Information Service

Transport-related accidents

The third most common cause of injury hospitalisations was transport-related accidents or crashes. Table 4.4 indicates which transport-related accidents or crashes were the most common.

Table 4.4: Types of transport-related accidents leading to hospitalisations in New Plymouth District 2001-2005, ranked in order of frequency

ICD-10 Code	TYPE OF TRANSPORT ACCIDENT	No.	%
V40-V41,V45-V49	Car occupant injured other transport accident	173	18.2
V10-V11,V15-V19	Pedal cyclist injured in other transport accident	159	16.8
V42-V44	Car occupant injured in collision with motor vehicle (excl trains)	154	16.2
V80-V89	Other land transport accidents	129	13.6
V20-V21,V25-V29	Motorcycle rider injured in other transport accident	120	12.7
V02-V04	Pedestrian injured in collision with motor vehicle (excl trains)	62	6.5
V22-V24	Motorcycle rider injured in collision with motor vehicle (excl trains)	57	6.0
V60-V61,V65-V69	Occupant of heavy transport vehicle injured in other transport accident	18	1.9
V12-V14	Pedal cyclist injured in collision with motor vehicle (excl trains)	16	1.7
V90-V94	Water transport accidents	16	1.7
V01,V05-V09	Pedestrian injured in other transport accidents	13	1.4
V70-V71,V75-V79	Bus occupant injured other transport accident	8	0.8
V95-V97	Air and space transport accidents	7	0.7
V52-V54	Occupant of pickup truck injured in collision with motor vehicle (excl trains)	5	0.5
V50-V51,V55-V59	Occupant of pickup truck injured in other transport accident	4	0.4
V98-V99	Other and unspecified transport accidents	4	0.4
V30-V31,V35-V39	Occupant of 3 wheel motor vehicle injured in other transport accident	2	0.2
V62-V64	Occupant of heavy transport vehicle injured in collision with motor vehicle (excl trains)	1	0.1
V32-V34	Occupant of 3 wheel motor vehicle injured in collision with motor vehicle (excl trains)	0	0.0
V72-V74	Bus occupant injured in collision with motor vehicle (excl trains)	0	0.0
V01-V99	TOTAL ALL TRANSPORT-RELATED ACCIDENTS	948	100.0

Source: Data supplied by New Zealand Health Information Service

Animate mechanical forces

Four percent of injury hospitalisations were primarily caused by exposure to animate (living) mechanical forces. Prominent injury causes within this group included bites and stings, or being struck or crushed by animals (Table 4.5).

Table 4.5: Types of animate mechanical forces leading to hospitalisations in New Plymouth District 2001-2005, ranked in order of frequency

ICD-10 Code	TYPE OF ANIMATE MECHANICAL FORCE	No.	%
W53, W55-W59	Bitten, stung, struck, or crushed by another animal	119	44.7
W50-W52	Hit, struck, kicked, twisted, bitten, scratched, struck against, etc	95	35.7
W54	Bitten or struck by dog	33	12.4
W60-W64	Exposure to other animate mechanical forces	19	7.1
W50-W64	TOTAL ALL EXPOSURE TO ANIMATE MECHANICAL FORCES	266	100.0

Source: Data supplied by New Zealand Health Information Service

Over-exertion, travel and privation

A further four percent of injury hospitalisations in New Plymouth District were attributed to over-exertion, travel and privation. Virtually all the 265 individual cases in this cause category were classified specifically as occurring as a result of 'over-exertion and strenuous or repetitive movements'.

Other less common unintentional injuries

Smaller contributions to the total number of injury hospitalisations in the New Plymouth District were made by poisoning and exposure to noxious substances; contact with heat and hot substances; accidental drowning and submersion; other accidental threats to breathing (e.g. choking on food); exposure to smoke, fire and flames; contact with venomous animals or plants; exposure to forces of nature; and exposure to electric current, radiation, and extreme ambient air pressure. Together these made up approximately 6 percent of all injury hospitalisations.

Intentional self-harm

Six percent of all injury hospitalisations were recorded as being caused by intentional self-harm. Table 4.6 lists the most common specific types of intentional self-harm involved. Clearly drugs and medicines play a key role in this category of intentional injury for hospitalisations.

Table 4.6: Types of intentional self-harm leading to hospitalisations in New Plymouth District 2001-2005, ranked in order of frequency

ICD-10 Code	TYPE OF INTENTIONAL SELF-HARM	No.	%
X60-X64	Intentional self-poisoning by and exposure to drugs, medicaments and biological substances	288	75.8
X65-X69	Intentional self-poisoning by and exposure to other and unspecified chemicals	24	6.3
X70	Intentional self-harm by hanging, strangulation and suffocation	10	2.6
X71	Intentional self-harm by drowning and submersion	0	0.0
X72-X74	Intentional self-harm by firearm discharge	1	0.3
X75-X84	Intentional self-harm by other or unspecified means	57	15.0
X60-X84	TOTAL ALL INTENTIONAL SELF-HARM	380	100.0

Source: Data supplied by New Zealand Health Information Service

Assaults

Assault was the primary cause of 2 percent of injury hospitalisations in New Plymouth District in 2001-2005. Most of these assaults were perpetrated by bodily force or by blunt or sharp objects.

Table 4.7: Types of assaults leading to hospitalisations in New Plymouth District 2001-2005, ranked in order of frequency

ICD-10 Code	TYPE OF ASSAULT	No.	%
Y04	Assault by bodily force	92	58.6
Y00	Assault by a blunt object	23	14.6
X99	Assault by a sharp object	20	12.7
X85-X92,X96-X98,Y01-Y03,Y08-Y09	Assault by other or unspecified means	15	9.6
Y07	Other maltreatment syndromes	7	4.5
X93-X95	Assault by firearm discharge	0	0.0
Y05	Sexual assault by bodily force	0	0.0
Y06	Neglect and abandonment	0	0.0
X85-Y09	TOTAL ALL ASSAULT	157	100.0

Source: Data supplied by New Zealand Health Information Service

Injury hospitalisation and gender

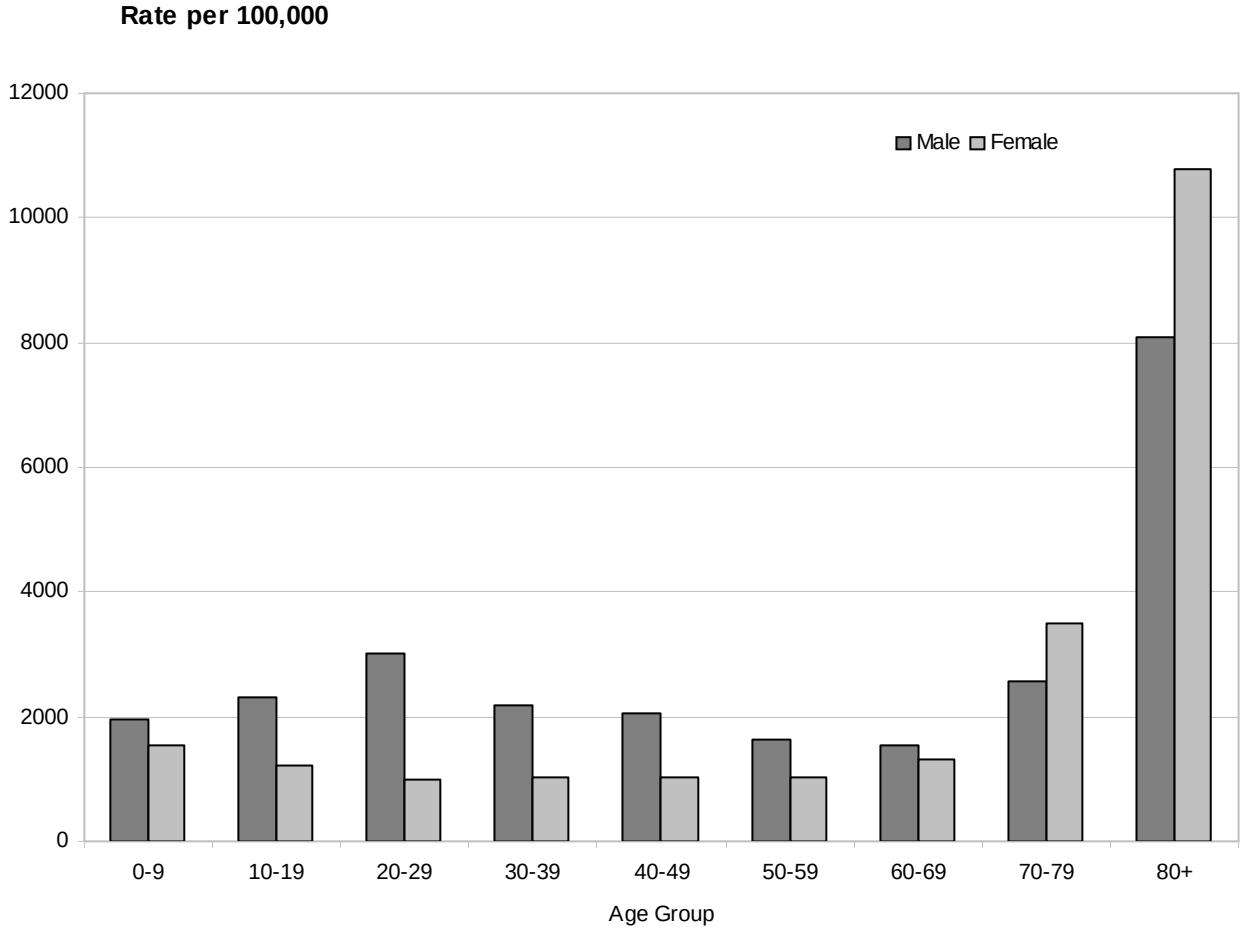
Males living in New Plymouth District were more likely than females living in New Plymouth District to be hospitalised for injury. On average, 54 percent of hospitalisations were male and 46 percent were female, with males having an age-standardised injury hospitalisation rate of 2244 per 100,000 compared to 1363 per 100,000 for females.

From 2001 to 2005, the most common groups of injuries for which males were hospitalised were (in order) falls, exposure to inanimate mechanical forces, and transport accidents. The same three injury groups were most common for females, but in the following order: falls, transport accidents, and exposure to inanimate mechanical forces.

Injury hospitalisation and age

Figure 4.1 indicates which age groups were most likely to be hospitalised for injury in 2001-2005.

Figure 4.1: Annual age-specific rates of hospitalisation for all injury, males and females, New Plymouth District, 2001-2005



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Table A.16

By far the highest age-specific rates were in the 80+ age group, for both males and females, with every year the equivalent of 11 percent of New Plymouth District females aged 80 or more and 8 percent of New Plymouth District males aged 80 or more hospitalised for injury. In the 70-79 year age group, females were also more likely than males to be hospitalised for injury.

These patterns can be further understood by looking more closely at the different causes of the injuries experienced by males and females in these different age groups.

Children aged 0-9

In this age group, for both boys and girls, by far the most common cause of injury hospitalisations was falls. Falls were especially common in the 5-9 year age category and mainly involved falls either from playground equipment or from one level to another.

The second most frequent injury type among 0-9 year olds was exposure to inanimate mechanical forces. This included striking against or being struck by sports equipment or other objects, being caught, crushed, jammed or pinched in or between objects, contact with sharp objects such as tools or weapons, and contact with machinery. More boys than girls were hospitalised for this group of causes.

Other less common causes of injury in this age group were transport accidents, contact with heat or hot substances, and accidental poisoning. Exposure to animate mechanical forces includes being accidentally bitten, crushed, stung, hit, struck, kicked, twisted, bitten, scratched, or struck against by people or other living creatures, such as dogs or insects.

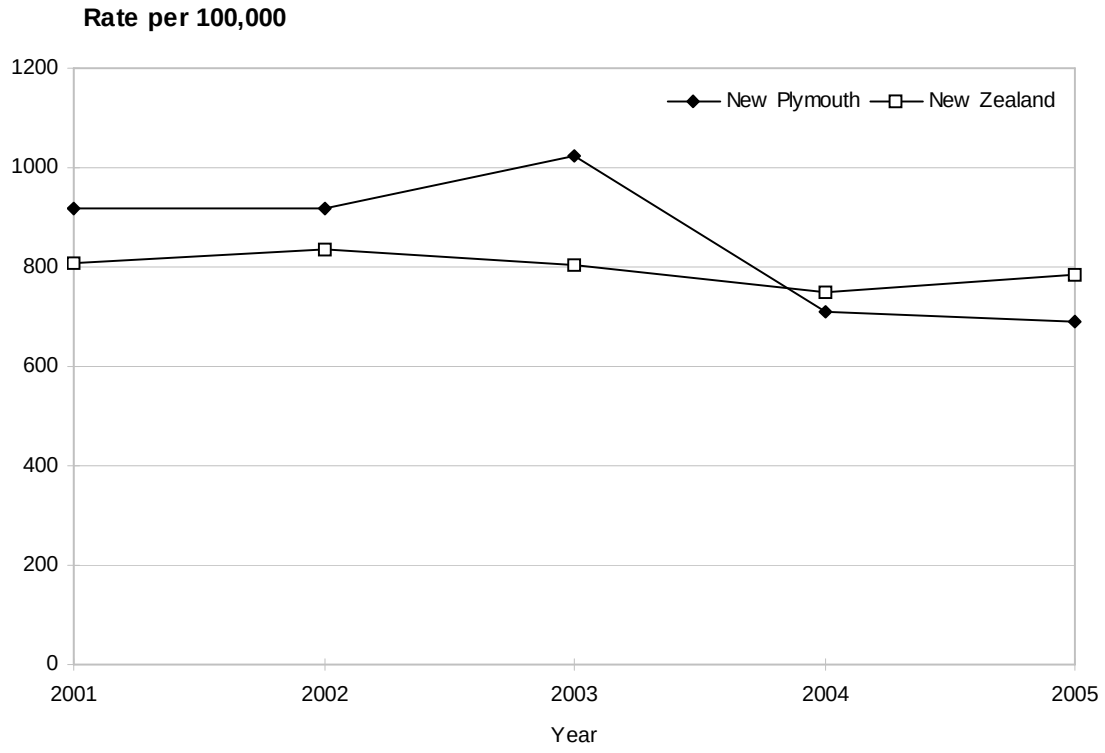
Table 4.8: 0-9 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 0-9	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 0-9	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Falls	223		Falls	185
Exposure to inanimate mechanical forces	89		Exposure to inanimate mechanical forces	53
Transport accidents	44		Transport accidents	37
Exposure to animate mechanical forces	27		Accidental poisoning by and exposure to noxious substances	23
Contact with heat and hot substances	23		Contact with heat and hot substances	16
Accidental poisoning by and exposure to noxious substances	23		Exposure to animate mechanical forces	15
Accidental exposure to other and unspecified factors	12		Accidental exposure to other and unspecified factors	11
Other accidental threats to breathing	6		Accidental drowning and submersion	7
Assault	5		Other accidental threats to breathing	6

Source: Data supplied by New Zealand Health Information Service

Looking at the annual rates of hospitalisation for falls among 0-9 year olds for the five year period 2001-2005 (Figure 4.2), this indicates rates were lower in the New Plymouth District in 2004 and 2005 than in previous years and were generally in line or somewhat better than for New Zealand as whole. This is in contrast to the three years from 2001-2003 when hospitalisation rates for falls among 0-9 year olds in New Plymouth District were higher than New Zealand as a whole, especially in 2003.

Figure 4.2: Age-specific rates of hospitalisation for injury from falls, 0-9 year olds, New Plymouth District and New Zealand, 2001-2005



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.23 and A.25

Data for 2005 are provisional

Young people aged 10-19

In the 10-19 year age group, falls were also the most common reason for injury hospitalisations in the 2001-2005 period, with more males than females hospitalised for falls. Those in the 10-14 year age group were more likely to be hospitalised for falls than those in the 15-19 age group. The most common types of falls resulting in hospitalisation were falls from one level to another, falls involving playground equipment and falls on the same level due to collision with, or pushing by, another person.

Transport accidents were the second leading cause of hospitalisation among 10-19 year olds, with again males more likely than females to be hospitalised for these. In the 10-14 age group, the most common transport-related reason for hospitalisation was pedal cycle injuries. In the 15-19 age group it was injuries sustained as an occupant of a car involved in a road traffic accident, including accidents involving a collision with other motor vehicles.

Exposure to inanimate mechanical forces was the third leading cause of hospitalisation for both males and females in this age group. No particular type of inanimate mechanical force stood out as the cause of hospitalisations in this age group, although 52 or nearly one third of the total of 166 cases reported during 2001-2005 for 10-19 year olds involved 'contact with sharp glass, knife, sword, dagger or non-powered hand tool'.

For females, the fourth leading cause was intentional self-harm, with 37 hospitalisations for this reason recorded over the five year period 2001-2005. Amongst males, assaults and intentional self-harm were also a reasonably significant contributor, along with exposure to animate mechanical forces.

Table 4.9: 10-19 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 10-19	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 10-19	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Falls	171		Falls	90
Transport accidents	148		Transport accidents	71
Exposure to inanimate mechanical forces	121		Exposure to inanimate mechanical forces	46
Exposure to animate mechanical forces	49		Intentional self-harm	37
Assault	27		Exposure to animate mechanical forces	16
Intentional self-harm	24		Over-exertion, travel and privation	15
Accidental exposure to other and unspecified factors	19		Accidental exposure to other and unspecified factors	6
Over-exertion, travel and privation	14		Accidental poisoning by and exposure to noxious substances	5
			Assault	4
			Contact with heat and hot substances	3

Source: Data supplied by New Zealand Health Information Service

Young people aged 20-29

In the 20-29 year age group, once again males dominated the figures, most notably in the areas of exposure to inanimate mechanical forces (122 hospitalisations for males in 2001-2005 compared with just 19 for females), transport accidents, and falls.

For transport accidents, the most common types of injuries were those sustained as an occupant of a car involved in a road traffic accident and as a motorcycle rider.

A common type of fall among males in this age group were falls 'on the same level due to collision with, or pushing by another person'.

Among 20-29 year old females in the New Plymouth District the two most common reasons for injury hospitalisation were intentional self-harm and transport accidents.

Table 4.10: 20-29 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 20-29	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 20-29	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Exposure to inanimate mechanical forces	122		Intentional self-harm	42
Transport accidents	87		Transport accidents	41
Falls	87		Falls	23
Intentional self-harm	43		Exposure to inanimate mechanical forces	19
Assault	38			
Exposure to animate mechanical forces	32			
Accidental exposure to other and unspecified factors	22			
Over-exertion, travel and privation	16			
Accidental poisoning by and exposure to noxious substances	13			
Contact with heat and hot substances	4			

Source: Data supplied by New Zealand Health Information Service

Adults aged 30-39 and 40-49

The hospitalisation profiles for 30-39 year olds and 40-49 year olds were generally quite similar to 20-29 year olds, with most admissions for unintentional injuries being either for exposure to inanimate mechanical forces, transport accidents or falls (Table 4.11, Table 4.12).

Transport-related hospitalisations in the 30-39 and 40-49 year age groups were dominated not just by motor car occupants but also by motorcyclists. Pedal cyclists also featured slightly more here than in the other adult age groups.

Amongst females, hospitalisation due to injuries arising from exposure to inanimate forces were comparatively rare. More common were injuries from intentional self-harm, falls and transport accidents.

Intentional self-harm and assault also featured in the statistics for males, confirming that intentional injuries were notable contributors to the hospitalisations experienced by both males and females in these age groups.

Table 4.11: 30-39 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 30-39	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 30-39	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Exposure to inanimate mechanical forces	122		Intentional self-harm	75
Transport accidents	110		Falls	45
Falls	60		Transport accidents	44
Intentional self-harm	40		Exposure to inanimate mechanical forces	24
Assault	25		Over-exertion, travel and privation	16
Exposure to animate mechanical forces	22		Accidental exposure to other and unspecified factors	10
Over-exertion, travel and privation	20		Exposure to animate mechanical forces	7
Accidental exposure to other and unspecified factors	10		Assault	6
Exposure to smoke, fire and flames	8			
Accidental poisoning by and exposure to noxious substances	5			

Source: Data supplied by New Zealand Health Information Service

Table 4.12: 40-49 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 40-49	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 40-49	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Exposure to inanimate mechanical forces	125		Intentional self-harm	69
Transport accidents	93		Falls	53
Falls	91		Transport accidents	36
Assault	30		Exposure to inanimate mechanical forces	33
Over-exertion, travel and privation	27		Over-exertion, travel and privation	14
Exposure to animate mechanical forces	18		Exposure to animate mechanical forces	13
Accidental exposure to other and unspecified factors	18		Accidental exposure to other and unspecified factors	9
Intentional self-harm	18		Accidental poisoning by and exposure to noxious substances	8
Contact with heat and hot substances	5		Accidental poisoning by drugs, medicaments and biological substances	6
Exposure to smoke, fire and flames	4		Contact with heat and hot substances	4
			Assault	4

Source: Data supplied by New Zealand Health Information Service

Adults aged 50-59 and 60-69

As indicated previously in Figure 4.1, males and females in the 50-59 and 60-69 year age groups have the lowest age-specific rates of hospitalisation for injury and this is reflected in the actual number of hospitalisations recorded for these groups in the five years from 2001-2005 (Table 4.13 and Table 4.14).

In contrast to the picture in the younger adult age groups, exposure to inanimate mechanical forces does not significantly dominate the profile for 50-59 or 60-69 year old males. Instead, the numbers are generally on a par with those for falls and transport accidents.

Among 50-59 year old females, falls are the most common reason for injury hospitalisations, as they are for both males and females in the 60-69 year age group.

In fact, it is in the 60-69 year age group where females begin to dominate the hospitalisation statistics for the first time, with females making up over 60 percent of falls cases. Males in the 60-69 year age group much less likely than in earlier age groups to be hospitalised for exposure to inanimate mechanical forces or transport-related accidents

Intentional self-harm features to a degree among females in the 50-59 age group, but is not so prominent as in the younger adult age groups. It is only a very small element in the 60-69 year age group.

Table 4.13: 50-59 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 50-59	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 50-59	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Exposure to inanimate mechanical forces	77		Falls	63
Falls	71		Exposure to inanimate mechanical forces	26
Transport accidents	59		Transport accidents	23
Over-exertion, travel and privation	26		Intentional self-harm	16
Exposure to animate mechanical forces	10		Accidental exposure to other and unspecified factors	14
Accidental exposure to other and unspecified factors	10		Over-exertion, travel and privation	11
Accidental poisoning by and exposure to noxious substances	6		Exposure to animate mechanical forces	9
Assault	4		Accidental poisoning by and exposure to noxious substances	2
Intentional self-harm	3			

Source: Data supplied by New Zealand Health Information Service

Table 4.14: 60-69 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 60-69	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 60-69	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Falls	72		Falls	114
Exposure to inanimate mechanical forces	36		Transport accidents	16
Transport accidents	33		Exposure to inanimate mechanical forces	13
Over-exertion, travel and privation	21		Over-exertion, travel and privation	11
Exposure to animate mechanical forces	9		Exposure to animate mechanical forces	7
Contact with heat and hot substances	6		Accidental exposure to other and unspecified factors	6
Accidental poisoning by and exposure to noxious substances	6		Contact with venomous animals or plants	3
Intentional self-harm	2		Accidental poisoning by and exposure to noxious substances	3
Assault	2		Accidental poisoning by drugs, medicaments and biological substances	2
			Intentional self-harm	2

Source: Data supplied by New Zealand Health Information Service

Adults aged 70-79 and 80+

Falls dominate the injury profiles of the 70-79 and 80+ age groups, for both males and females (Table 4.15 and Table 4.16).

Table 4.15: 70-79 year old males and females, causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 70-79	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 70-79	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Falls	137		Falls	325
Exposure to inanimate mechanical forces	34		Transport accidents	31
Transport accidents	27		Exposure to inanimate mechanical forces	24
Accidental exposure to other and unspecified factors	16		Over-exertion, travel and privation	24
Over-exertion, travel and privation	13		Accidental exposure to other and unspecified factors	14
Accidental poisoning by and exposure to noxious substances	7		Accidental poisoning by and exposure to noxious substances	9
Contact with heat and hot substances	3		Other accidental threats to breathing	5
			Exposure to animate mechanical forces	4
			Contact with heat and hot substances	2

Source: Data supplied by New Zealand Health Information Service

However, females had by far the highest absolute number of hospitalisations in these age groups. In the five years from 2001-2005, a total of 1082 hospitalisations for falls were recorded for New Plymouth females in the 70-79 and 80+ age groups combined. This was over a third of all female injury hospitalisations in the period and 16 percent of all injury hospitalisations for males and females combined.

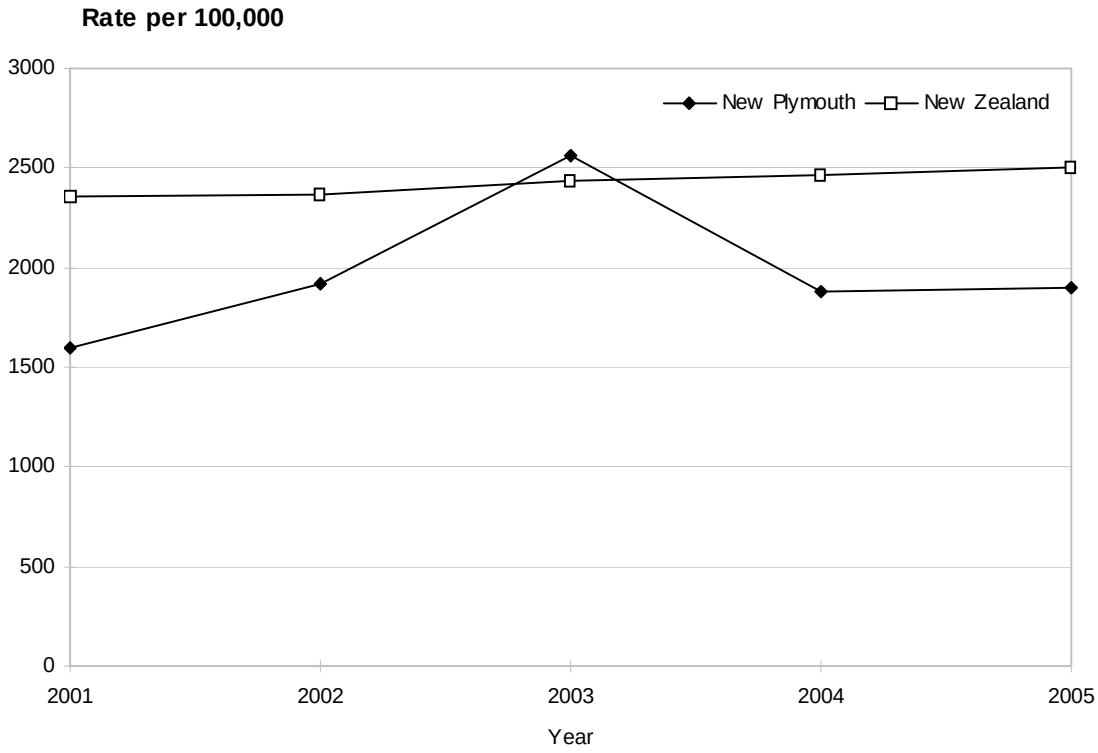
Table 4.16: Males and females aged 80 years and over, most frequent causes of injury hospitalisations, New Plymouth District, 2001-2005

MALES AGE 80+	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005		FEMALES AGE 80+	TOTAL NUMBER OF HOSPITAL-ISATIONS 2001-2005
Falls	278		Falls	757
Exposure to inanimate mechanical forces	17		Exposure to inanimate mechanical forces	32
Accidental exposure to other and unspecified factors	12		Transport accidents	31
Over-exertion, travel and privation	9		Over-exertion, travel and privation	17
Intentional self-harm	6		Accidental exposure to other and unspecified factors	17
Accidental poisoning by and exposure to noxious substances	4		Exposure to animate mechanical forces	12
			Accidental poisoning by and exposure to noxious substances	12
			Exposure to forces of nature	5
			Other accidental threats to breathing	4

Source: Data supplied by New Zealand Health Information Service

Looking at hospitalisations for falls over the 2001-2005 period, the numbers indicate that among 70-79 year olds in the New Plymouth District the annual rates of hospitalisation for falls have increased (Figure 4.3). Of interest is the marked spike in 2003 which saw the rate for New Plymouth District 70-79 year olds exceed that of New Zealand as a whole for the only time in the period.

Figure 4.3: Age-specific rates of hospitalisation for injury from falls, 70-79 year olds, New Plymouth District and New Zealand, 2001-2005



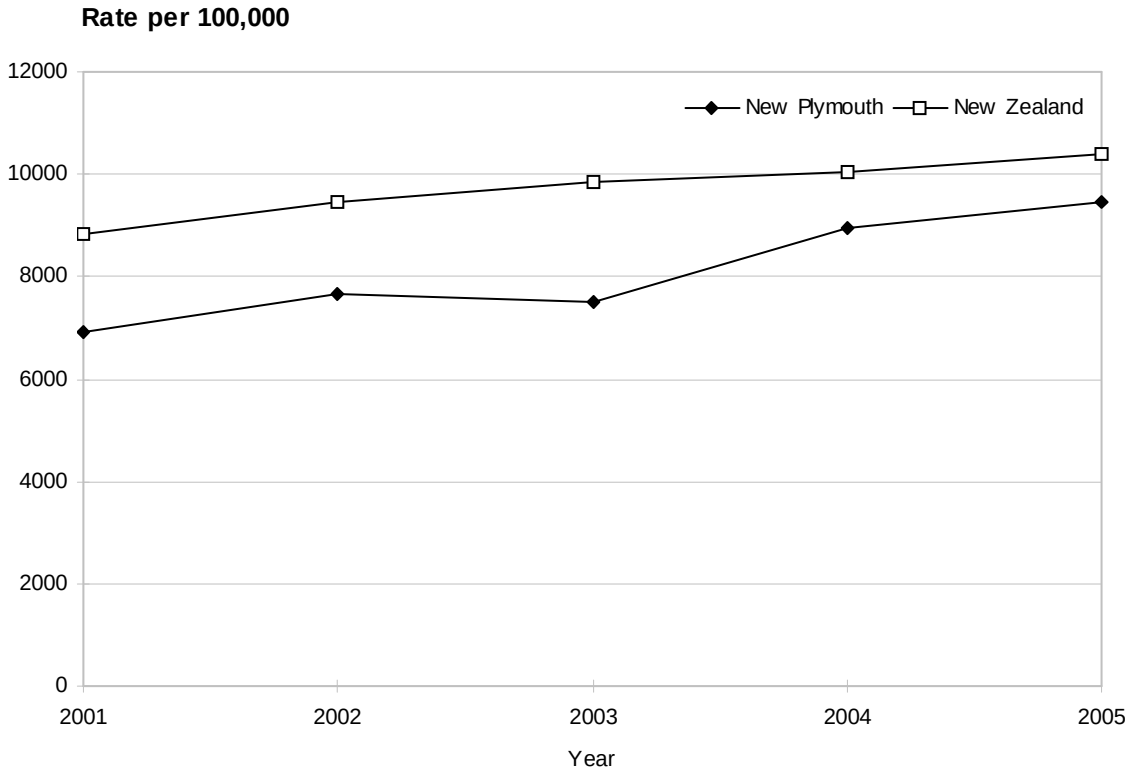
Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.23 and A.25

Data for 2005 are provisional

In the New Plymouth District's 80+ age group, a steady rise in the annual rates of hospitalisation for falls is apparent over 2001-2005 (Figure 4.4). However, the New Plymouth rates never go as high as those for New Zealand as a whole.

Figure 4.4: Age-specific rates of hospitalisation for injury from falls, people age 80 and over, New Plymouth District and New Zealand, 2001-2005



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.23 and A.25

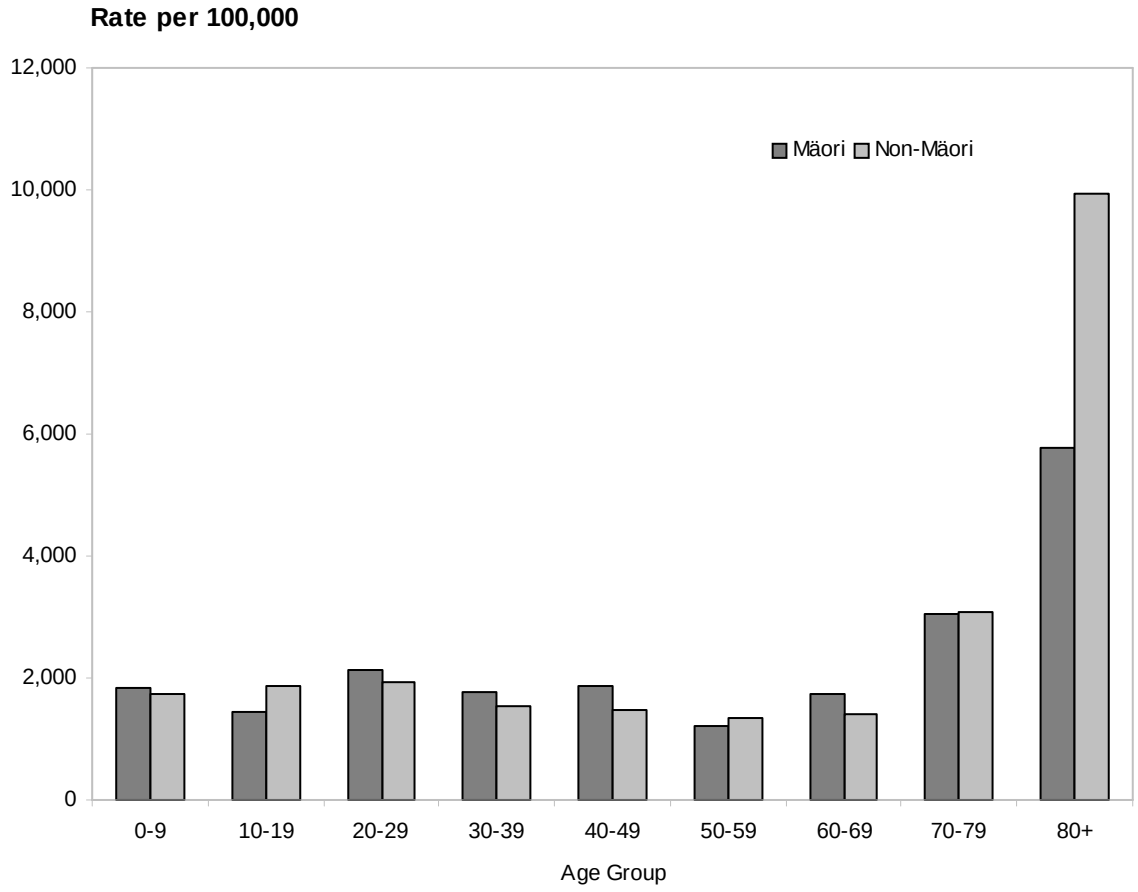
Data for 2005 are provisional

Injury hospitalisations and ethnicity

In New Plymouth District for the period 2001-2005, the Mäori age-standardised rate of hospitalisation for all injury (1819 per 100,000) is only very slightly higher than for non-Mäori (1800 per 100,000), indicating that on an age-adjusted basis Mäori and non-Mäori living in the District have an almost equal chance of being hospitalised for injury.

Looking at hospitalisation rates for different age groups (Figure 4.5), in most of the younger adult age groups New Plymouth District Mäori have a slightly higher chance of being hospitalised for injury. However, non-Mäori dominate injury hospitalisation in the 80+ age group, with a hospitalisation rate getting close to twice that of Mäori.

Figure 4.5: Average annual age-specific rates of hospitalisation for all injury, Mäori and non-Mäori, New Plymouth District, 2001-2005



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.53 and A.54

Falls were the most common cause of injury hospitalisations for New Plymouth District Mäori, as they were for New Plymouth District non-Mäori. However, falls made up a far greater proportion of non-Mäori hospitalisations (43 percent) than they did Mäori hospitalisations (28 percent). To a large extent this is because the non-Mäori population of New Plymouth has a greater proportion of older people in it, with old age being a significant risk factor for falls.

Exposure to inanimate mechanical forces was the second ranked cause of injury hospitalisations among New Plymouth Mäori, responsible for 20 percent of hospitalisations (compared to just 14 percent in non-Mäori).

Transport-related accidents were responsible for 13 percent of Mäori hospitalisations, very similar to the case for non-Mäori (14 percent).

Notably perhaps, 15 percent of Mäori hospitalisations were for intentional injuries including self-harm (9 percent of all injury hospitalisations) and assault (6 percent of all injury hospitalisations). Intentional injuries were somewhat less prominent in the non-Mäori population, with only 7 percent of non-Mäori injury hospitalisations being for intentional injuries, including 5 percent for self-harm and 2 percent for assaults.

Table 4.17: Ranking of main causes of injury hospitalisation, New Plymouth District, 2001-2005

MÄORI				NON-MÄORI		
Cause of Injury				**Cause of Injury**		
	No.	**%**			**No.**	**%**
Falls	211	27.9		Falls	2,634	43.4
Exposure to inanimate mechanical forces	151	19.9		Exposure to inanimate mechanical forces	862	14.2
Transport accidents	100	13.2		Transport accidents	848	14.0
Intentional self-harm	70	9.2		Intentional self-harm	310	5.1
Exposure to animate mechanical forces	49	6.5		Over-exertion, travel and privation	241	4.0
Assault	46	6.1		Exposure to animate mechanical forces	217	3.6
Over-exertion, travel and privation	24	3.2		Accidental exposure to other and unspecified factors	198	3.3
Accidental exposure to other and unspecified factors	22	2.9		Accidental poisoning by and exposure to noxious substances	124	2.0
Accidental poisoning by and exposure to noxious substances	16	2.1		Assault	111	1.8
Contact with heat and hot substances	13	1.7		Contact with heat and hot substances	76	1.3
Accidental drowning and submersion	7	0.9		Other accidental threats to breathing	38	0.6
Other accidental threats to breathing	5	0.7		Exposure to smoke, fire and flames	31	0.5
Contact with venomous animals or plants	4	0.5		Contact with venomous animals or plants	25	0.4
Exposure to forces of nature	3	0.4		Exposure to forces of nature	15	0.2
Exposure to electric current, radiation, & extreme ambient air pressure	1	0.1		Accidental drowning and submersion	9	0.1
Exposure to smoke, fire and flames	1	0.1		Exposure to electric current, radiation, & extreme ambient air pressure	9	0.1

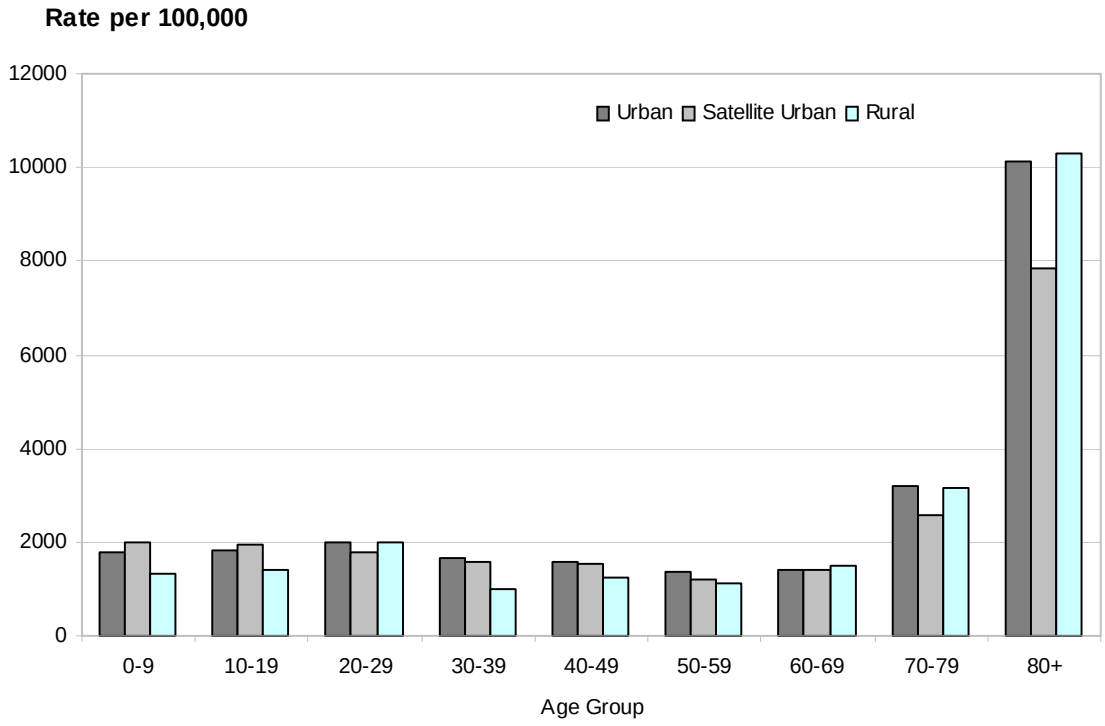
Source: Data supplied by New Zealand Health Information Service

Rural / urban residence and hospitalisations for injury

In the younger age groups, from 0-9 through to 50-59, people residing in rural areas were generally less likely to be hospitalised for injury compared with people residing in the urban or satellite urban areas of the New Plymouth District.

However, in the older age groups, 70-79 and 80+, people residing in rural areas were just as likely to be hospitalised as people residing in urban areas, whereas those residing in satellite urban areas were less likely to be hospitalised.

Figure 4.6: Age-specific rates of hospitalisation for all injury, by rural – urban residence, New Plymouth District, 2001-2005



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Table A.57

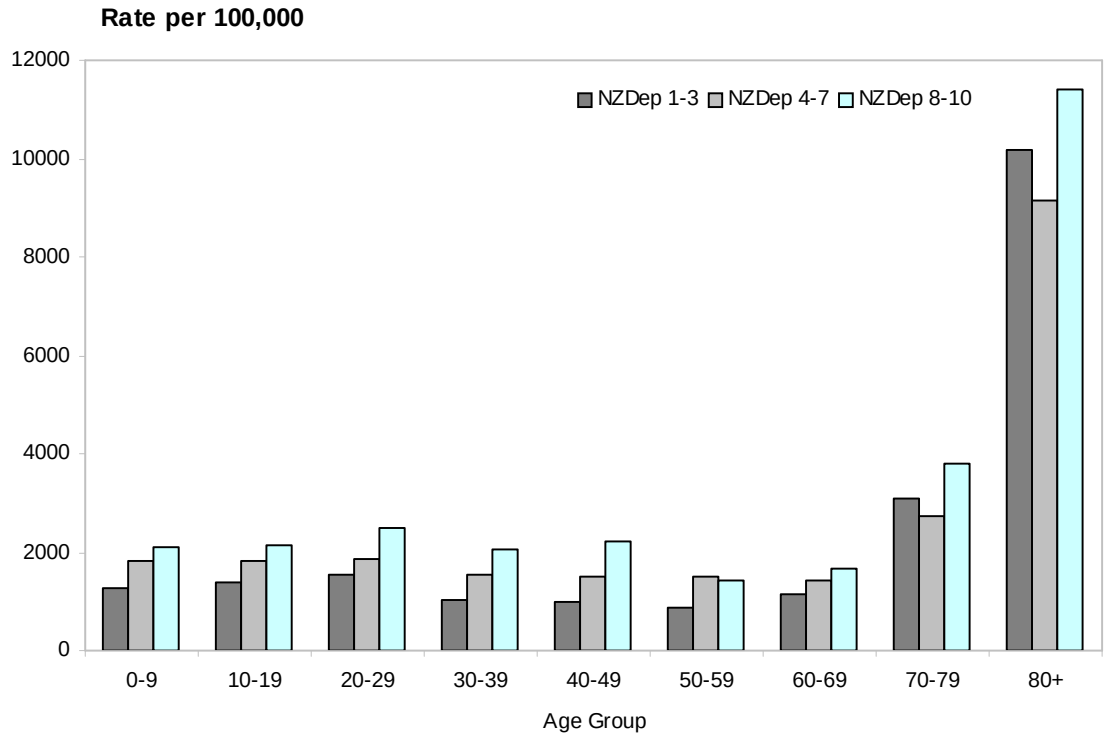
NZDep2001 and hospitalisations for injury

In New Plymouth District, the chances of being hospitalised for injury increase if people live in areas of relatively high socio-economic deprivation, as measured using the NZDep2001 deprivation index.

As Figure 4.7 shows, across all age groups, those living in areas of relatively high deprivation (NZDep2001 8-10) have higher rates of hospitalisation for injury than those living in areas of low deprivation (NZDep2001 1-3).

Those living in mid-range areas of deprivation (NZDep2001 4-7) generally have rates of injury hospitalisation in-between those of the high and low deprivation areas. However, the 70-79 and 80+ age groups are the exceptions to this, with those in the mid-range deprivation areas having a lower rate of hospitalisation than those living in high or low deprivation areas.

Figure 4.7: Age-specific rates of hospitalisation for all injury, by NZDep2001 index of deprivation groupings, New Plymouth District, 2001-2005



Source: Data supplied by New Zealand Health Information Service

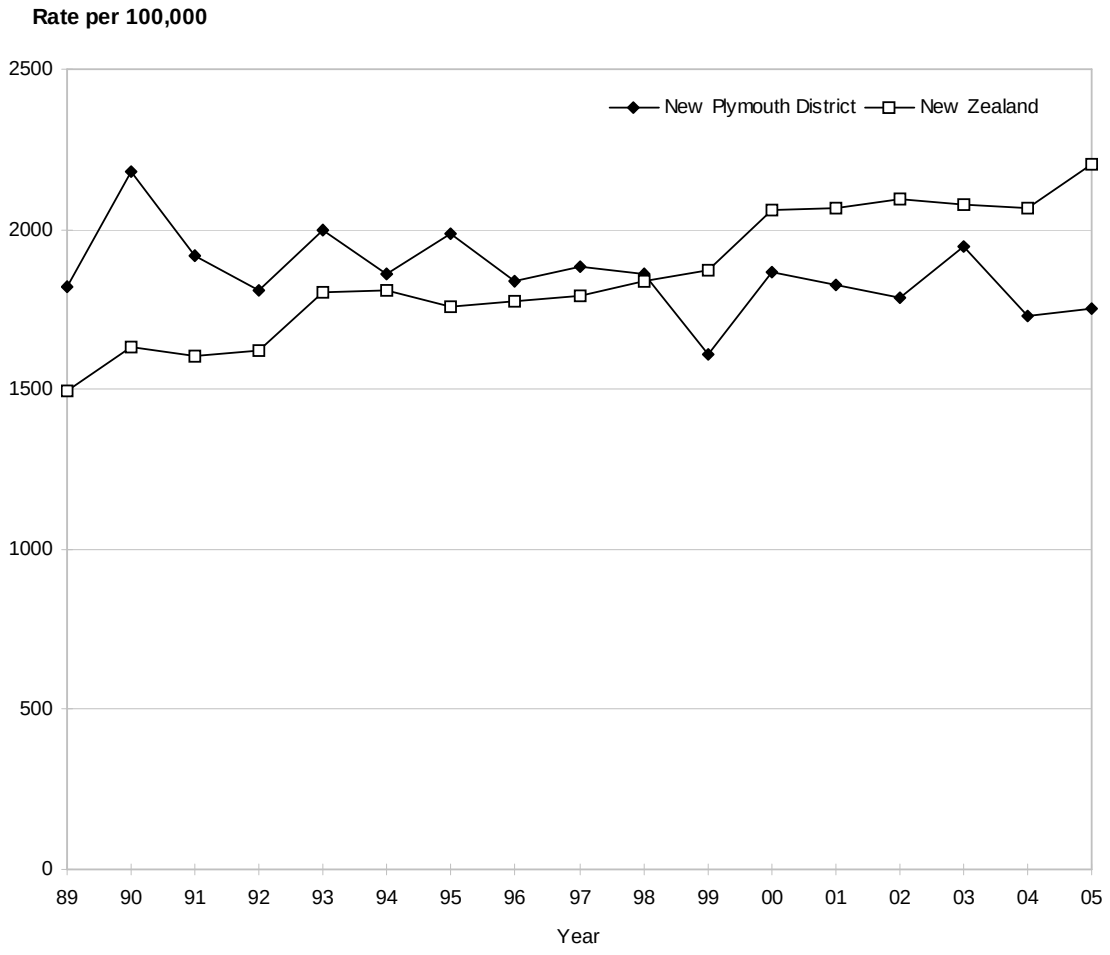
Note: Data in Appendix Table A.59

Long-term trends in New Plymouth injury hospitalisations 1988-2005

Hospitalisation data for the 17 calendar years from 1989 to 2005 (inclusive) provide a useful indication of possible long-term trends in the incidence of acute, severe injury in the New Plymouth District.

Figure 4.8 shows the annual age-standardised rates of hospitalisation for all types of injury over this period, compared with the same data for New Zealand as a whole. This indicates that up until 1997 the rates of injury hospitalisation in New Plymouth District were higher than for New Zealand as a whole. However, in more recent years, which includes the period in which the New Plymouth injurySafe programme and its contributing partners have been active, this situation has reversed. New Plymouth District now has an injury hospitalisation rate somewhat lower than New Zealand as a whole.

Figure 4.8: Age-standardised rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



Source: Data supplied by New Zealand Health Information Service

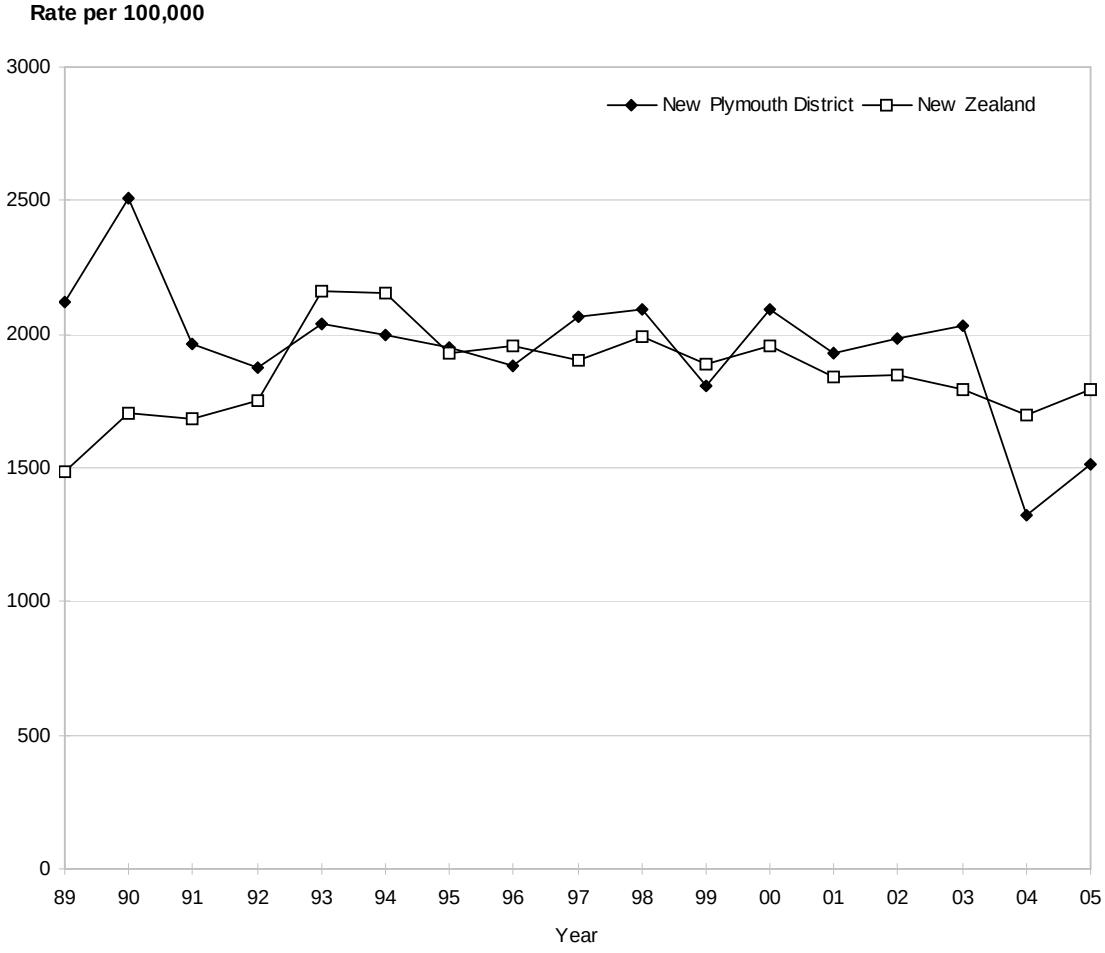
Note: Data in Appendix Table A.61

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

Moreover, apart from the notable spike recorded in 2003 (which as discussed earlier included a marked rise in hospitalisations for falls amongst 70-79 year olds), the overall direction of annual injury hospitalisation rates in the New Plymouth District since 2000 has been downward. This is in contrast to the situation for New Zealand as a whole over this same period, where hospitalisation rates remained relatively static, if not slowly rising overall.

A closer look at injury hospitalisation trends for specific age groups helps to indicate possible reasons for the changes identified above. Figure 4.9 shows the annual injury hospitalisation rates for New Plymouth District and New Zealand 0-9 year olds from 1989-2005. This indicates an overall trend towards decreasing injury hospitalisation rates for children, although only in the latest two years, 2004 and 2005, have the figures for New Plymouth District been markedly lower than for New Zealand as a whole. In fact the reduction in New Plymouth District's child injury hospitalisation rates from 2003 to 2004 was 35 percent, dropping from 2034 per 100,000 to 1325 per 100,000; in terms of numbers a drop from 195 injury hospitalisations for 0-9 year olds in 2003 to a total of 127 in 2004.

Figure 4.9: 0-9 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



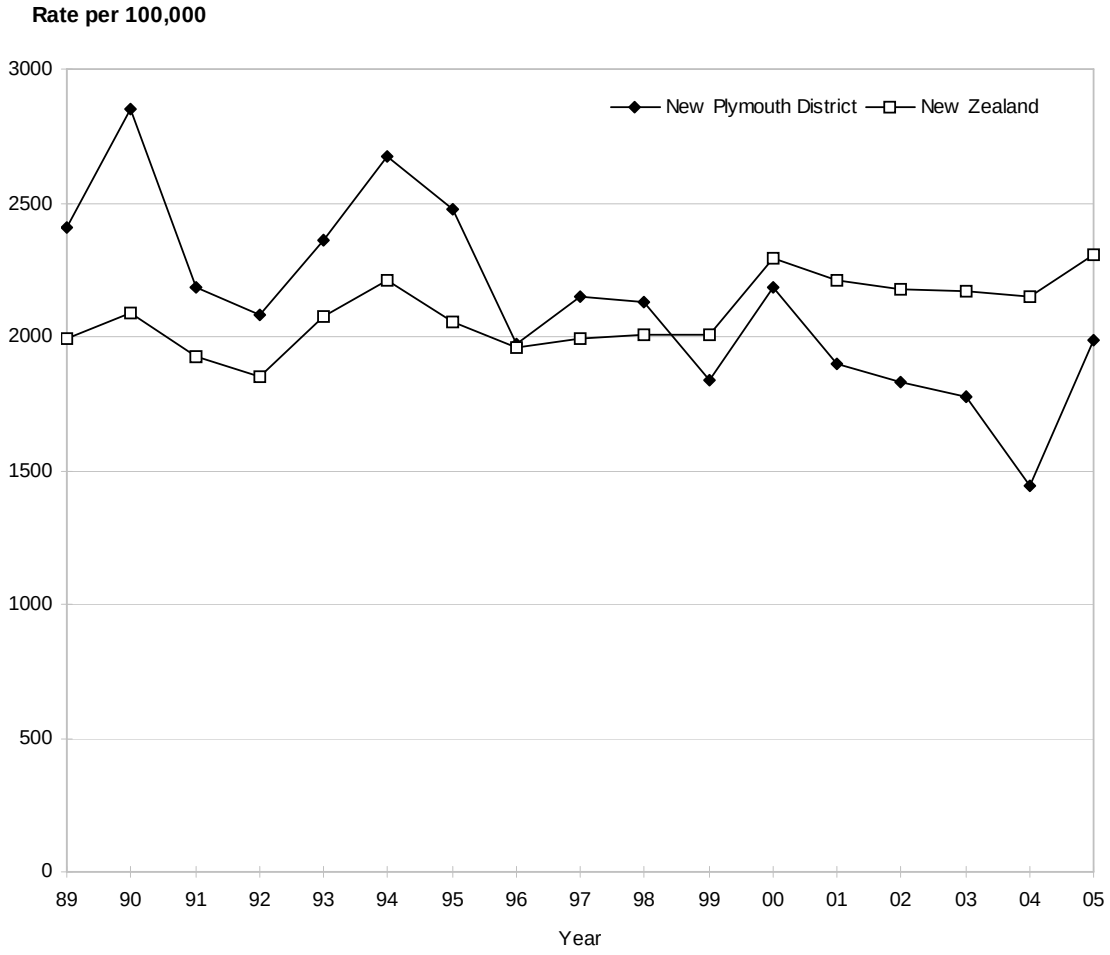
Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

The New Plymouth District hospitalisation rates for 10-19 year olds also show a similar drop from 2003 to 2004, although the rate spikes significantly upwards in 2005, after having decreased every year since 2000 (Figure 4.10). Nonetheless, since 1999 the New Plymouth District rates for 10-19 year olds have been consistently lower than New Zealand, whereas prior to 1999 they were nearly always higher.

Figure 4.10: 10-19 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



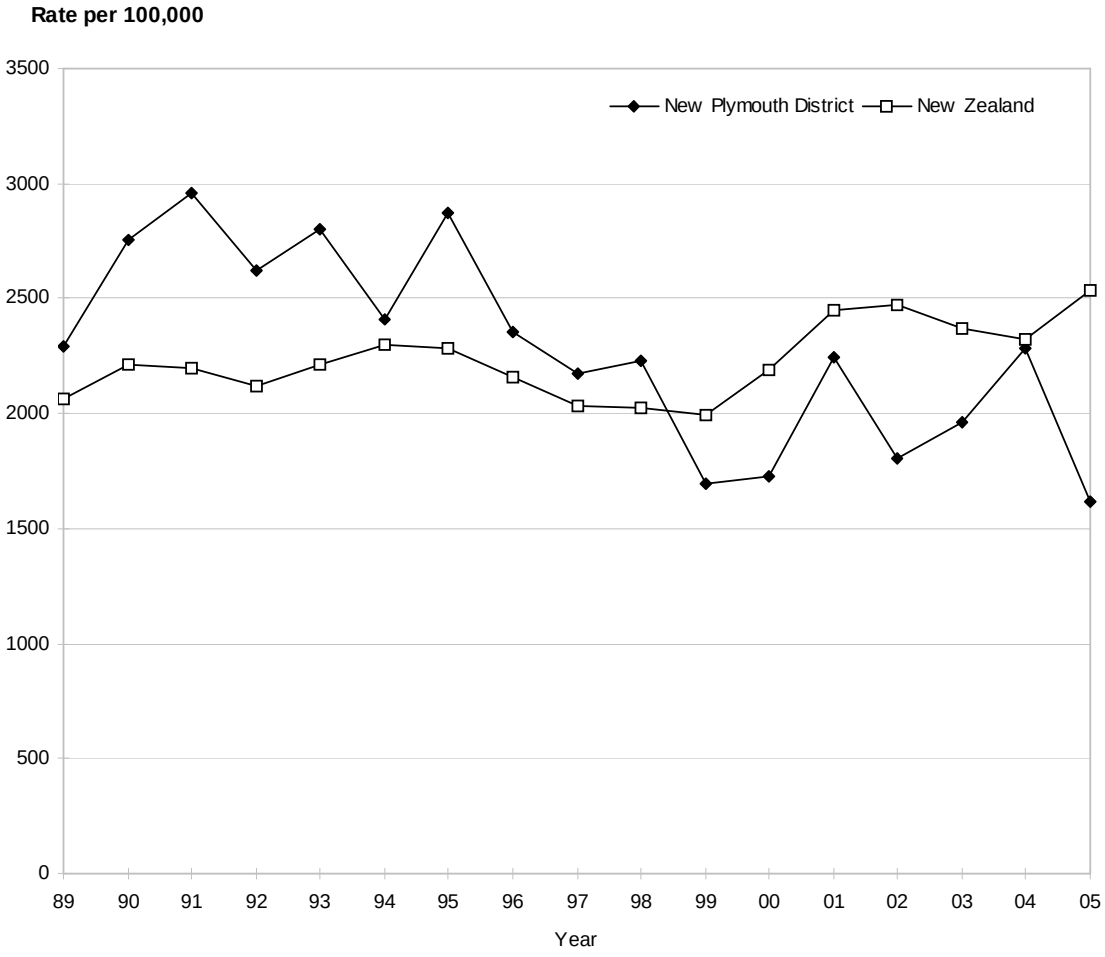
Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

In the 20-29 year age group, the trend for New Zealand suggests a slow but nonetheless generally steady rise in injury hospitalisations from 1999 onwards (Figure 4.11). The New Plymouth rates mirror this trend to some degree, although since 1999 the New Plymouth rates have remained well below the New Zealand average (2004 excepted). Prior to 1999, injury hospitalisation rates for 20-29 year olds in New Plymouth District were higher than the New Zealand rate.

Figure 4.11: 20-29 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

The New Zealand data for 30-39 year olds indicates a consistently rising rate of injury hospitalisation over the 17 year period (Figure 4.12). For a time the New Plymouth District appears to have successfully resisted this trend, especially in the period from 1996 to 2000. However, more recently, especially from 2002-2005, hospitalisation rates in this age group have risen markedly and now more closely mirror the New Zealand pattern. Prior to 1996, New Plymouth District rates were higher than the national rates, except in 1989 when they were very similar.

Figure 4.12: 30-39 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005

Source: Data supplied by New Zealand Health Information Service

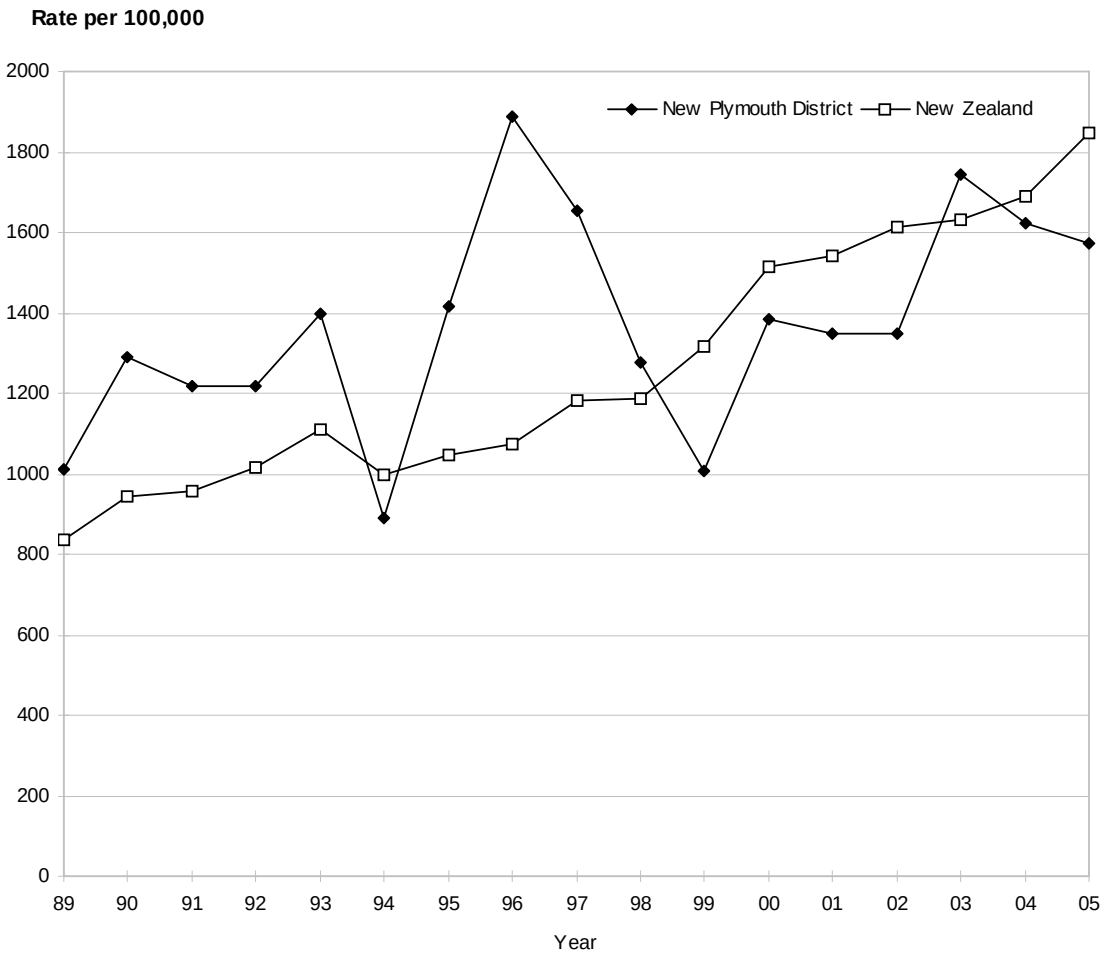
Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

In the 40-49 year age group, the trend in New Zealand as a whole has been a consistently rising rate of hospitalisation for injury from 1989 through to 2005, with annual rates more doubling over this period (Figure 4.13). The pattern in New Plymouth District has been more erratic but overall the trend is still upwards and the increase substantial.

The New Plymouth District rates peaked in 1996, plateaued somewhat in 2001-2002, but rose again in 2003 (above the New Zealand average) before falling back somewhat in 2004-2005.

Figure 4.13: 40-49 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



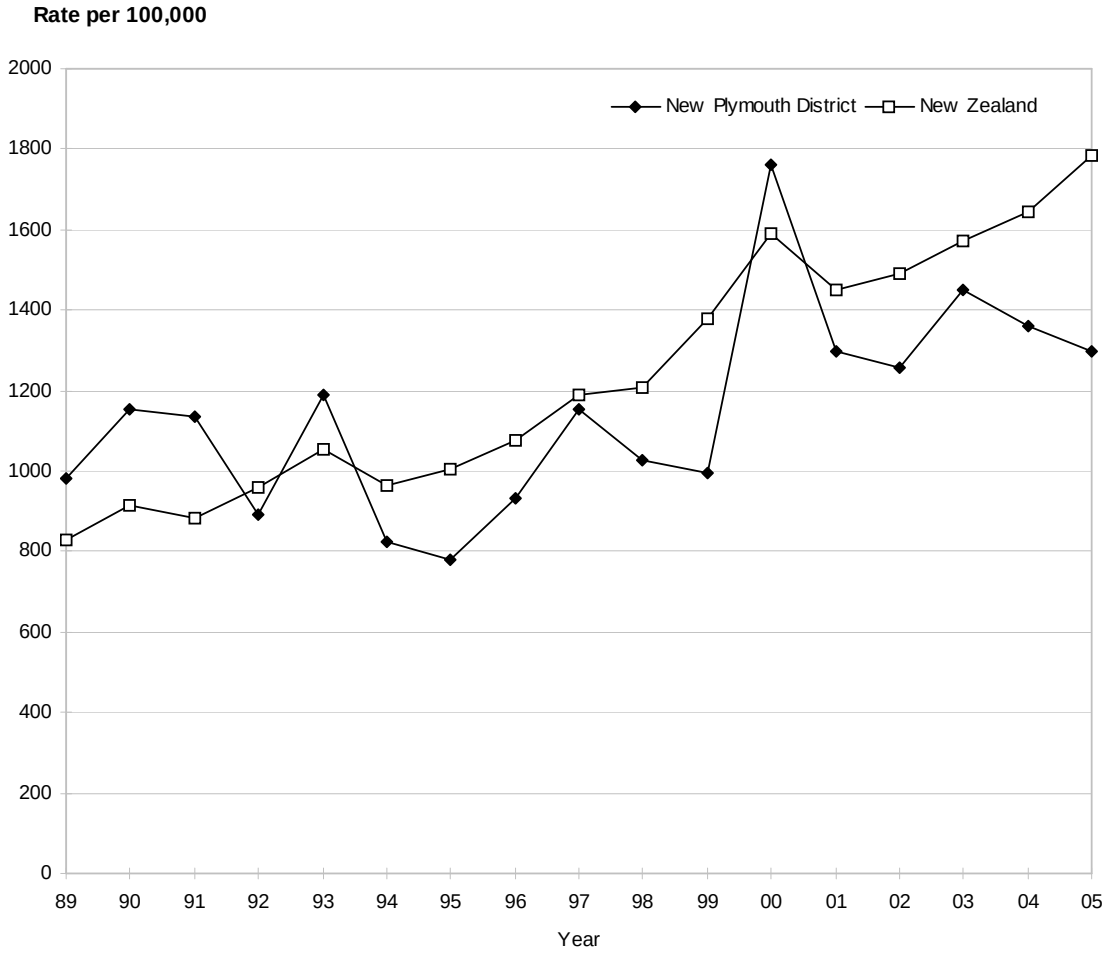
Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

From 1989 through to 2000, injury hospitalisation rates for New Plymouth District 50-59 year olds generally followed the New Zealand pattern of trending upwards. However, in 2001-2005 the New Plymouth District rates started to trend downwards, whereas the New Zealand rates continued to rise.

Figure 4.14: 50-59 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



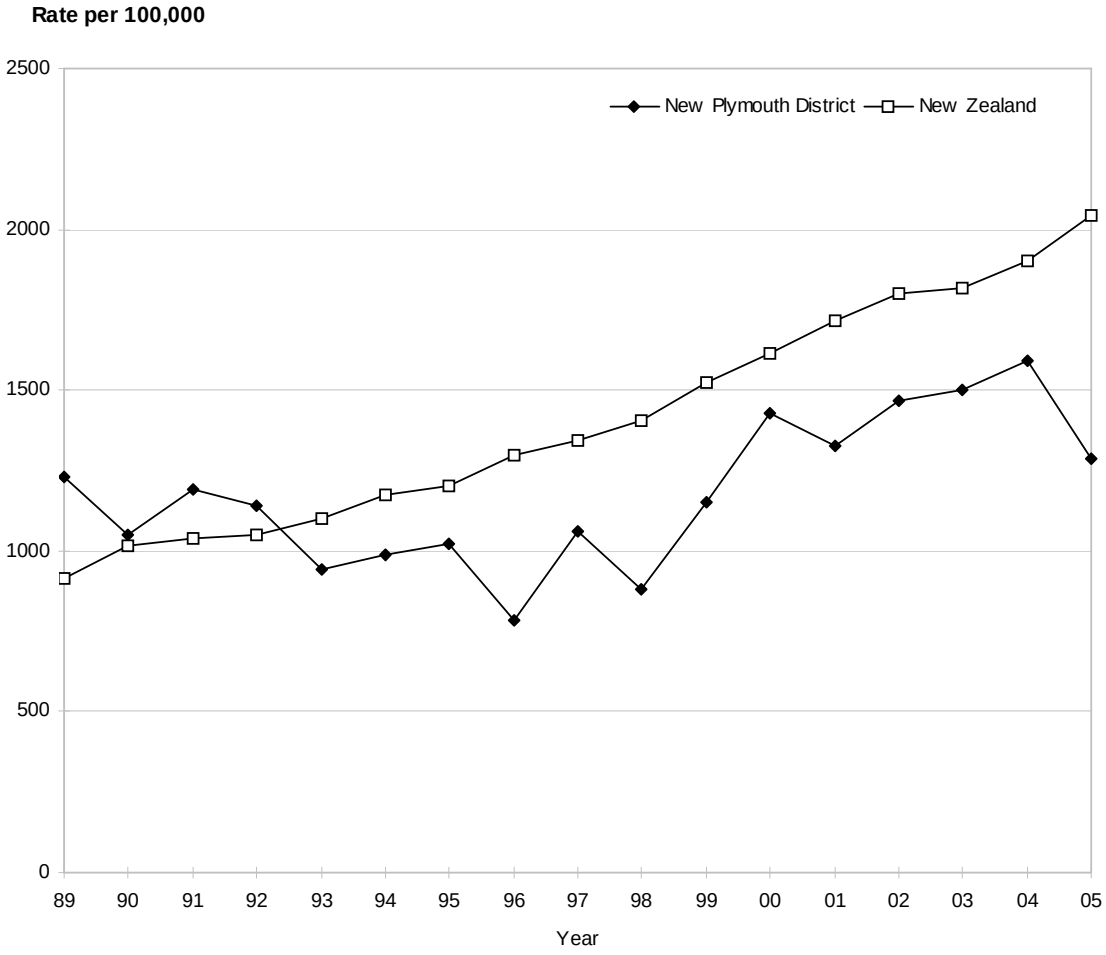
Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

Since 1993 the risk of injury hospitalisation has been consistently lower in New Plymouth 60-69 year olds compared to New Zealand 60-69 year olds as a whole. Nonetheless, rates for New Plymouth 60-69 year olds have generally trended upwards since 1999, although provisional data for 2005 recorded a sizeable decrease that may or may not be maintained in future years.

Figure 4.15: 60-69 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



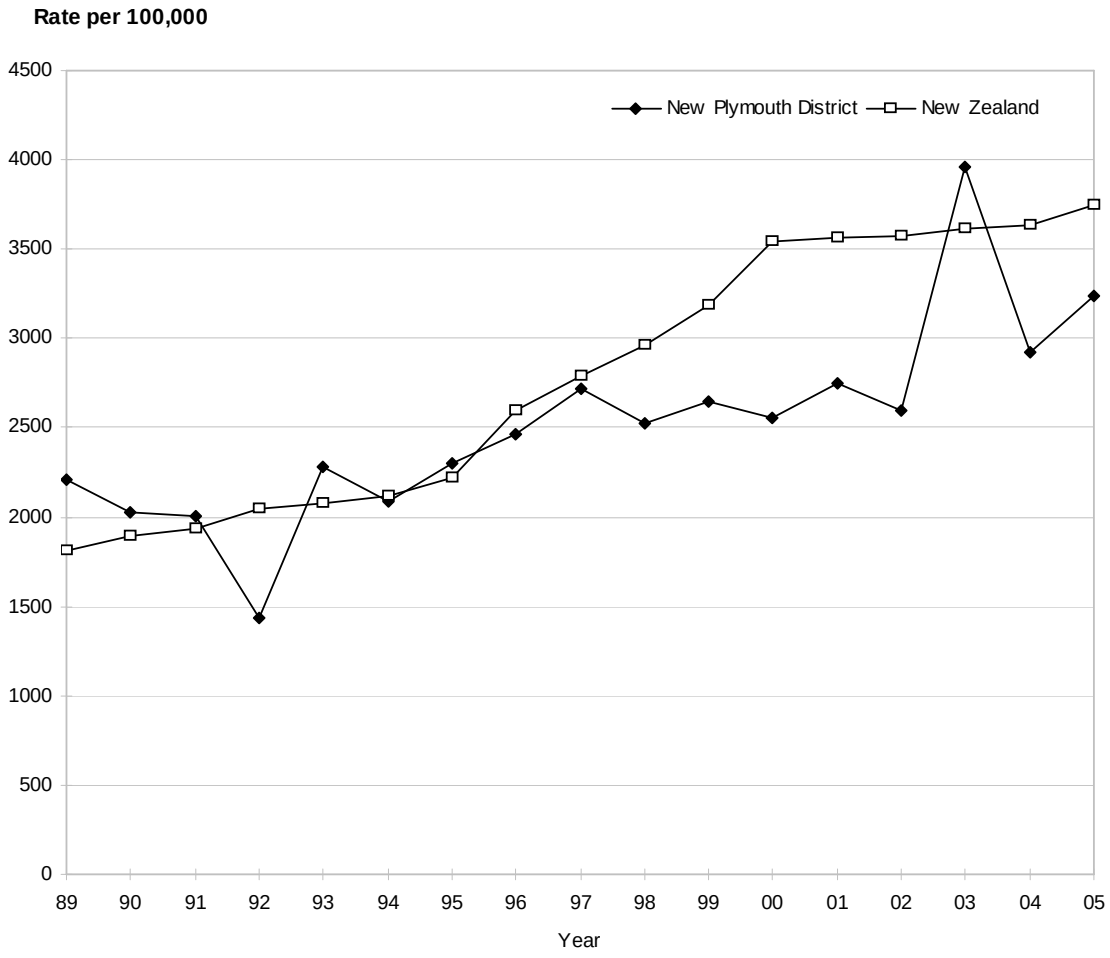
Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

For New Zealand as a whole, rates of injury hospitalisations for 70-79 year olds rose steadily throughout the period 1989-2000, but since then have largely plateaued. In New Plymouth District this plateau appears to have been reached somewhat earlier in 1997. However, 2003 saw a dramatic spike in injury hospitalisations for New Plymouth 70-79 year olds, mainly caused by falls. The data for 2004 and 2005 suggest the New Plymouth rates may now be heading up closer towards those of New Zealand as a whole.

Figure 4.16: 70-79 year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



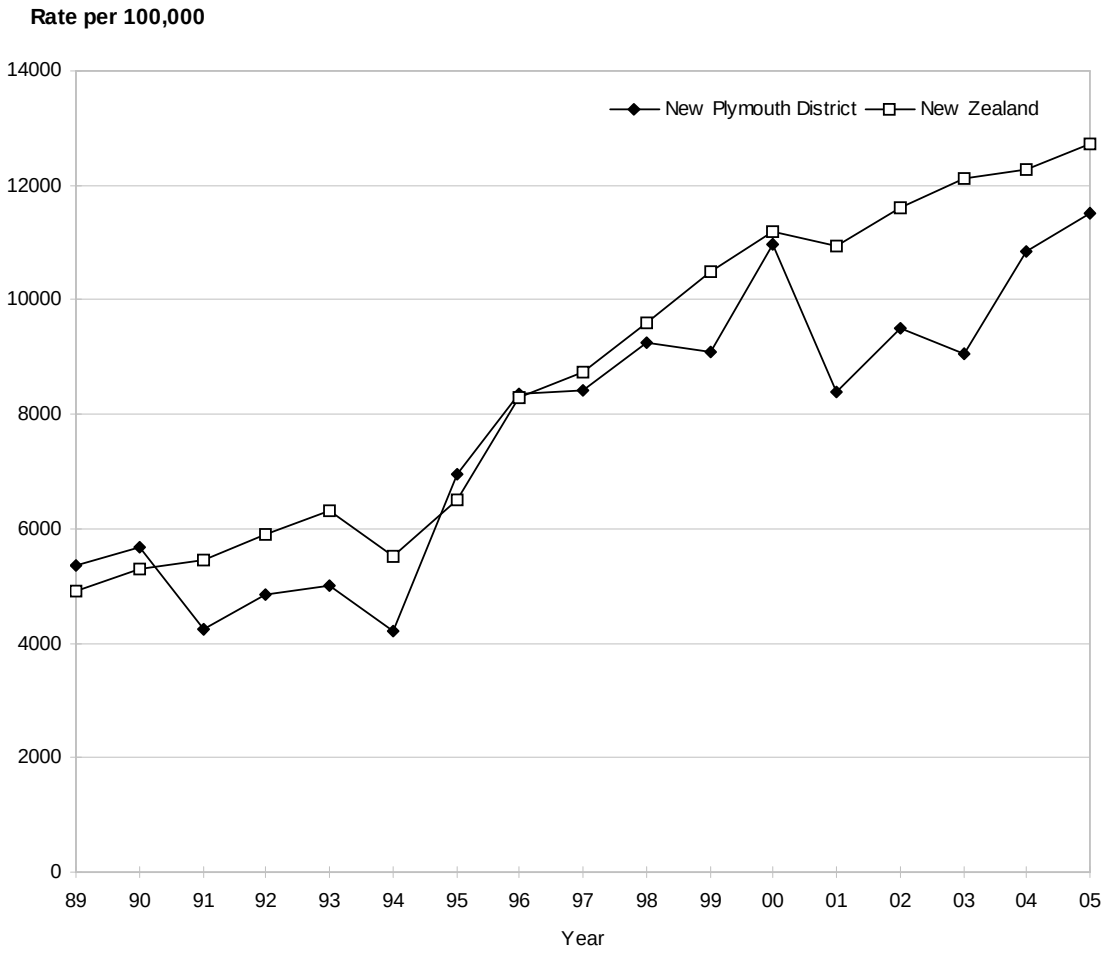
Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

From 1989 to 2000, injury hospitalisation rates among New Plymouth District people aged 80 and over closely mirrored the New Zealand situation. The rates rose steadily, especially from 1994 through to 2000, when they almost trebled. However, 2001 saw a sizeable reduction in New Plymouth District and in 2002-2003 the hospitalisation rates for this age group remained markedly lower than in New Zealand as a whole. Rates began rising back closer to the New Zealand average in 2004 and 2005.

Figure 4.17: 80+ year olds, rates of hospitalisation for all injury, New Plymouth District and New Zealand, 1989-2005



Source: Data supplied by New Zealand Health Information Service

Note: Data in Appendix Tables A.62 and A.63

Calculated using ICD-9 injury codes. Data for years 2001-2005 back-coded to ICD-9. Data for 2005 are provisional.

5 Emergency Department attendances for injury

Introduction

This chapter examines data on visits to public hospital emergency departments by New Plymouth District residents for treatment for injury. The analysis covers visits to Taranaki District Health Board emergency departments at New Plymouth and Hawera.

Some emergency department (ED) visits are for serious injuries that result in hospital admission or death. However, most ED visits are for less serious injuries that are treated by ED staff, with patients returning home to recover rather than being admitted to hospital.

It should be noted that similar cases of these less-serious injuries are also likely to be treated by other health services in the region, such as private accident and emergency clinics (e.g. Medicross, Phoenix Urgent Doctors) and other general practitioners. These data are not publicly available, so have not been included in this report.

National data for emergency department attendances are also not available, so no comparisons with the rest of New Zealand can be made.

Despite these limitations, it is useful to look at characteristics and patterns of ED attendances for injury, as they have some important implications for injury prevention.

Proportion of all Emergency Department attendances

In 2005, there were 20,564 attendances at Taranaki Health EDs by New Plymouth District residents. Of these, 7253 attendances (35 percent) were for injuries, 722 more attendances than in the year 2000.

Profile of people attending Emergency Departments for injury

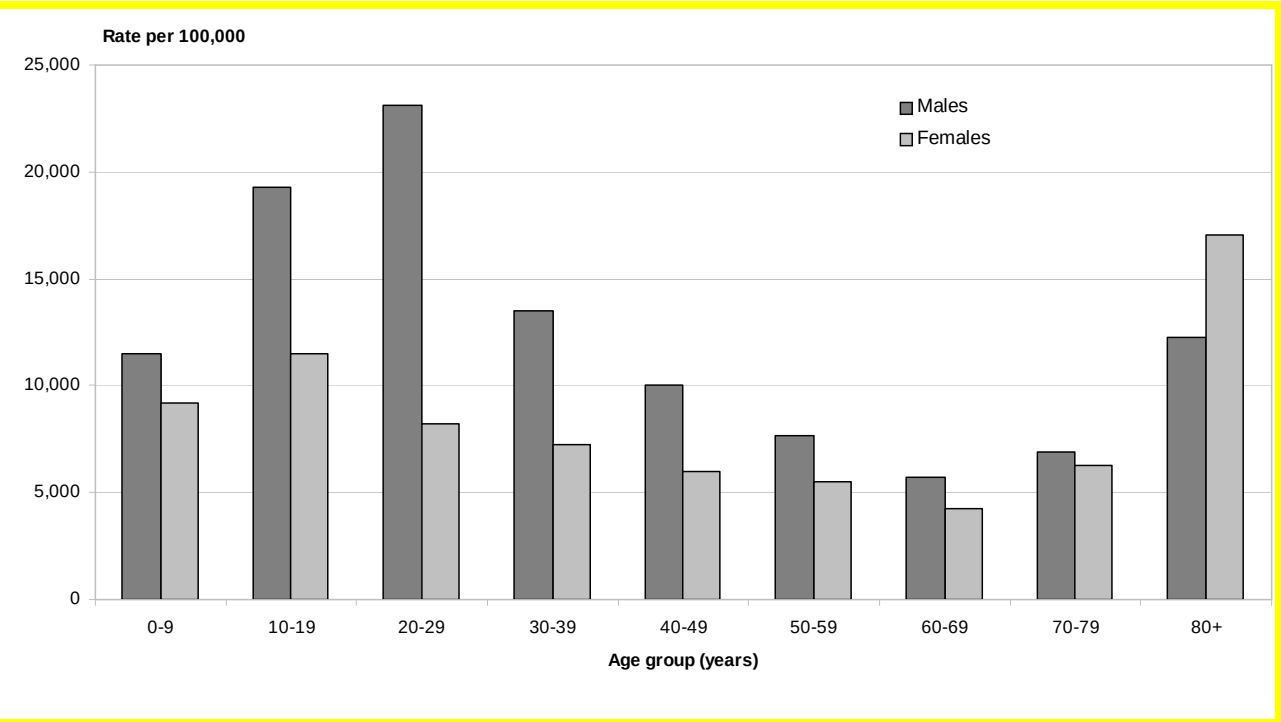
In 2005, of the 7249 injury-related ED visits by New Plymouth District residents (for whom demographic information is available), 60 percent were by males, and 40 percent were by females.[17] The age-standardised attendance rate for males was 72 percent higher than for females – 13,957 per 100,000 compared to 8129 per 100,000. Attendance rates for both males and females were slightly higher in 2005 than in the year 2000.[18]

Looking at ED attendance rates across different age groups for the year 2000, males had higher attendance rates than females in all age groups except 80+ (Figure 5.1). This gender difference was particularly marked in the teenage and young adult age groups (ages 10-19, 20-29, and 30-39).

[17] These were exactly the same proportions as in 2000.
[18] In 2000, injury-related ED attendance rates were 12,357 per 100,000 for males and 7898 per 100,000 for females.

Overall, the highest ED attendance rates for injury occurred among 10-19 and 20-29 year old males and 80+ year old females.

Figure 5.1: Taranaki DHB Emergency Department attendance rates for injury (per 100,000), New Plymouth District residents 2005, by age group and sex



Source: Data supplied by Taranaki District Health Board

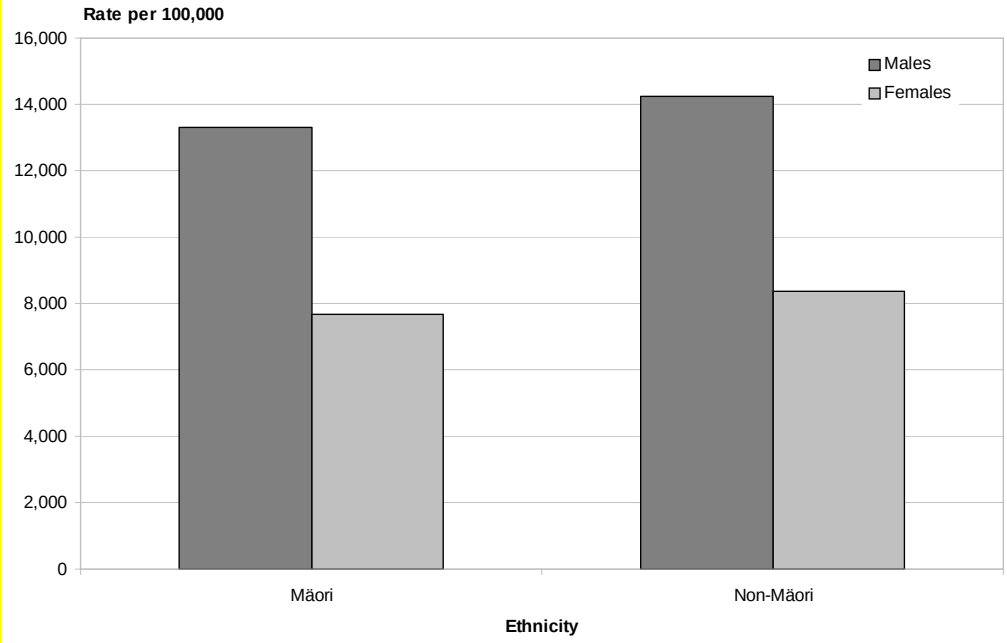
Note: Data in Appendix Table A.64

In 2005, 13 percent of New Plymouth District residents who attended EDs for injury were Mäori and 82 percent were non-Mäori (five percent were of unknown ethnicity). Age-standardised attendance rates were slightly lower for Mäori than for non-Mäori (10,538 per 100,000 compared to 11,265 per 100,000).[19]

[19] In 2000, age-standardised rates were 35 percent higher for non-Mäori compared with Mäori (10,046 and 7432 per 100,000 respectively).

Age-standardised ED attendance rates were higher for both non-Mäori males and non-Mäori females compared to their Mäori counterparts (Figure 5.2).

Figure 5.2: Taranaki DHB Emergency Department attendance age-standardised rates for injury (per 100,000), New Plymouth District residents 2005, by ethnicity and sex



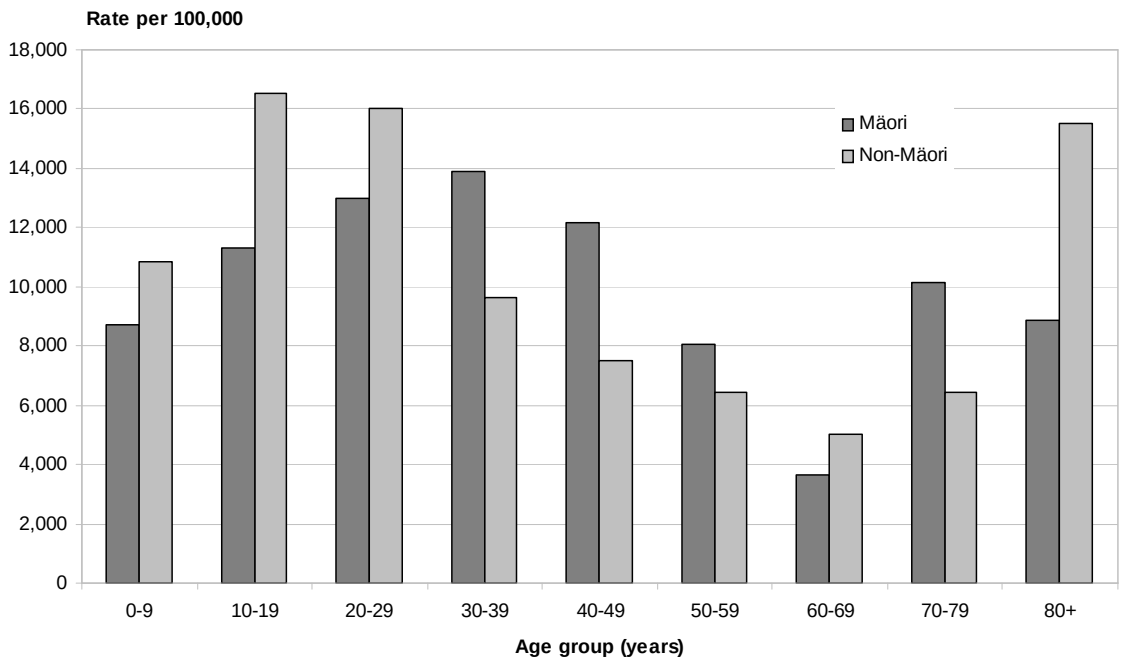
Source: Data supplied by Taranaki District Health Board

Note: Data in Appendix Table A.65

Excludes data for people of unknown ethnicity.

Non-Mäori ED attendance rates were also higher than those for Mäori in most age groups except 30-39, 40-49 and 70-79 (Figure 5.3).

Figure 5.3: Taranaki DHB Emergency Department attendance rates for injury (per 100,000), New Plymouth District residents 2005, by ethnicity and age



Source: Data supplied by Taranaki District Health Board

Notes: Data in Appendix Table A.66

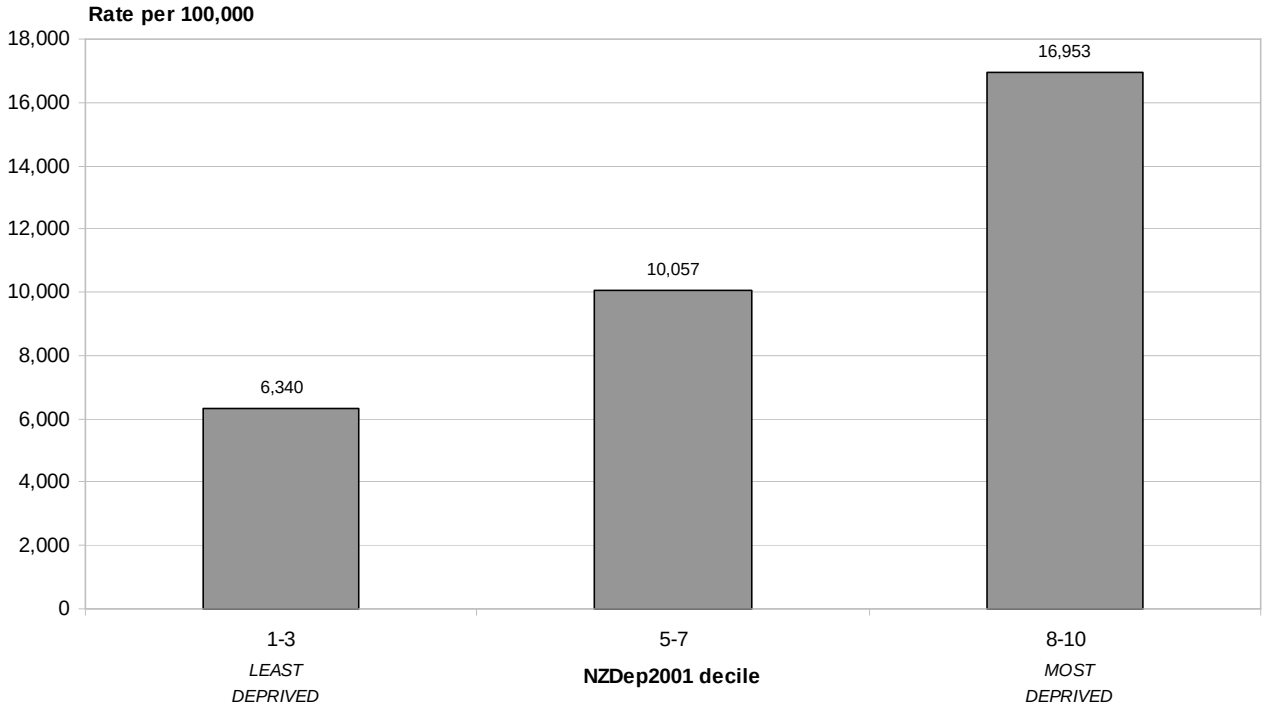
Rates based on small numbers of Mäori in oldest age groups (60+).

Excludes data for people of unknown ethnicity.

In 2005, age-standardised ED attendance rates for injury were quite similar for New Plymouth District residents living in urban and rural areas. The rate for people living in New Plymouth urban area was 11,854 per 100,000, followed by the rate for people living in satellite urban communities (11,412 per 100,000) and the rate for people living in rural areas (11,052 per 100,000).

Age-standardised ED attendance rates for injury among people living in the most socio-economically deprived geographic areas of New Plymouth District were higher than for those living in the least socio-economically deprived areas (Figure 5.4). Attendance rates of people living in NZDep areas 8-10 were 2.7 times higher than attendance rates of people living in NZDep areas 1-3. A number of factors is likely to have influenced these results, for example, the incidence of injuries and people's access to private and public emergency services.

Figure 5.4: Taranaki DHB Emergency Department age-standardised attendance rates for injury (per 100,000), New Plymouth District residents 2005, by NZDep2001



Source: Data supplied by Taranaki District Health Board

Notes: NZDep2001 is an index or measure of the level of socio-economic deprivation in different geographic areas of New Zealand. It is calculated using 2001 Census data on car and telephone access, receipt of means-tested benefits, unemployment, household income, sole parenting, educational qualifications, home ownership and home living space (Salmond and Crampton 2002).

There are no areas classified as NZDep decile 4 in New Plymouth District.

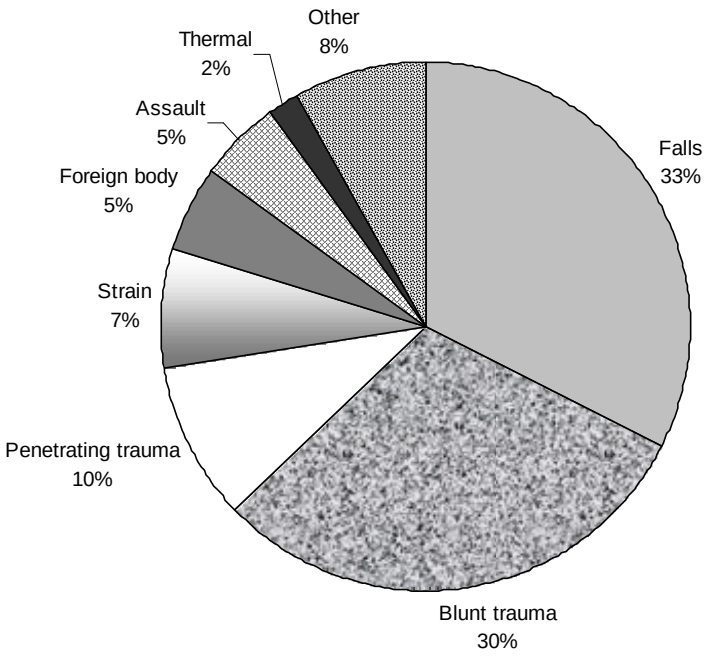
Cause (mechanism) of injury

In 2005, of the 7253 injury-related ED attendances by people living in New Plymouth District, 4664 (64 percent) had details recorded on the cause (mechanism) of injury and the location (scene) of injury.[20]

For these people, the three leading causes of injury for which New Plymouth District people attended EDs in 2005 (Figure 5.21) were:

- falls (32 percent of all ED attendances for injuries)
- blunt trauma (30 percent)
- penetrating trauma (10 percent).[21]

Figure 5.5: Percentage of Taranaki DHB Emergency Department attendances for injury, New Plymouth District residents 2005, by cause (mechanism) (n=4664)



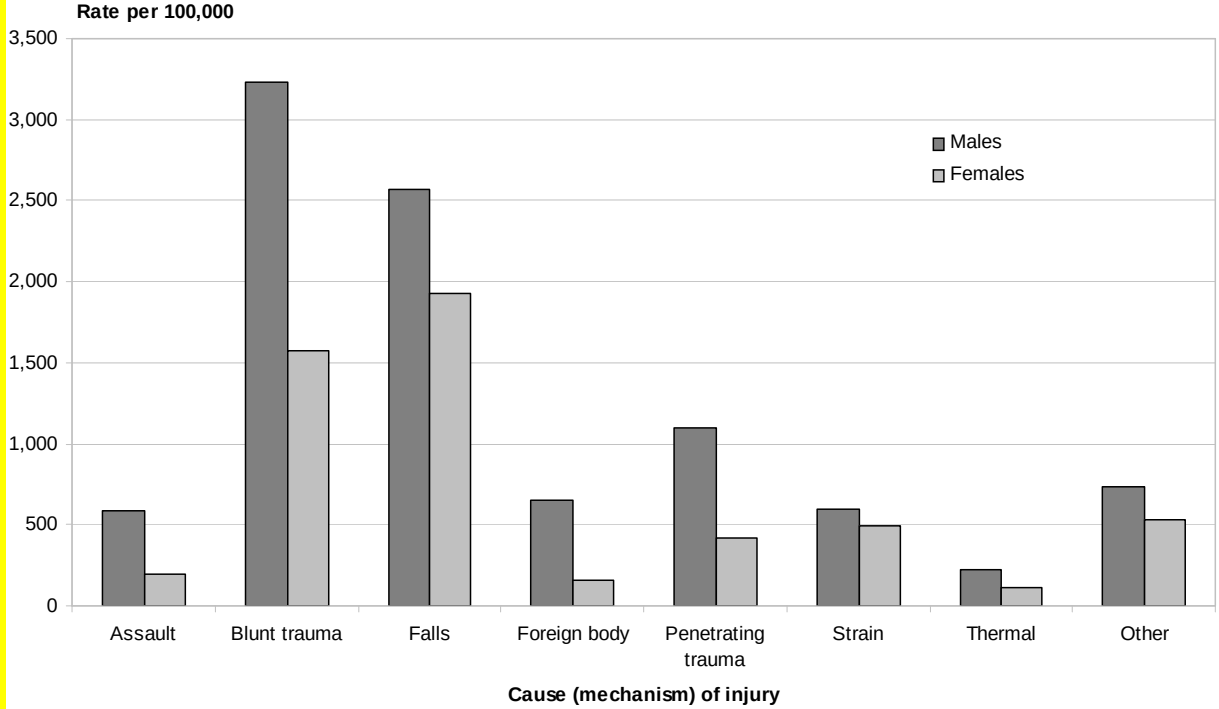
Source: Data supplied by Taranaki District Health Board

[20] This was apparently a considerably lower proportion than in 2000 (personal communication, Taranaki District Health Board).

[21] The three most common causes in 2000 were also: falls – 34 percent; blunt trauma – 22 percent; and penetrating trauma – 13 percent.

Males had higher age-standardised ED attendance rates than females for all types of injuries. These gender differences were most marked for injuries caused by assaults, blunt and penetrating trauma, and foreign bodies (Figure 5.6). Similar patterns were evident in the year 2000.

Figure 5.6: Taranaki DHB Emergency Department age-standardised attendance rates for injury (per 100,000), New Plymouth District residents 2005, by cause (mechanism) and sex

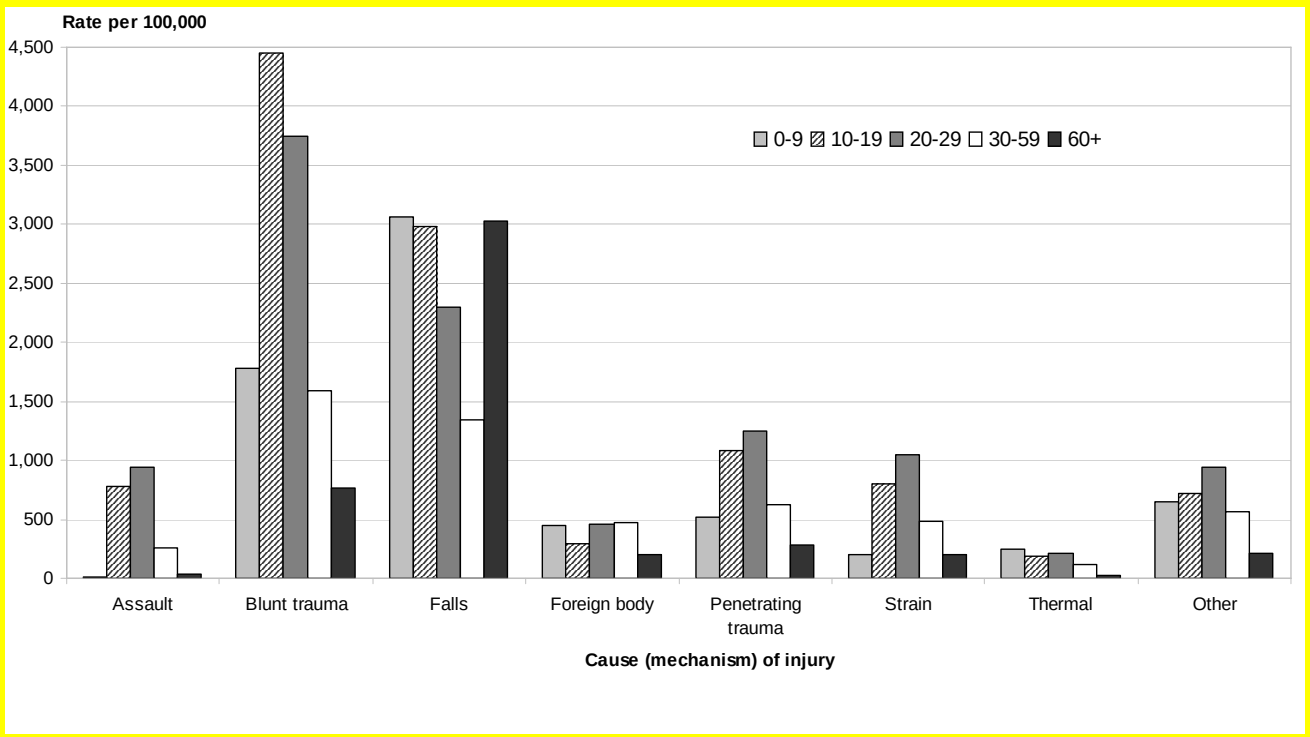


Source: Data supplied by Taranaki District Health Board

Notes: Data in Appendix Table A.68

Looking at ED attendance rates by age groups, it can be seen that there are different patterns for different injury causes. Falls are most likely to result in attendances among the youngest and oldest age groups, whereas assaults, blunt and penetrating trauma and strains are most likely to occur among 10-19 and 20-29 year olds (Figure 5.7). There were similar patterns in the year 2000.

Figure 5.7: Taranaki DHB Emergency Department attendance rates for injury (per 100,000), New Plymouth District residents 2005, by cause (mechanism) and age



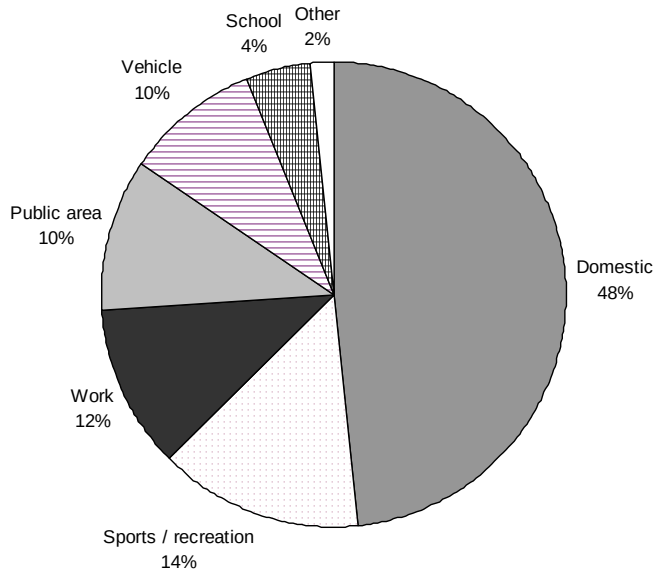
Source: Data supplied by Taranaki District Health Board

Notes: Data in Appendix Table A.69

Location (scene) where injury occurred

In the year 2005, amost half (48 percent) of ED injury attendances were for injuries sustained in domestic situations (for instance, in ED clients' own homes). The second and third most common places where injuries occurred were sports / recreation venues (14 percent) and work (12 percent) (Figure 5.8).[22]

Figure 5.8: Percentage of Taranaki DHB Emergency Department attendances for injury, New Plymouth District residents 2005, by location (scene) of injury (n=4664)

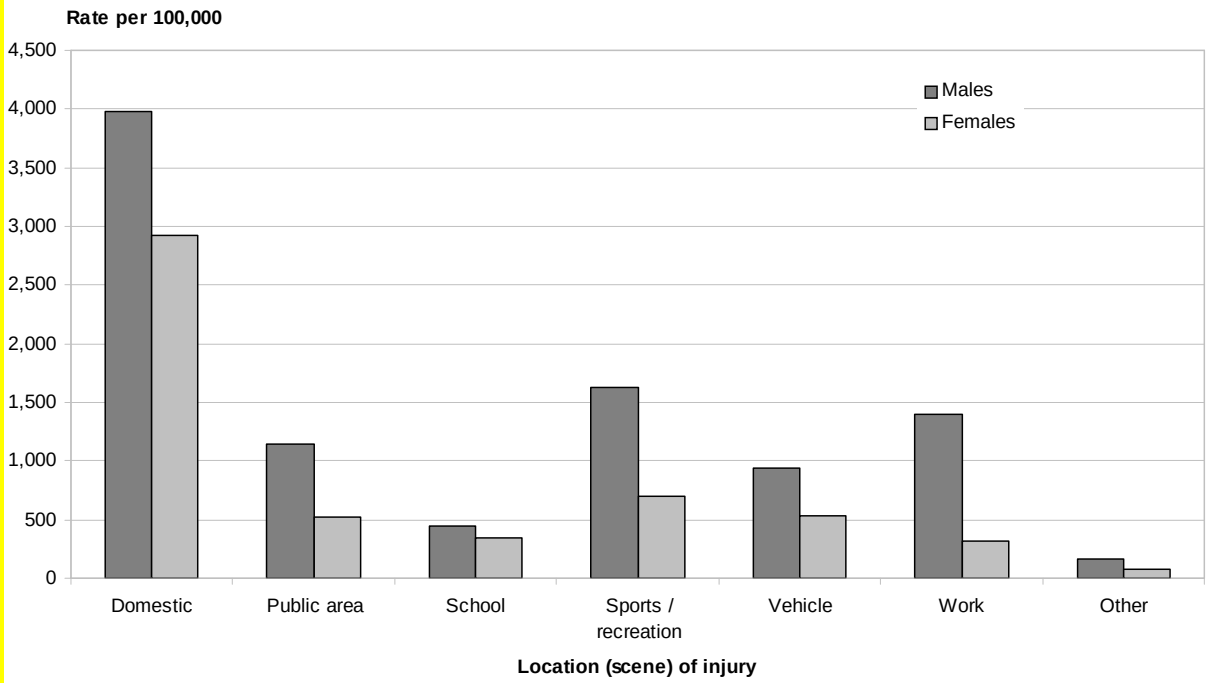


Source: Data supplied by Taranaki District Health Board

[22] In 2005, there was a slightly lower percentage of work injuries (9 percent) and a slightly higher rate of domestic injuries (51 percent).

New Plymouth District males were more likely than females to attend emergency departments for injuries occurring in all types of location. In particular, males were substantially more likely than females to attend for injuries that occurred at work and in sports / recreation situations (Figure 5.9). Similar patterns were evident in 2000.

Figure 5.9: Taranaki DHB Emergency Department age-standardised attendance rates for injury (per 100,000), New Plymouth District residents 2005, by location (scene) and sex



Source: Data supplied by Taranaki District Health Board

Notes: Data in Appendix Table A.71

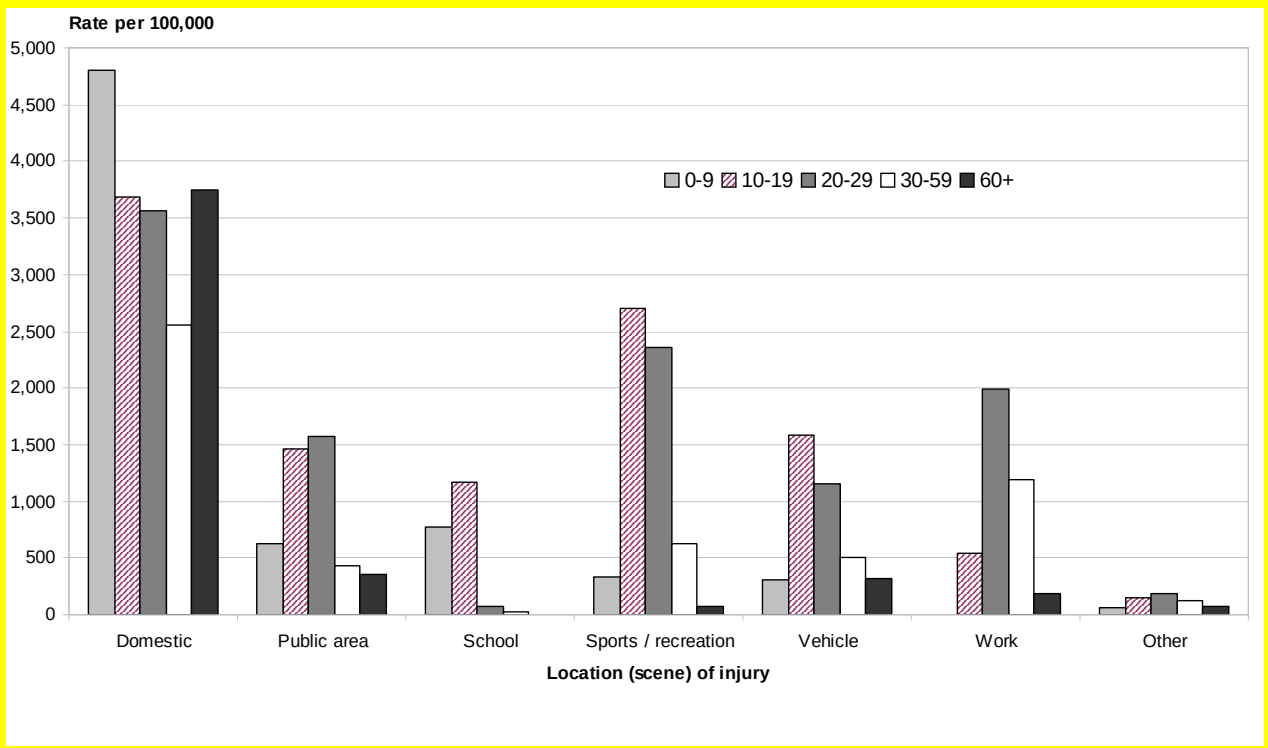
In 2005, Emergency Department attendance rates for injuries sustained in public areas, sports / recreation situations and vehicles were highest among New Plymouth residents aged 10-19 and 20-29 years.

Attendance rates for injuries occurring in domestic situations decreased with age until the age band 30-59, then increased again for people aged 60+.

As might be expected, injuries that occur at school are most likely among children and teenagers aged 0-9 and 10-19, and working-aged people (20-29 and 30-59) have the highest attendance rates for work injuries (Figure 5.10).

All these patterns were similar in the year 2000.

Figure 5.10: Taranaki DHB Emergency Department attendance rates for injury (per 100,000), New Plymouth District residents 2005, by location (scene) and age



Source: Data supplied by Taranaki District Health Board

Notes: Data in Appendix Table A.71

6 ACC injury claim statistics

Introduction

The Accident Compensation Corporation (ACC) collects data on financial claims made to it by New Zealanders who experience various types of injuries. These claims include requests for contributions to medical expenses, weekly compensation for loss of income, and rehabilitation costs. These claims are financed from various separate ACC funds, depending on the circumstances of the injury and characteristics of the claimant (e.g. whether they are an income earner or not) (ACC 2000a).

The following section presents annual ACC claims data for New Plymouth District for the six financial years 1 July 2000 to 30 June 2006. It includes injuries occurring in New Plymouth District (not necessarily among people who usually live in New Plymouth District (personal communication, ACC).[23]

It also covers all *new* 'entitlements' claims, including weekly compensation, vocational and social rehabilitation, independence allowance, death benefits and elective surgery. However, it excludes 'minor' claims for medical fees only (of which there are a large number each year), dental-only claims and ongoing claims.

When interpreting these ACC data, it should be noted that the information is collected primarily for administrative rather than epidemiological purposes (i.e. it is not attempting to accurately record the true incidence of injury in the community). This means the information has limitations, particularly in that it does not include cases of injury that are not eligible for financial compensation. For instance, weekly compensation is not available to non-earners (e.g. children and retired people) or to people whose injury affects their ability to attend work for one week or less (Accident Compensation Corporation 2000).

However, despite these limitations, it is still useful to look at the patterns of injury evident in the ACC data, particularly if these are interpreted in conjunction with the other statistics examined in this report.

Note that historical data for the financial year 2000 / 2001 have been reanalysed by ACC for the current report, and are slightly different to those presented in the first needs assessment report in 2001. This is at least partially because the ACC database is being continuously updated. The new data is used throughout this section.

Total new entitlement claims made

In the 2005 / 2006 financial year in New Plymouth District, a total of 2167 ACC new entitlement claims were made which was 1.9 percent of all new entitlement claims in New Zealand.

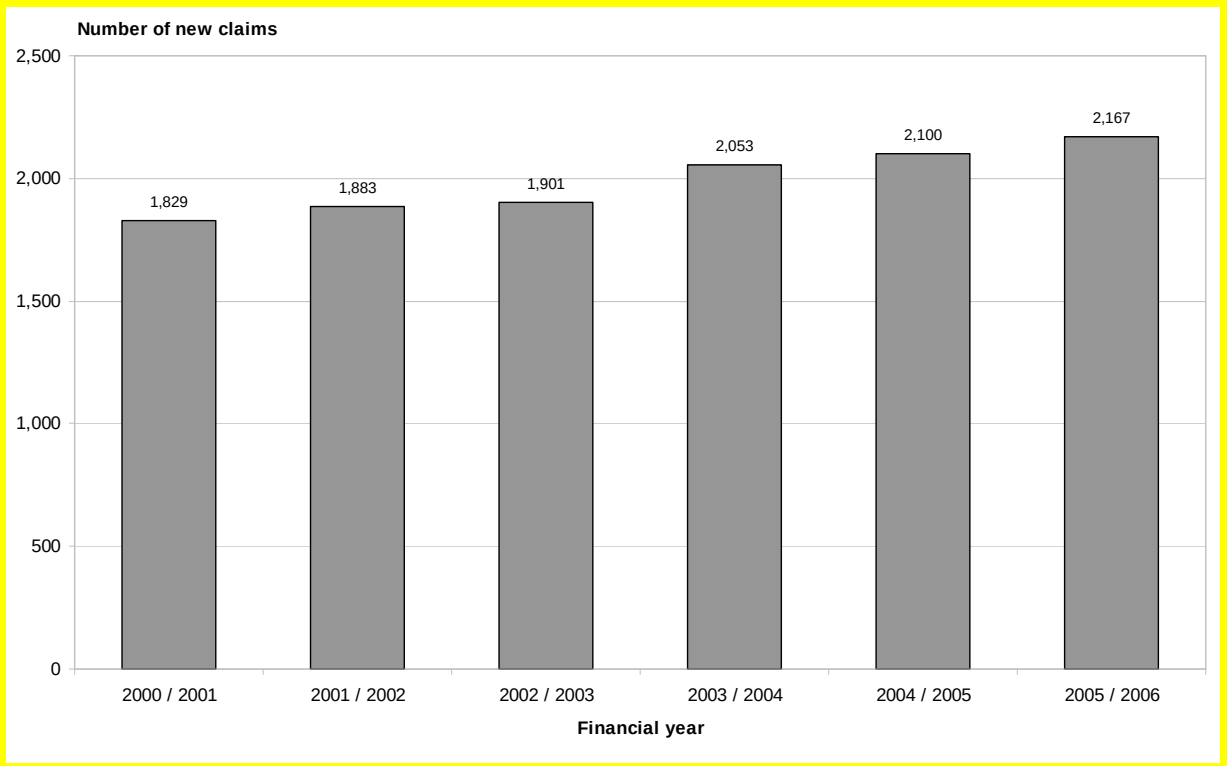
In the previous financial year (2004 / 2005), there were 2100 new entitlement claims in New Plymouth District, which was just over two-thirds (68 percent) of the 3068 entitlement claims in Taranaki region, and 1.9 percent of claims for the whole country.[24]

[23] We have assumed, however, that the vast majority of claims are by New Plymouth District residents and have calculated rates accordingly.

[24] This compares with 76 percent of Taranaki's claims in 2000 / 2001.

The number of new ACC claims in New Plymouth District has been increasing gradually over the last six financial years (Figure 6.1). This reflects a similar increase in the annual number of new claims New Zealand as a whole.

Figure 6.1: Annual number of ACC new entitlement claims for New Plymouth District for financial years 2000 / 2001 – 2005 / 2006



Source: Data supplied by Accident Compensation Corporation

In 2005 / 2006 New Plymouth District's age-standardised rates of ACC new claims was slightly higher than that of the whole country (2999 per 100,000 compared to 2732 per 100,000). In 2000 / 2001, age-standardised claim rates for New Plymouth District were slightly lower at 2587 per 100,000 compared to 2051 per 100,000 for New Zealand as a whole.[25]

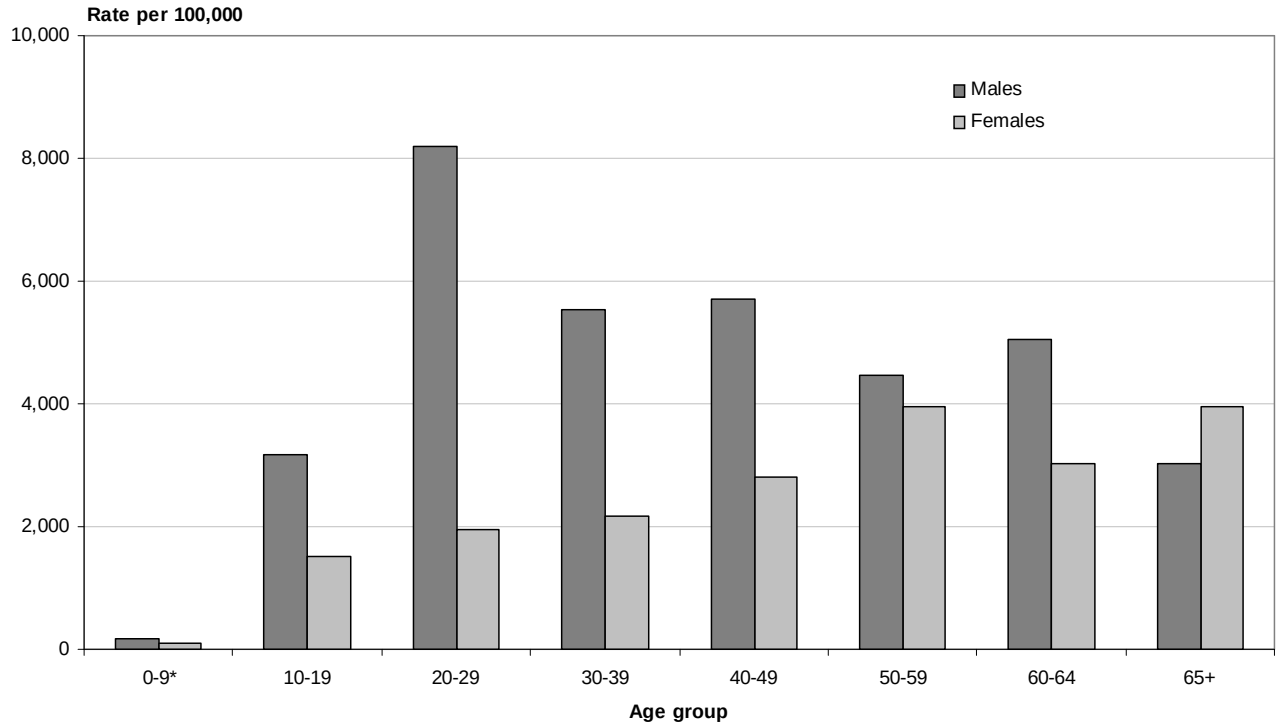
[25] Age-standardised rates for New Plymouth District are estimates due to lack of precise data for the 0-9 year age group.

Age and sex of claimants

In 2005 / 2006, 62 percent of ACC new entitlement claimants in New Plymouth District were male and 38 percent were female. Overall, males had over double the age-standardised new claim rates of females (4085 per 100,000 compared to 1955 per 100,000).[26]

Males had higher claim rates than females in all age groups except in the oldest (65+) age group. For males, the highest claim rates occurred among 20-29 year olds, while for females the highest claim rates occurred among 50-59 year-olds and 65+ year-olds. Claims among 0-9 and 10-19 year-olds were low compared with older age groups, probably at least in part because children are not eligible for income-related weekly compensation (Figure 6.2).

Figure 6.2: Rates (per 100,000) of ACC new entitlement claims for New Plymouth District, financial year 2005 / 2006, by age and sex



Source: Data supplied by Accident Compensation Corporation

Note: Data in Appendix Table A.72

* estimated rates.

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[26] These are estimated rates due to the lack of precise data for the age group 0-9 (see Appendix Table A.72).

Ethnicity

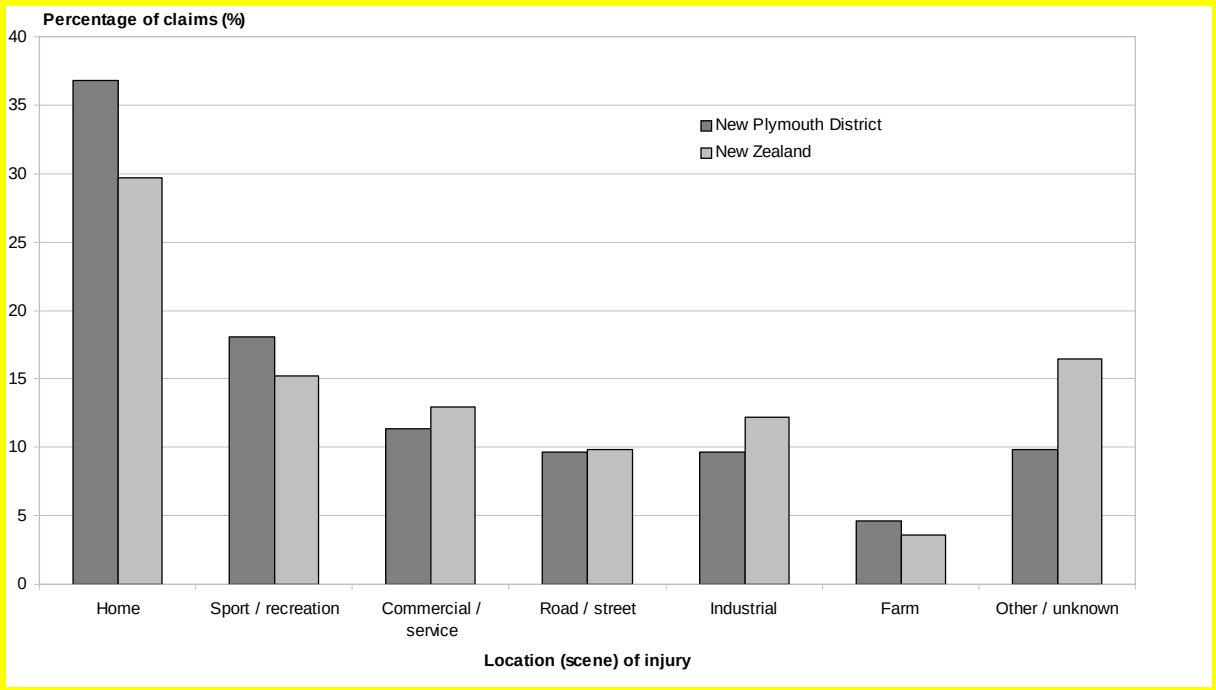
In 2005 / 2006, 83 percent of ACC new claimants in New Plymouth District were European / Pakeha, 10 percent were Mäori and 4 percent were of other ethnicities.[27]

Location (scene) of injury

In New Plymouth District in 2005 / 2006, ACC new entitlement claims were most commonly made for injuries occurring at home (37 percent of claims), followed by sports / recreation venues (18 percent).

The proportion of all claims made for injuries sustained at home in New Plymouth District (37 percent) was higher than New Zealand as a whole (30 percent). Injuries occurring at local sports / recreation venues also contributed to a higher percentage of all claims than the national average (18 percent compared to 15 percent). In New Plymouth District, there were lower proportions of new claims made for injuries that occurred in industrial, commercial / service and 'other' locations than for New Zealand overall (Figure 6.3).

Figure 6.3: Percentage of ACC new entitlement claims for New Plymouth District and New Zealand 2005 / 2006, by location (scene) of injury (n=2,167 for New Plymouth District, n=113,050 for New Zealand)



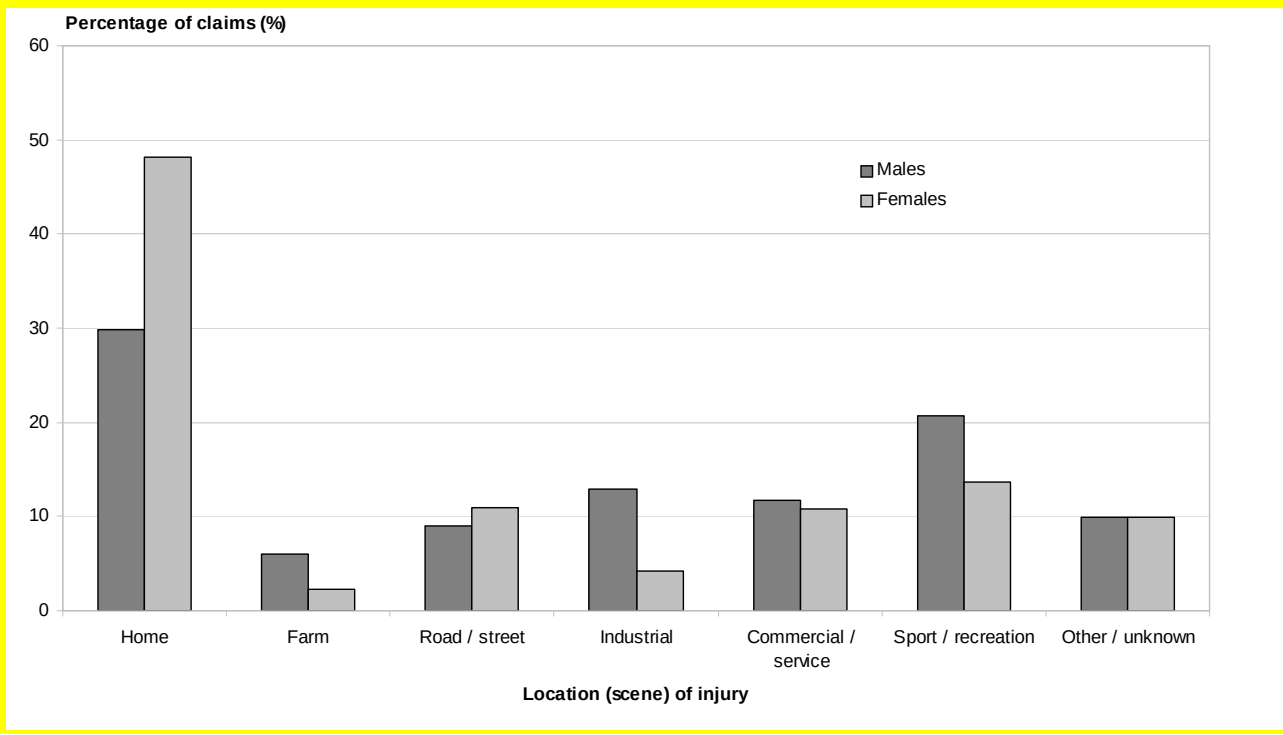
Source: Data supplied by Accident Compensation Corporation

Note: Data in Appendix Tables A.74 and A.75

[27] Three percent were of unknown ethnicity.

In 2005 / 2006, a higher percentage of new claims made by males were related to injuries occurring on farms, industrial places and sport / recreation venues, compared to females. A much higher percentage of claims made by females were concerned with injuries occurring at home, compared to males (Figure 6.4).

Figure 6.4: Percentage of ACC new entitlement claims for New Plymouth District 2005 / 2006, by location (scene) of injury and sex (n=1,323 for males, n=824 for females)



Source: Data supplied by Accident Compensation Corporation

Note: Data in Appendix Table A.74

Serious claims and deaths

In New Plymouth District in 2005 / 2006, there were 33 new claims for support for independence for serious injury and four for death benefits.

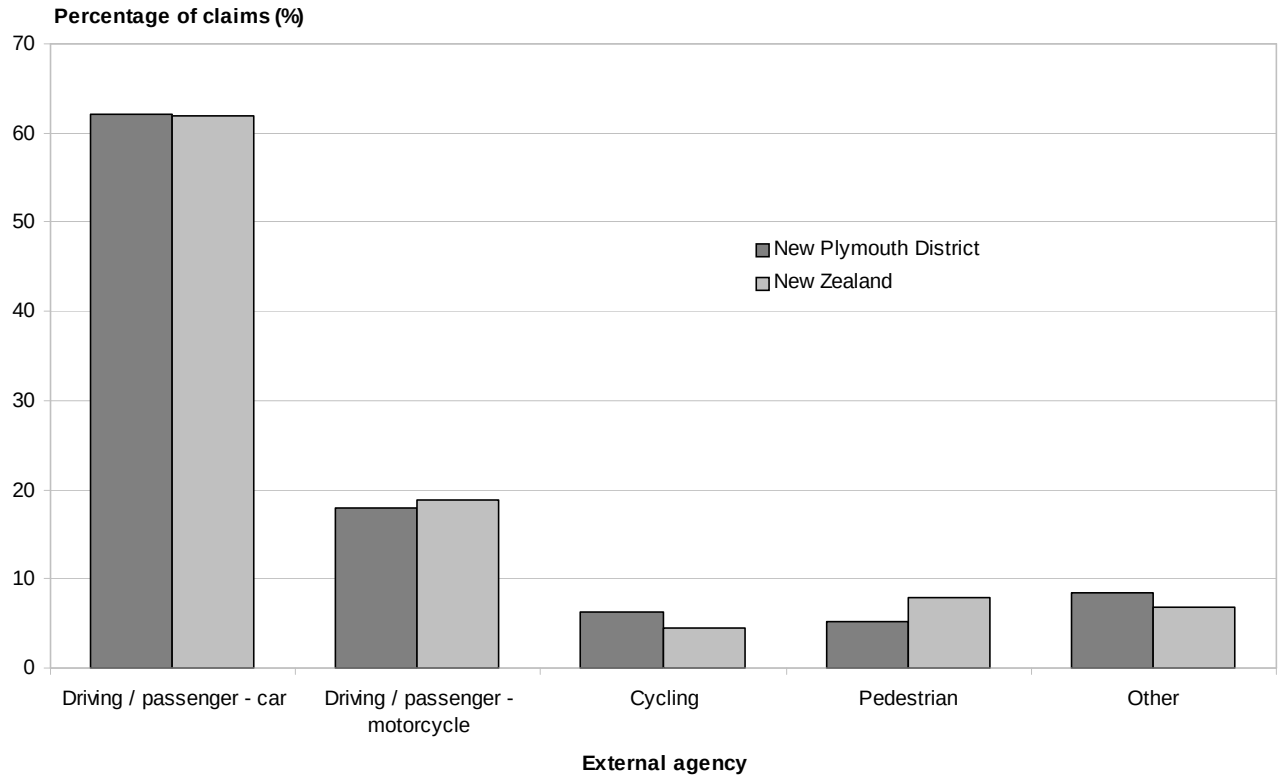
Road injuries

In 2005 / 2006, 95 (4 percent of) ACC new entitlement claims in New Plymouth District were related to motor vehicle injuries. This was similar to the percentage of claims in New Zealand as a whole (5 percent) (Appendix Table A.76).

By far the most common were claims for injuries occurring to drivers or passengers of cars (62 percent). This was followed by injuries to drivers or passengers of motorcycles (18 percent).

Compared to New Zealand in 2005 / 2006, the percentages of new claims for motor vehicle injuries among New Plymouth District drivers and passengers in cars or on motorcycles were very similar. During the same period, there was a slightly higher percentage of new claims in New Plymouth District for cyclists and a slightly lower percentage for pedestrians (Figure 6.5).

Figure 6.5: Percentage of ACC new entitlement claims for motor vehicle injuries in New Plymouth District and New Zealand 2005 / 2006, by 'external agency' (n=95 for New Plymouth District, n=5546 for New Zealand)



Source: Data supplied by Accident Compensation Corporation

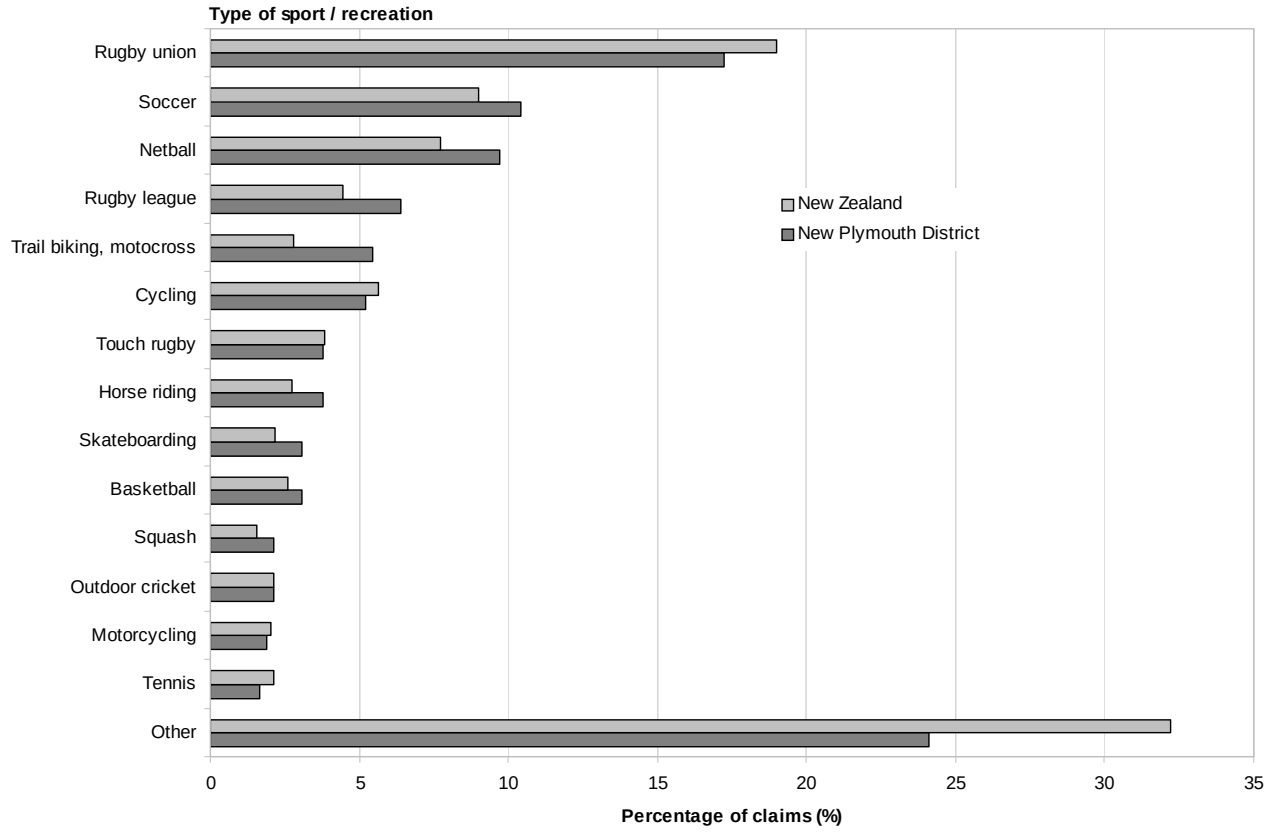
Note: Data in Appendix Table A.76

Sports / recreation injuries

In 2005 / 2006, 423 (20 percent) of ACC new entitlement claims in New Plymouth District were related to sports / recreation injuries. This compares with 274 (15 percent) in 2000 / 2001 and 16 percent for New Zealand in 2005 / 2006.

The most common type of sport / recreational activity related to injuries for which ACC new entitlement claims were made in 2005 / 2006 was rugby union, both in New Plymouth District (17 percent) and New Zealand as a whole (19 percent). This was followed by soccer (10 and 8 percent respectively) and netball (10 and 9 percent respectively). Compared with New Zealand overall, a higher percentage of New Plymouth District sports / recreation injury entitlement claims were for soccer, netball, rugby league, trail biking / motocross, horseriding, skateboarding, basketball and squash (Figure 6.6).

Figure 6.6: Percentage of ACC new entitlement claims for sports / recreation injuries in New Plymouth District and New Zealand 2005 / 2006, by different types of sports / recreation (n=423 for New Plymouth District, n=18,196 for New Zealand)



Source: Data supplied by Accident Compensation Corporation

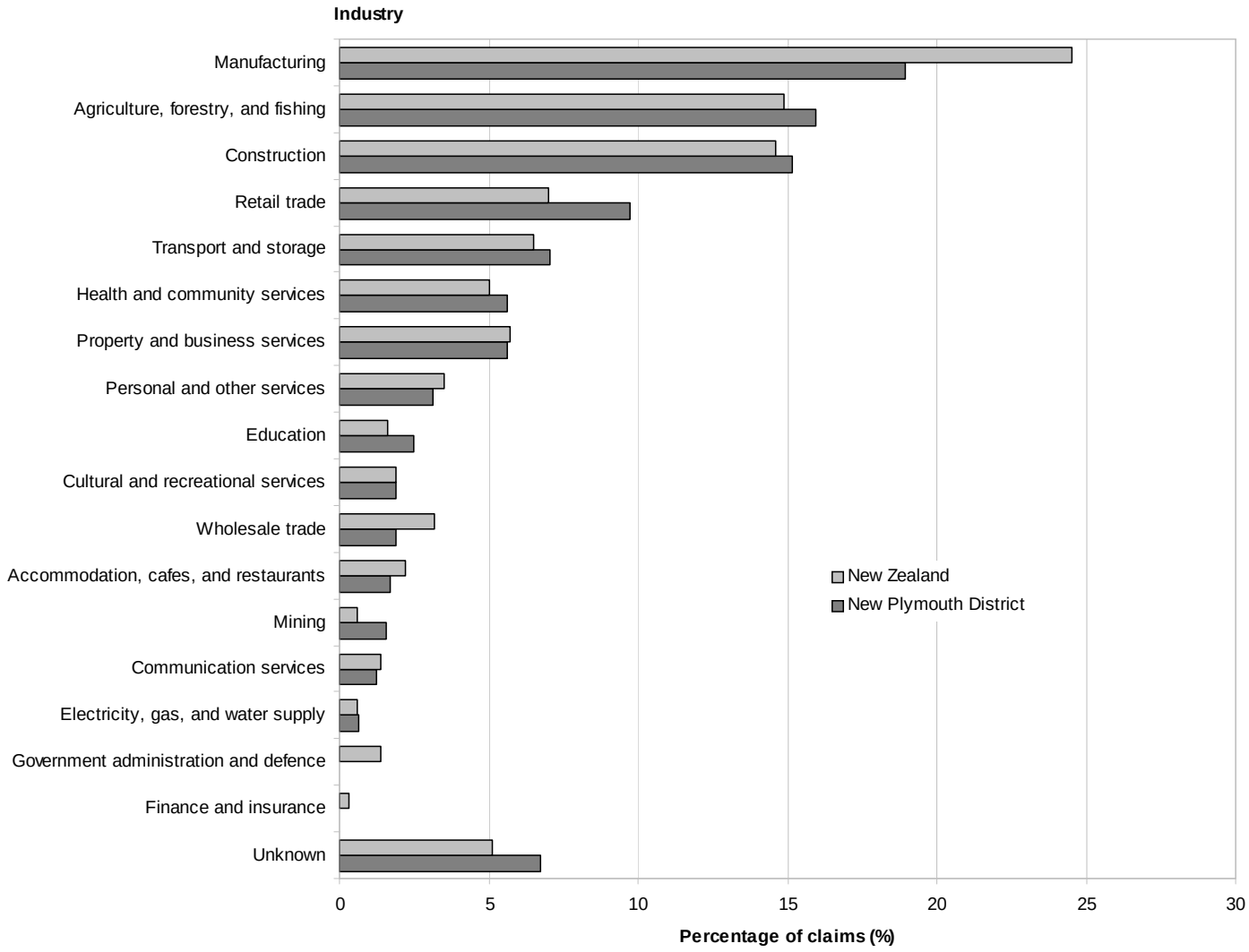
Note: Data in Appendix Table A.77

Work injuries

In 2005 / 2006, 639 (29 percent of) new claims in New Plymouth District were work-related. This was a slightly lower percentage of new claims than for New Zealand as a whole (33 percent).

In New Plymouth District in 2005 / 2006, manufacturing was the most common industry for which workplace ACC entitlement claims were made (19 percent). The industries with the next highest number of workplace claims in the District were agriculture / forestry / fishing (16 percent) and construction (15 percent). Compared to New Zealand as a whole, a lower percentage of New Plymouth District new claims related to injuries among manufacturing workers, and a higher percentage related to injuries among retail workers (Figure 6.7).

Figure 6.7: Percentage of ACC new entitlement claims for work-related injuries in New Plymouth District and New Zealand 2005 / 2006, by industry (n=639 for New Plymouth District, n=37,220 for New Zealand)



Source: Data supplied by Accident Compensation Corporation

Note: Data in Appendix Table A.78

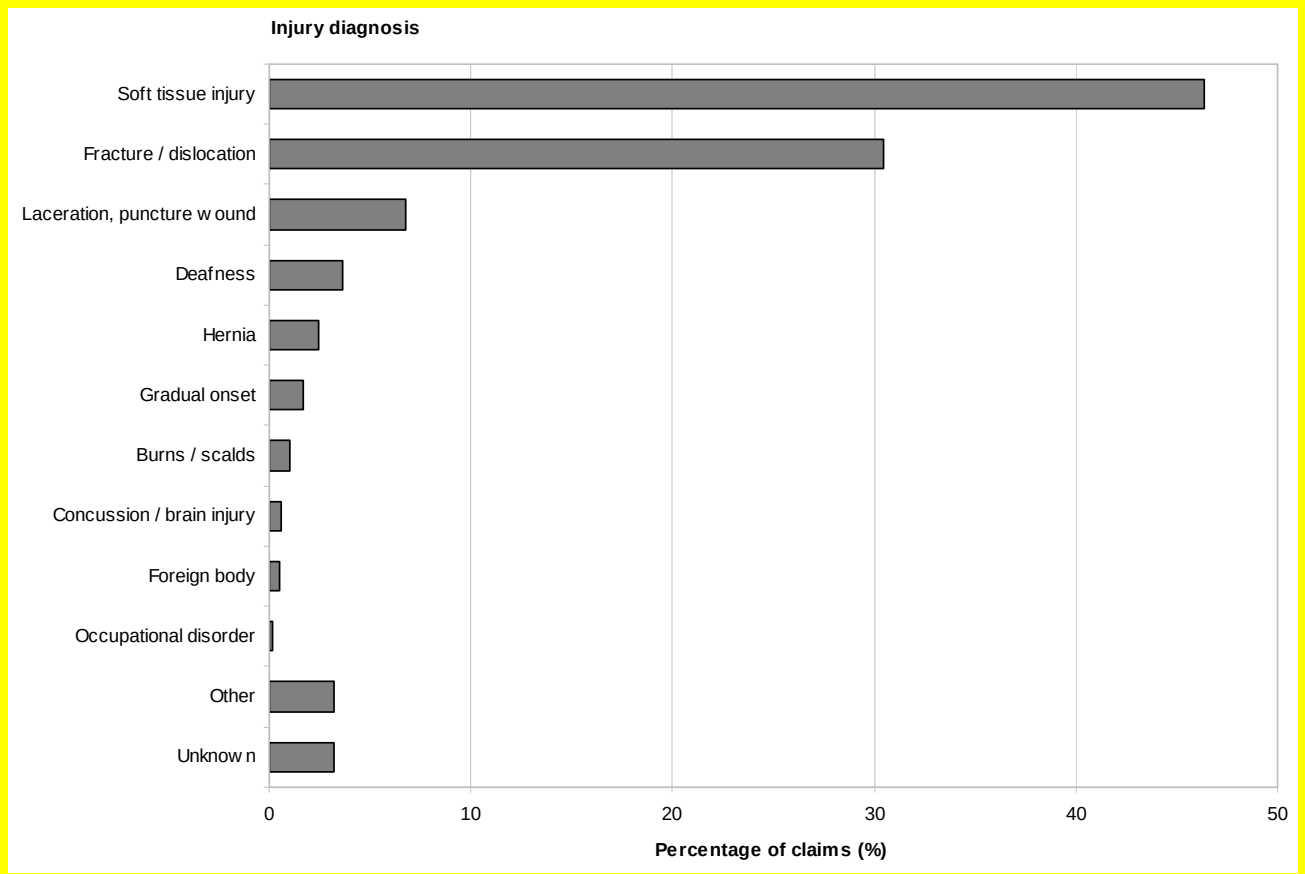
Because there are different proportions of workers employed in different industries in New Plymouth District compared with New Zealand as a whole, it is also useful to look at claim rates per numbers of workers in these different industries. In 2005 / 2006, construction had the highest rate of new claims in New Plymouth District (5434 per 100,000 workers), followed by transport / storage (4573 per 100,000) and agriculture / forestry / fishing (3732 per 100,000).

In terms of overall claim rates per 100,000 workers, in 2005 / 2006 New Plymouth District had a very slightly higher rate than New Zealand as a whole (2200 per 100,000 compared to 2154 per 100,000).[28] Rates were comparatively low in New Plymouth District for manufacturing workers and comparatively high for transport and storage workers (Appendix Table A.78).

Injury diagnoses

By far the most frequent injury diagnoses for which ACC new entitlement claims were made in 2005 / 2006 in New Plymouth District were soft tissue injuries (contusion, internal organ, strain) (46 percent) and fractures / dislocations (30 percent) (Figure 6.8). This pattern is similar to that of New Zealand in 2005 / 2006 (Appendix Table A.80), and to that of New Plymouth District in 2000 / 2001.

Figure 6.8: Percentage of ACC new entitlement claims for New Plymouth District 2005 / 2006, by injury diagnosis (n=2,167)



Source: Data supplied by Accident Compensation Corporation

Note: Data in Appendix Table A.79

[28] In 2000 / 2001, the rates were 1,718 per 100,000 for New Plymouth District and 1,515 per 100,000 for New Zealand as a whole.

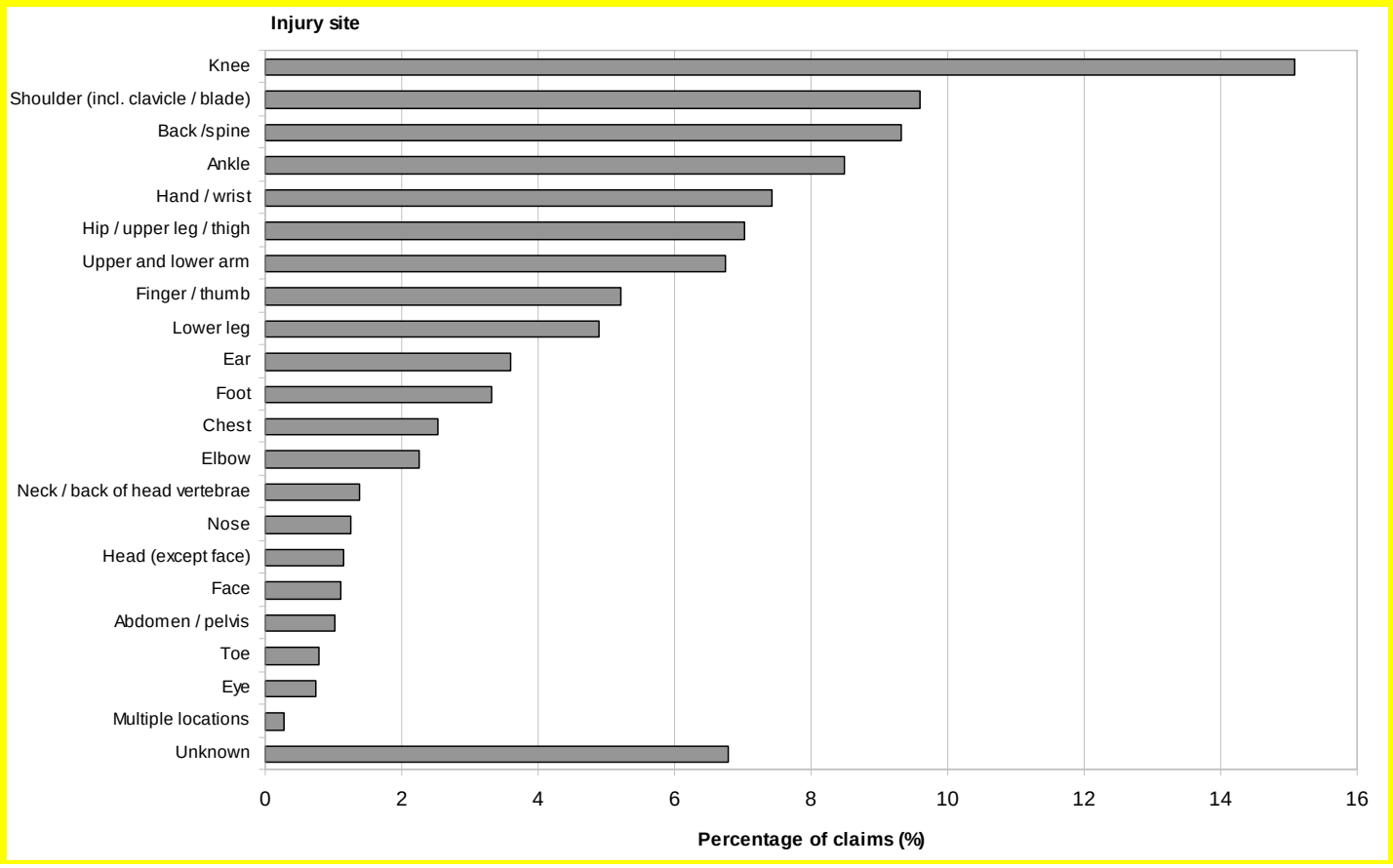
Different injury diagnoses are more common for injuries occurring at certain locations. For example: a higher-than-average percentage of sports / recreation injuries are soft tissue injuries; a relatively high percentage of school and road injuries are fracture / dislocations; a relatively high percentage of industrial and farm injuries are due to deafness; and a relatively high percentage of industrial and commercial / service injuries are gradual onset (Appendix Table A.79).

Injury sites

The knee was the most common injury site for ACC new entitlement claims for New Plymouth District in 2005 / 2006 (15 percent), followed by the shoulder (10 percent) and the back / spine (9 percent) (Figure 6.9). The same three injury sites were the most common for claims in New Zealand overall, although in the order: knee (13 percent); back / spine (11 percent); and shoulder (9 percent) (Appendix Table A.81).

In 2000 / 2001 there was a slightly different pattern for New Plymouth District, with knee most common (15 percent), followed by ankle (10 percent) and hand / wrist (9 percent).

Figure 6.9: Percentage of ACC new entitlement claims for New Plymouth District 2005 / 2006, by injury site (n=2,167)



Source: Data supplied by Accident Compensation Corporation

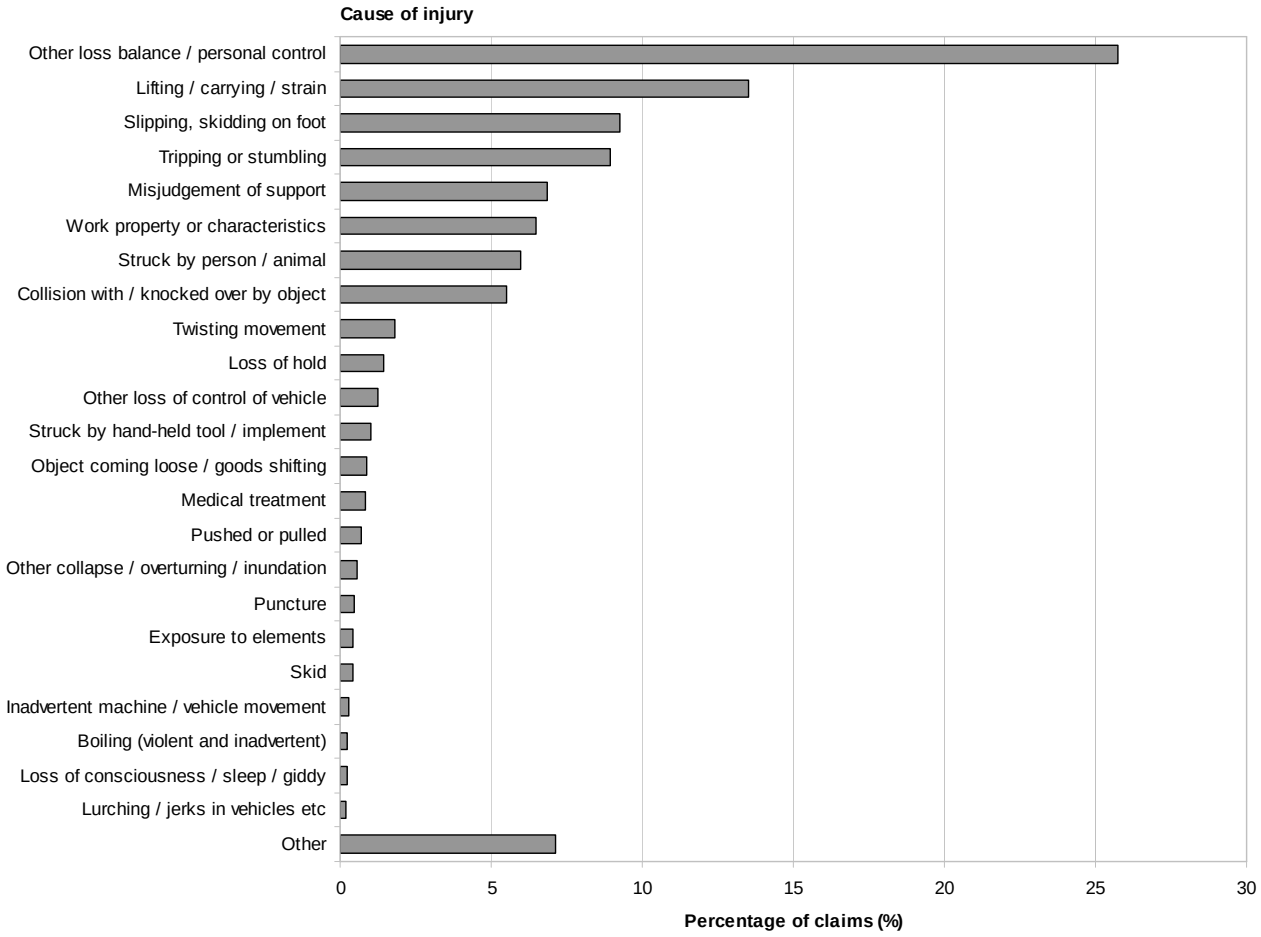
Note: Data in Appendix Table A.81

Injury 'causes'

For all entitlement claims, ACC assesses what was the 'cause' of the injury. 'Other loss of balance / personal control' was the top cause in New Plymouth District in 2005 / 2006, accounting for 26 percent of new claims. This was followed by 'lifting / carrying / strain' (14 percent), 'slipping or skidding on foot' (9 percent) and 'tripping or stumbling' (9 percent) (Figure 6.10).

In 2005 / 2006, compared to New Zealand as a whole, New Plymouth District had higher percentages of new claims for injuries caused by 'other loss of balance / personal control' (26 percent compared to 23 percent) and misjudgement of support (7 percent compared to 4 percent) (Appendix Table A.82).

Figure 6.10: Percentage of ACC new entitlement claims for New Plymouth District 2005 / 2006, by causes of injury (n=2,167)



Source: Data supplied by Accident Compensation Corporation

Note: Data in Appendix Table A.82

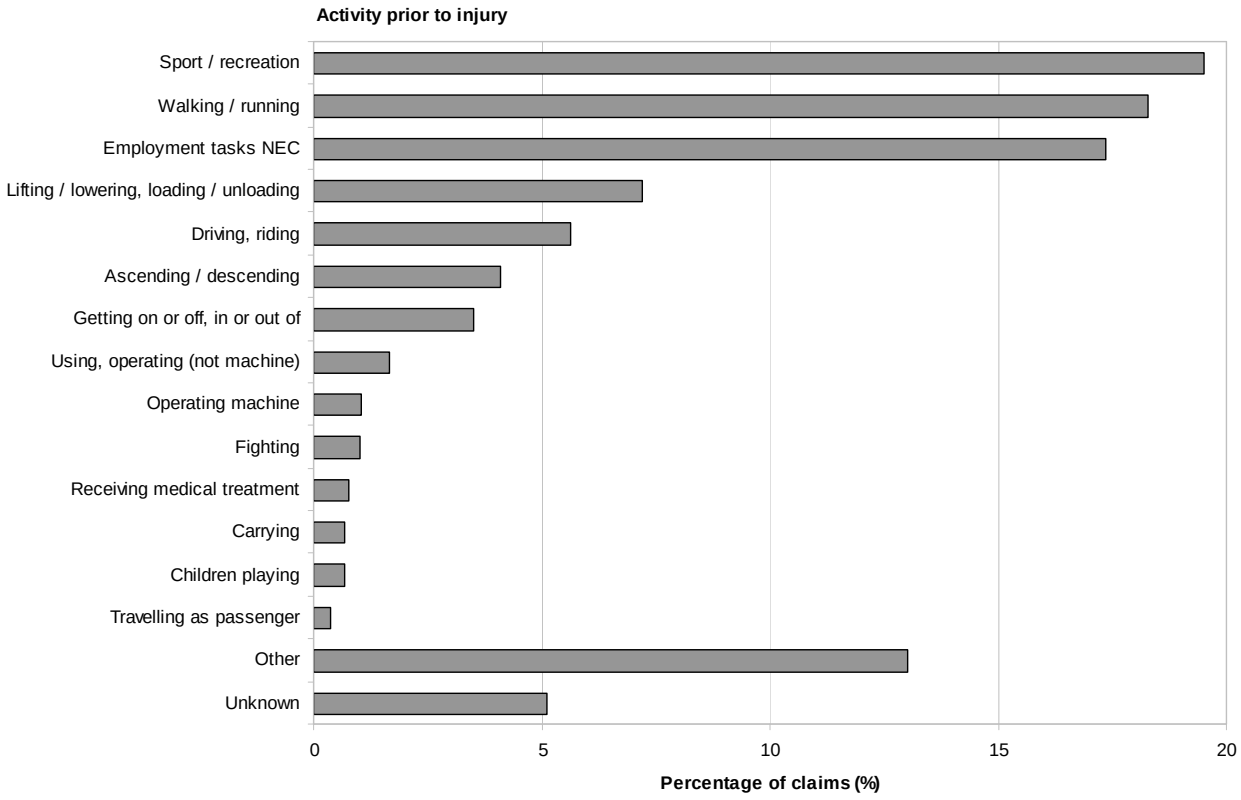
Activities preceding injuries

As well as assessing the 'causes' of injuries for which entitlement claims are made, ACC collects information about the type of activities that claimants are engaged in before they are injured.

In 2005 / 2006, almost one in five (20 percent) of ACC new claims involved injuries preceded by recreational or sports activities.[29] Walking / running (18 percent) and employment activities (not elsewhere classified, 17 percent) were the next most common activities that preceded injuries (Figure 6.11).

During the same financial year, compared to New Zealand, New Plymouth had a higher percentage of new claims for injuries preceded by recreational or sports activities (20 percent compared to 16 percent) (Appendix Table A.83).

Figure 6.11: Percentage of ACC new entitlement claims for New Plymouth District 2005 / 2006, by activity prior to injury (n=2,167)



Source: Data supplied by Accident Compensation Corporation

Notes: Data in Appendix Table A.83

NEC = not elsewhere classified.

[29] This was an increase from 2000 / 2001 when 15 percent of new claims were for injuries that were preceded by recreational or sports activities.

Cost of claims

In the 2005 / 2006 financial year, over $10 million was spent on ACC new entitlement claims in New Plymouth District.[30] This was two percent of national expenditure (Appendix Table A.84).

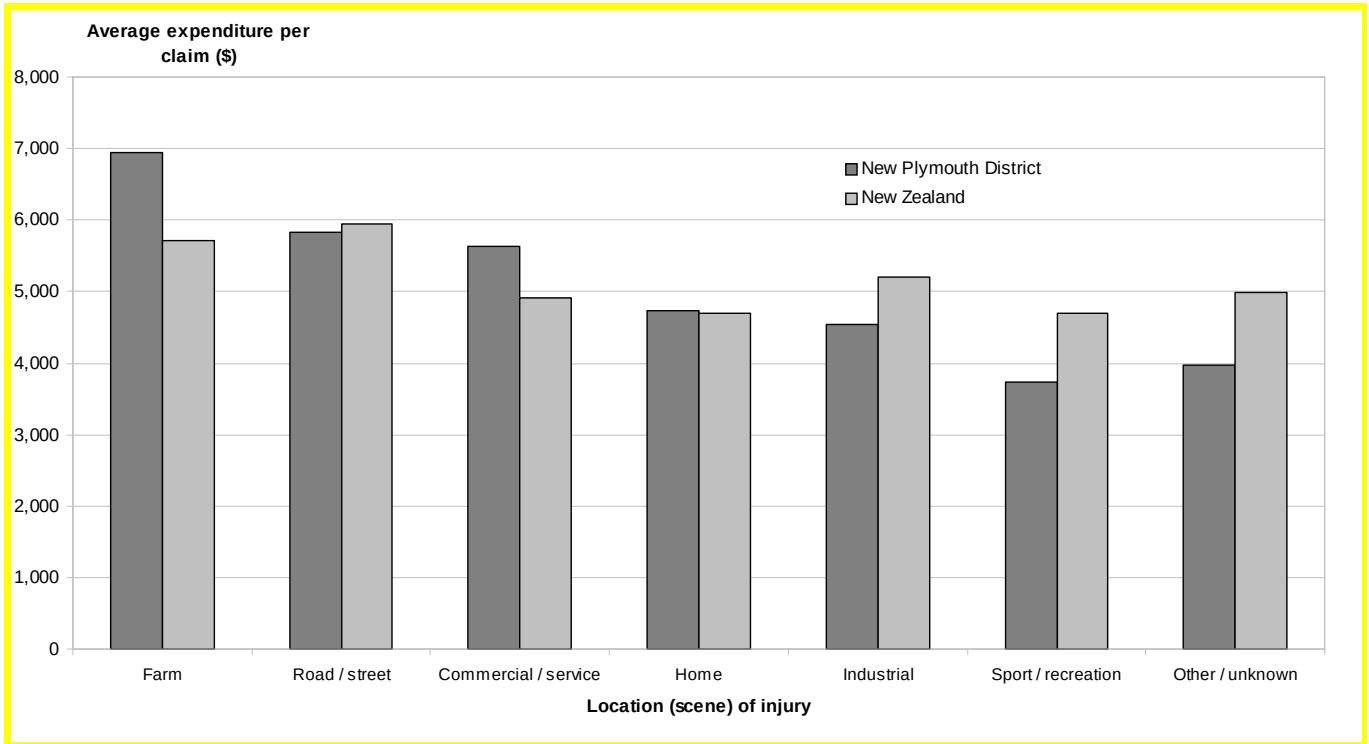
Overall, local claims cost $4,770 on average.[31] This was sightly less than the national average of $4,993. This could be because local injuries were less serious, people who were injured had a lower average income (making weekly compensation lower), and / or other factors.

Expenditure by location (scene) of injury

In 2005 / 2006, ACC expenditure on new claims was highest for injuries occurring at home ($3.8 million), sports / recreation venues ($1.5 million), commercial / service locations ($1.4 million) and roads / streets ($1.2 million).

Compared to New Zealand as a whole, the average expenditure per new claim in New Plymouth District was higher for injuries occurring on farms and commercial / service locations. Average expenditure for home injuries in New Plymouth District was about the same as the national average, and was lower for other injury locations (Figure 6.12).

Figure 6.12: Average expenditure per claim for ACC new entitlement claims for New Plymouth District and New Zealand 2005 / 2006, by location (scene) of injury



Source: Data supplied by Accident Compensation Corporation

Note: Data in Appendix Table A.84

[30] Compared to nearly $6 million in 2000 / 2001 (Appendix Table A.85).

[31] Compared to $3,254 in 2000 / 2001 (Appendix Table A.85).

7 Road traffic crash injuries

Introduction

Land Transport New Zealand compiles data from Police reports on crashes involving injury, as well as information on some non-injury crashes. This information is analysed and summarised in regular reports issued by Land Transport New Zealand. The latest available report for New Plymouth District provides data for each of the 10 years from 1996 to 2005 (Land Transport New Zealand 2006). It details the number and rates of crashes and casualties in the District and the situations and causes of these crashes.

Number of injury crashes and casualties

In the 10 years from 1996-2005, a total of 1823 road traffic crashes in the New Plymouth District involving injury were reported to the Police (Table 7.1). A total of 2622 people were injured in these crashes (casualties).

Of the 1823 injury crashes, 1369 (75 percent) were minor injury crashes. Three hundred and ninety-nine (22 percent) were serious and 55 (3 percent) were fatal.

Of the 2622 casualties, 2071 (79 percent) suffered minor injuries, 489 (19 percent) suffered serious injuries and 62 (2 percent) were killed.

Table 7.1: Number of road traffic crashes and casualties, by injury severity, New Plymouth District, 1996-2005

	YEAR											
	1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**	**%**
CRASHES												
Fatal	3	7	7	10	5	4	4	2	9	4	55	3
Serious	50	47	54	40	36	34	28	45	43	22	399	22
Minor	134	145	132	107	108	146	165	164	114	154	1369	75
Total injury crashes	**187**	**199**	**193**	**157**	**149**	**184**	**197**	**211**	**166**	**180**	**1823**	**100**
CASUALTIES												
Fatal	4	7	8	10	6	4	4	2	10	7	62	2
Serious	58	53	71	48	45	42	31	53	60	28	489	19
Minor	205	220	217	162	165	234	243	240	172	213	2071	79
Total casualties	**267**	**280**	**296**	**220**	**216**	**280**	**278**	**295**	**242**	**248**	**2622**	**100**

Source: Data supplied by Land Transport New Zealand

Note: Crash severity rated according to the most severely injured casualty in a crash
'Fatal' = injuries resulting in death within 30 days of crash
'Serious' = injuries requiring medical treatment or hospital admission, including fractures, head injuries, internal injuries, crushing, severe lacerations etc
'Minor' = injuries requiring first aid or causing discomfort including sprains, bruises etc

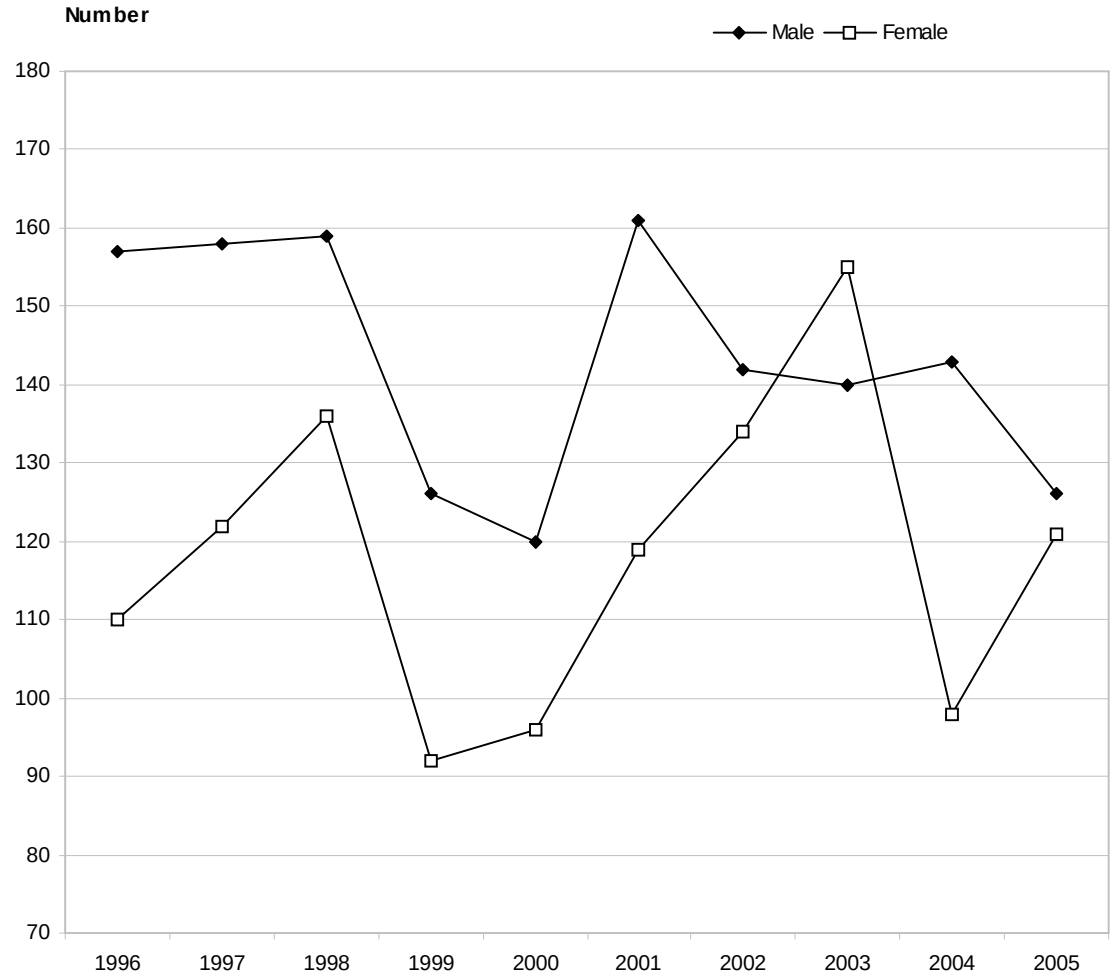
Monthly and weekly patterns

In the five years from 2001-2005, the New Plymouth District saw on average between 70 and 95 injury road crashes a month, with the most crashes usually recorded in May, June and July. Mondays were the quietest days for injury crashes, while Thursdays, Fridays and Saturdays were the busiest.

Casualties by gender

Figure 7.1 shows the numbers of male and female road crash casualties in New Plymouth District for each of the years from 1996 to 2005. In most years more males than females were casualties. However, in 2002, 2003 and 2005 the numbers of female casualties were either similar to or higher than the numbers of male casualties.

Figure 7.1: Number of male and female road crash casualties, New Plymouth District, 1996-2005



Source: Data supplied by Land Transport New Zealand

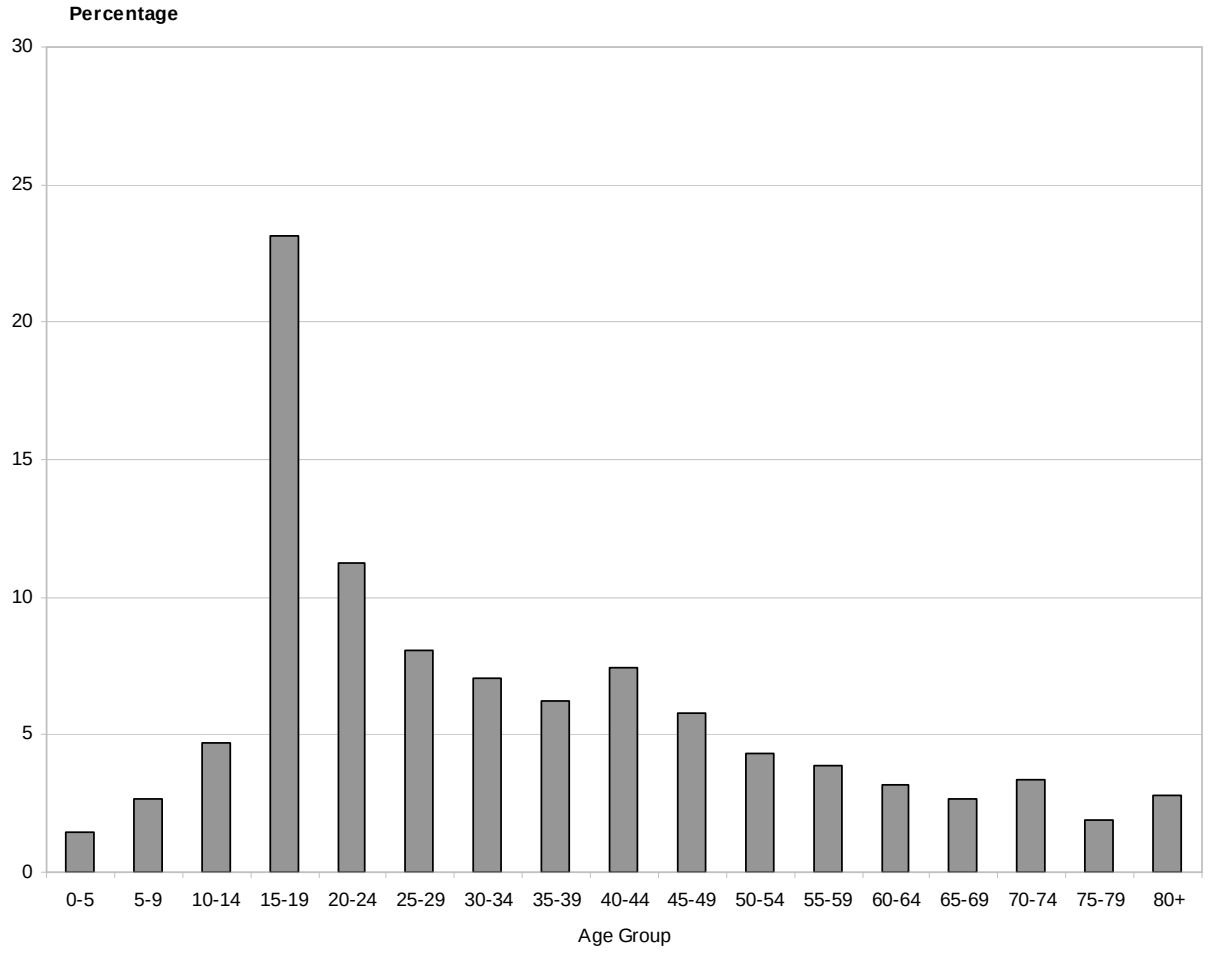
Note: Data in Appendix Table A.89

Excludes casualties where gender information not available

Casualties by age

Twenty-three percent of all road crash casualties in New Plymouth District were 15-19 year olds (Figure 7.2). The two next most common age groups were 20-24 year olds and 25-29 year olds. Altogether, 42 percent of all road crash casualties were between 15 and 29 years of age.

Figure 7.2: Age of road crash casualties (percentages), New Plymouth District, 2001-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix Table A.90

Excludes casualties where age information not available

Casualties by ethnicity

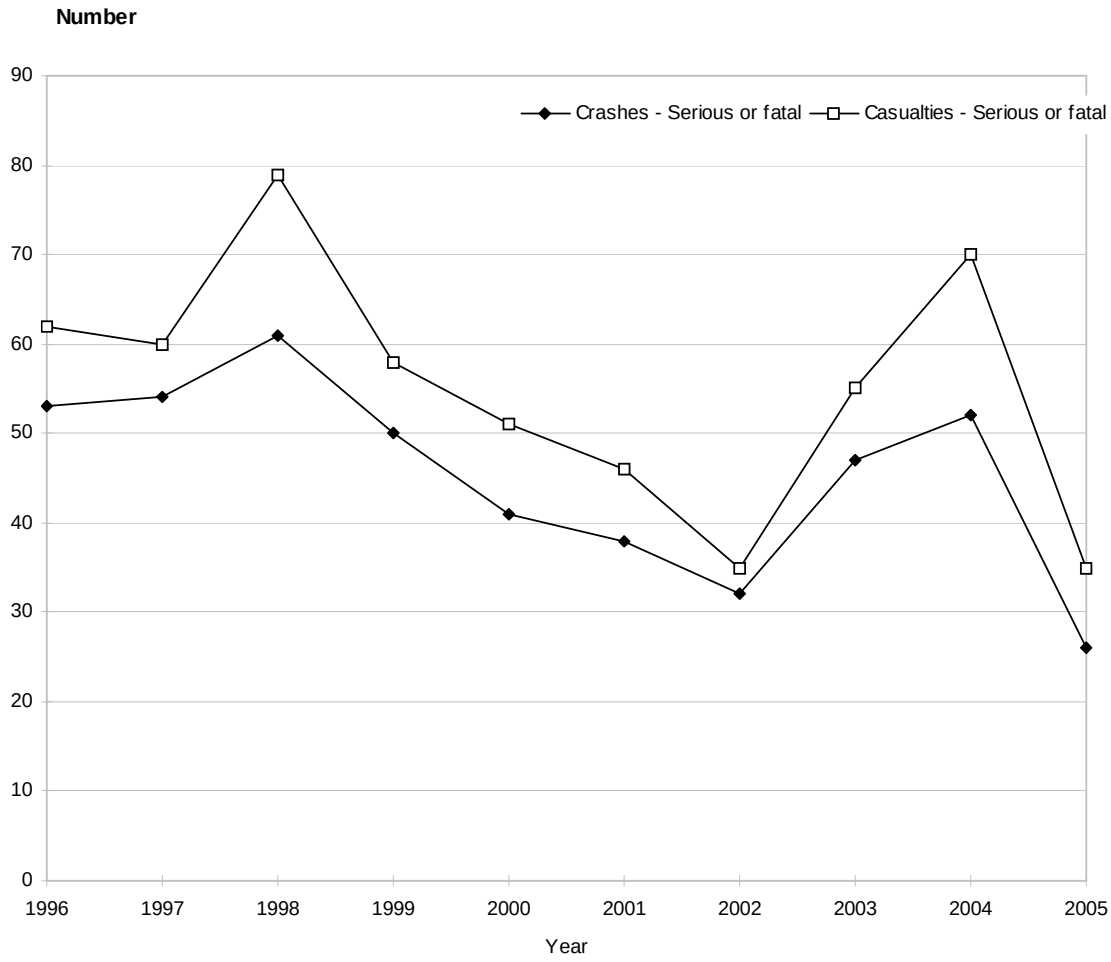
In 2005, European people comprised 78 percent of the drivers who were road crash casualties in New Plymouth District. Nineteen percent were Mäori and 1 percent were Pacific people. No Asian driver casualties were recorded.

Trends in serious and fatal traffic crashes

Looking at all serious and fatal crashes combined, annually over the ten-year period 1996-2005 the highest number of serious and fatal injury crashes was recorded in 1998 (Figure 7.3). From 1999 through to 2002 the total moved progressively downwards, before spiking markedly up in 2003 and 2004. However, in 2005 the total fell to 26, the lowest recorded in the 10-year period.

Altogether in 2001-2005 a total of 195 fatal or serious crashes were reported, compared to 259 in 1996-2000.

Figure 7.3: Number of serious or fatal road traffic crashes and casualties, New Plymouth District, 1996-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix Table A.86

Figures show totals for all fatal and serious injuries combined. Crash severity rated according to the most severely injured casualty in a crash

'Fatal' = injuries resulting in death within 30 days of crash

'Serious' = injuries requiring medical treatment or hospital admission, including fractures, head injuries, internal injuries, crushing, severe lacerations etc

Crashes and casualties on urban and rural roads

In New Plymouth District, most injury traffic crashes occur on urban roads. However, traffic crashes on rural roads are more likely to be serious or fatal. This partly relates to the generally higher speeds on rural roads compared to urban streets. Altogether, 18 of the 25 fatal traffic crashes recorded in 2001-2005 (72 percent) occurred on rural roads (Table 7.2).

Similarly, a higher proportion of rural traffic casualties are killed or seriously injured (28 percent) compared to urban traffic casualties (13 percent).

Table 7.2 Number and percentage of fatal, serious and minor injury crashes in New Plymouth District for urban and rural roads during five-year period 2001-2005

	URBAN		RURAL		TOTAL	
Injury severity	**Number**	**%**	**Number**	**%**	**Number**	**%**
CRASHES						
Fatal	5	1	18	5	23	2
Serious	81	14	91	24	172	18
Minor	476	85	267	71	743	79
Total	**562**	**100**	**376**	**100**	**938**	**100**
CASUALTIES						
Fatal	5	1	22	4	27	2
Serious	87	12	127	21	214	16
Minor	634	87	468	76	1102	82
Total	**726**	**100**	**617**	**100**	**1343**	**100**

Source: Data supplied by Land Transport New Zealand

Note: Injury severity recorded for the most severely injured casualty in the crash
'Fatal' = injuries resulting in death within 30 days of crash
'Serious' = injuries requiring medical treatment or hospital admission, including fractures, head injuries, internal injuries, crushing, severe lacerations etc
'Minor' = injuries requiring first aid or causing discomfort including sprains, bruises etc
'Urban' = road with speed limit of less than 80km/h
'Rural' = road with speed limit of 80km/h or more

Comparison with Group C average and New Zealand

In Land Transport New Zealand's analysis of crash statistics, the New Plymouth District is classified as a 'Group C' area. This means it is one of 9 New Zealand areas classified as 'Large Provincial Towns and Hinterland (Population 35,000 - 75,000 and 20 - 50 percent of rural crashes)'. The other 8 areas are: Gisborne, Hastings, Kapiti Coast, Porirua, Rotorua, Timaru, Upper Hutt, Wanganui, and Whangarei.

Comparing New Plymouth District crash data with the average for Group C areas indicates the extent to which the New Plymouth District figures are higher or lower than might be expected for its particular type of road conditions.

The results show that New Plymouth District recorded a higher proportion of minor crashes and a lower proportion of serious and fatal crashes than the Group C average in 2001-2005 (Table 7.3). Similarly, New Plymouth District recorded a higher proportion of minor casualties in its total casualty count.

Table 7.3: Percentage of fatal, serious and minor crashes in New Plymouth District, compared to Group C average, 2001-2005

	% New Plymouth District	% All Group C areas
CRASHES		
Fatal	3	4
Serious	18	21
Minor	79	75
Total injury crashes	**100**	**100**
CASUALTIES		
Fatal	2	3
Serious	16	19
Minor	82	78
Total casualties	**100**	**100**

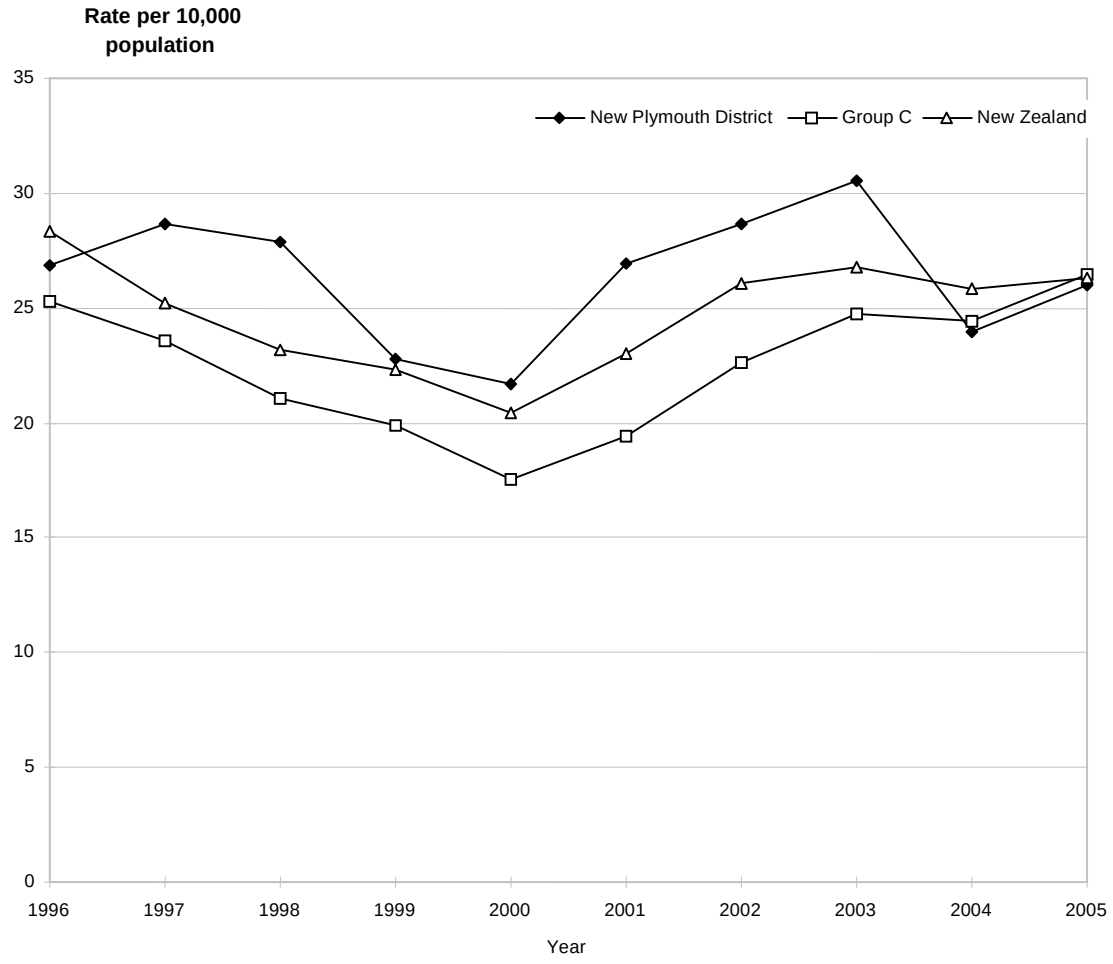
Source: Data supplied by Land Transport New Zealand

Note: Crash severity rated according to the most severely injured casualty in a crash

Another way to compare New Plymouth District with other parts of New Zealand is by using injury traffic crash rates, i.e. the annual number of injury traffic crashes (minor plus serious plus fatal) per 10,000 population. Figure 7.4 shows the rates for New Plymouth District, for Group C areas and for New Zealand as a whole for the years 1996-2005.

This indicates that in 2004 and 2005 New Plymouth District injury crash rates were similar to other Group C areas. In 2004 they were below the New Zealand average. In all years before 2004 the District's crash rates were higher than both the Group C and New Zealand averages.

Figure 7.4: Annual rates of injury road traffic crashes per 10,000 population, New Plymouth District, Group C areas and New Zealand, 1996-2005



Source: Data supplied by Land Transport New Zealand

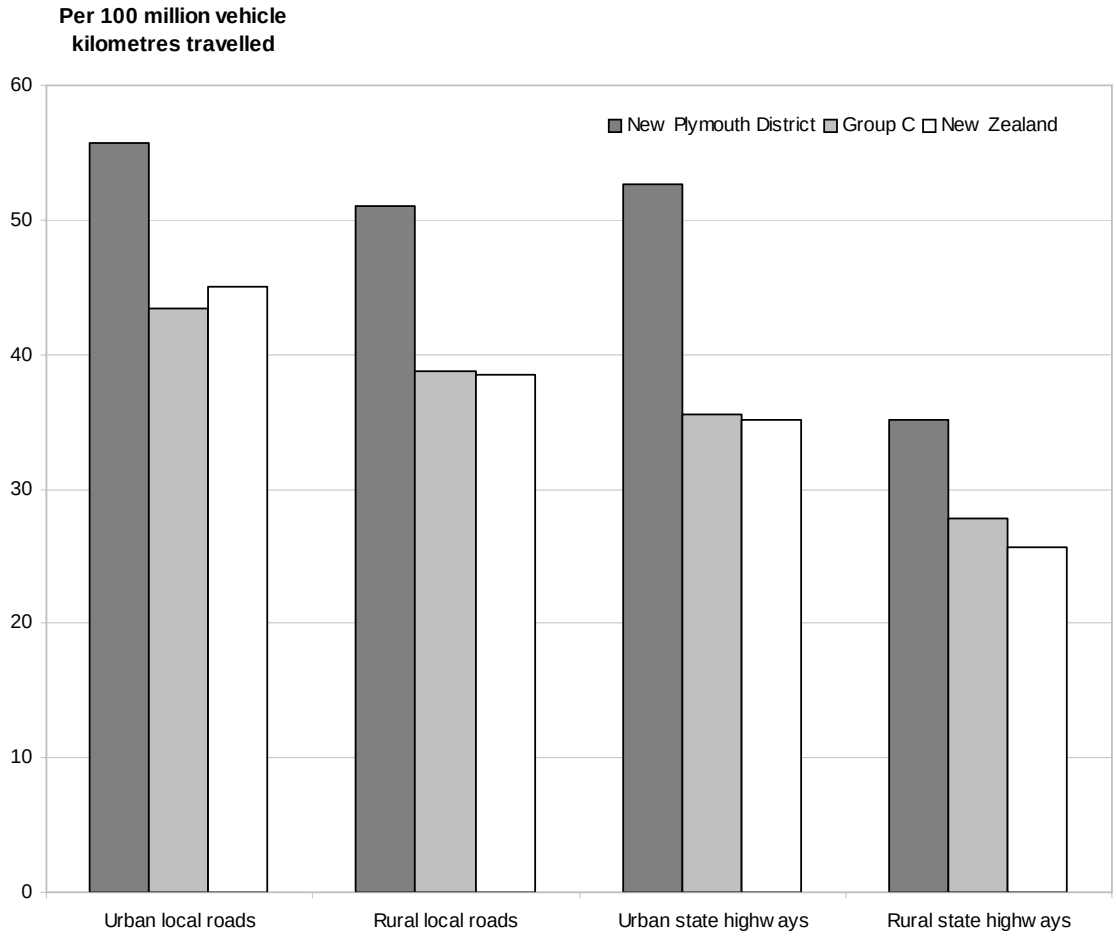
Note: Data in Appendix Table A.87

Figure shows annual rates for all minor, fatal and serious injury combined

Further analysis by Land Transport New Zealand indicates that for the period 2001-2005 the number of road traffic casualties per 100 million vehicle kilometres travelled was higher in New Plymouth District than in Group C areas as a whole and New Zealand. This was the case for all four types of road; urban local roads, rural local roads, urban state highways and rural state highways.

In New Plymouth the highest casualty rates per 100 million vehicle kilometres travelled were on urban local roads and urban state highways. The lowest rate was on rural state highways.

Figure 7.5: Road crash casualty rates per 100 million vehicle kilometres by road type, New Plymouth District, Group C areas and New Zealand, 2001-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix Table A.88

Figure shows rates for all minor, fatal and serious injury combined

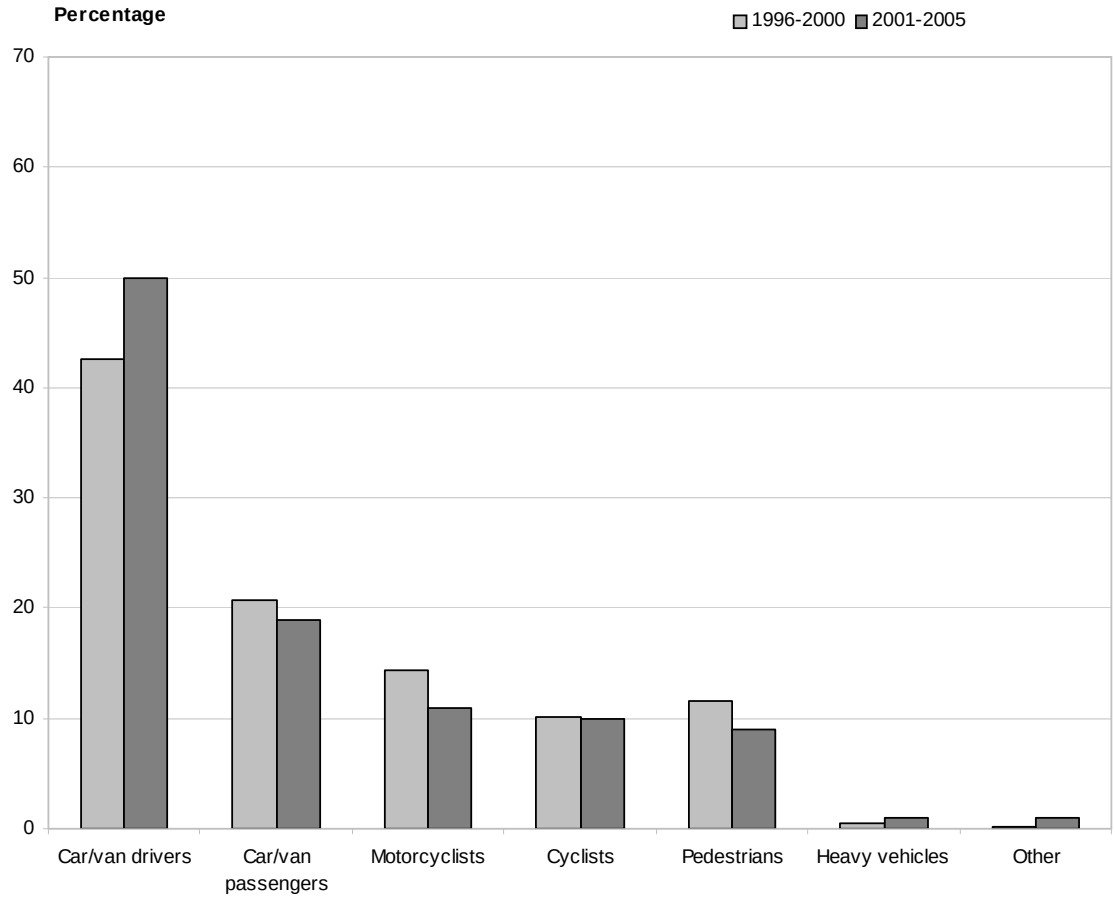
Lengths of the four different types of road vary between geographic areas, thus affecting crash and casualty rates

Types of road users involved in injury crashes

Of the 2622 traffic casualties in New Plymouth District between 1996 and 2005, just over half (51 percent) were drivers of cars or vans. A further 24 percent were passengers in cars or vans.

Looking just at urban roads in New Plymouth District (Figure 7.6), in the five years 2001-2005 the proportion of casualties who were drivers of cars or vans increased compared to the previous 1996-2000 period. The proportion of urban road casualties who were passengers in cars or vans decreased, as did the proportion who were motorcyclists or pedestrians. The proportion of casualties who were cyclists changed very little.

Figure 7.6: Types of road user casualties involved in injury crashes on urban roads, New Plymouth District, averages for 1996-2000 and 2001-2005



Source: Data supplied by Land Transport New Zealand

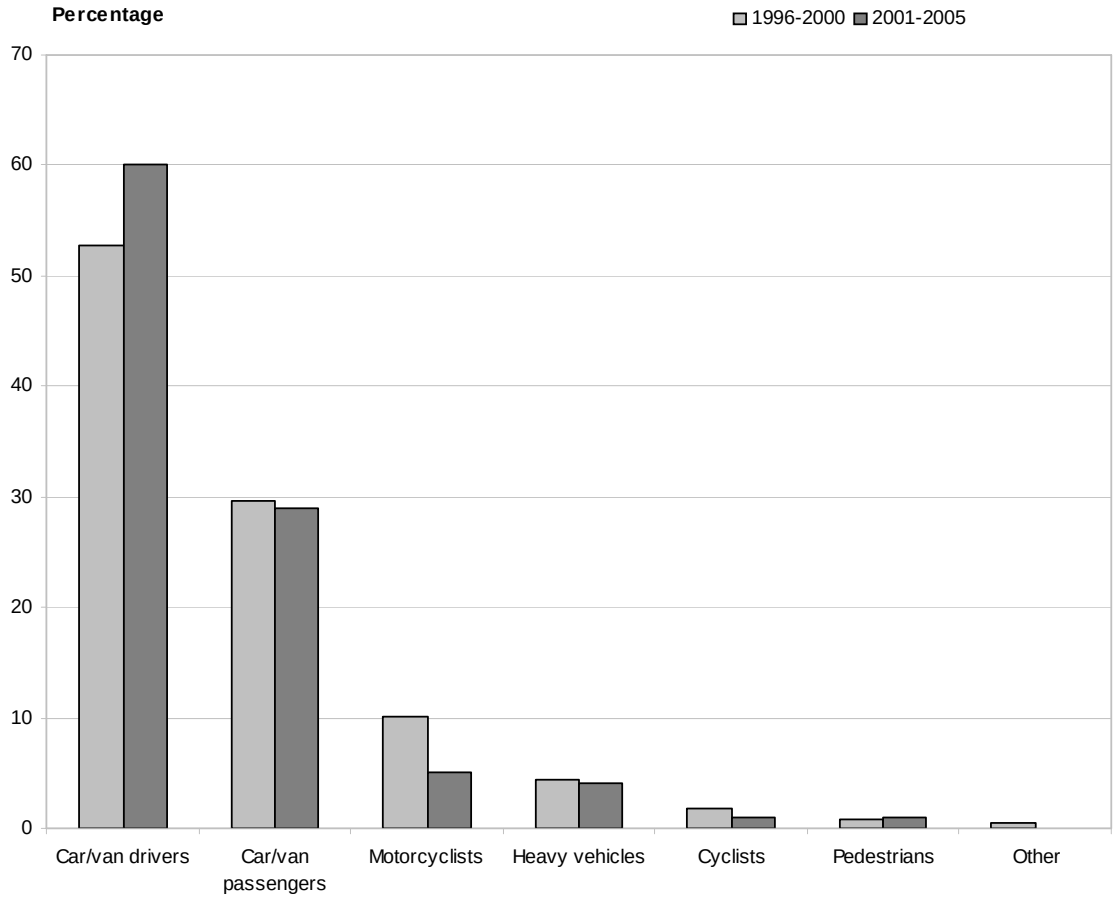
Note: Data in Appendix Table A.91

Figure shows percentages for all minor, fatal and serious casualties combined

Looking at rural roads, an even higher proportion of the casualties on these roads are car or van drivers and their passengers (Figure 7.7). In part this is simply because other kinds of road users, such as pedal cyclists, are less likely to travel on rural roads.

In 2001-2005 compared with 1996-2000, the proportion of rural road casualties who were car or van drivers increased, but the proportion who were car or van passengers dropped slightly. The proportion who were motorcyclists decreased from 10 percent in 1996-2000 to 5 percent in 2001-2005.

Figure 7.7: Types of road user casualties involved in injury crashes on rural roads, New Plymouth District, averages for 1996-2000 and 2001-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix table A.92

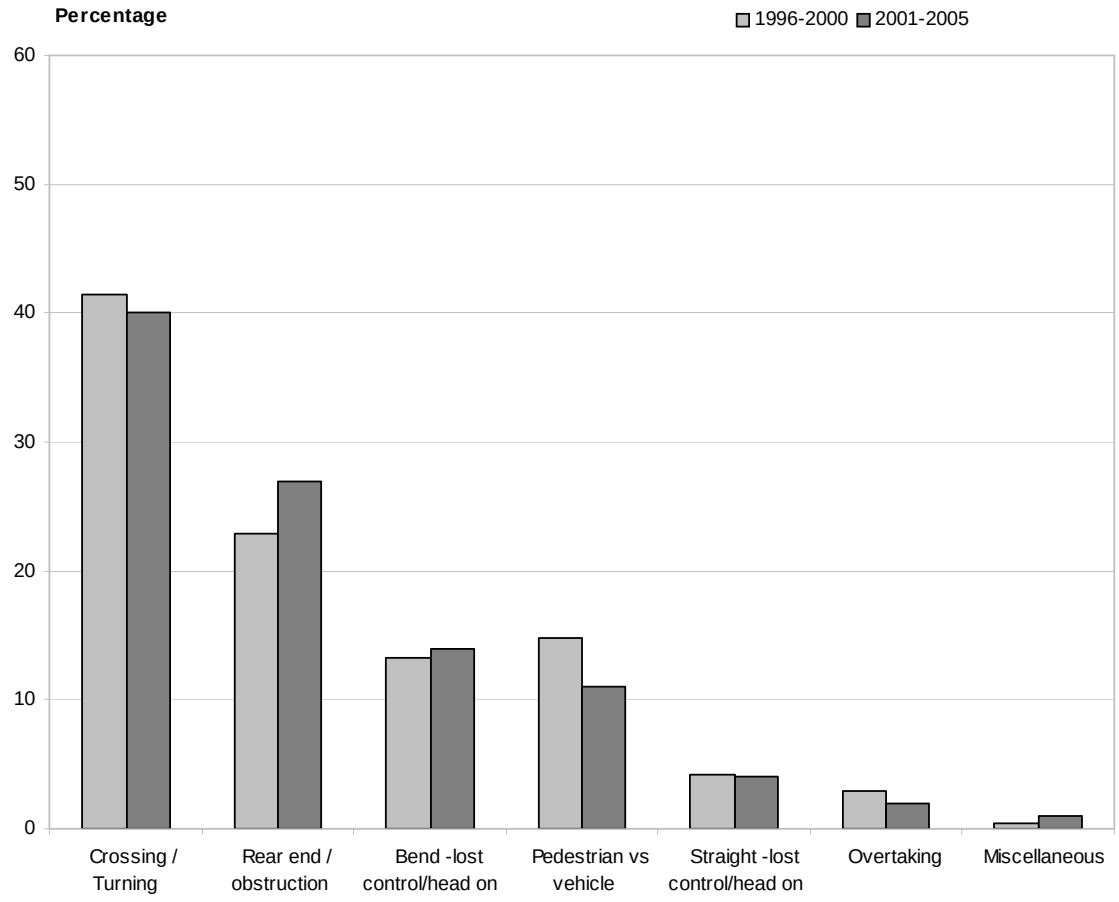
Figure shows percentages for all minor, fatal and serious casualties combined

Crash movement types

Statistics on the types of vehicle movements that precede a crash can be useful for considering possible strategies for preventing traffic injuries.

Figure 7.8 shows the most common vehicle movements that preceded injury crashes on urban roads in New Plymouth District. In both the 1996-2000 and 2001-2005 periods the most common movement preceding crashes was crossing or turning.

Figure 7.8: Movement type involved in injury crashes on urban roads, New Plymouth District, averages for 1996-2000 and 2001-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix table A.93

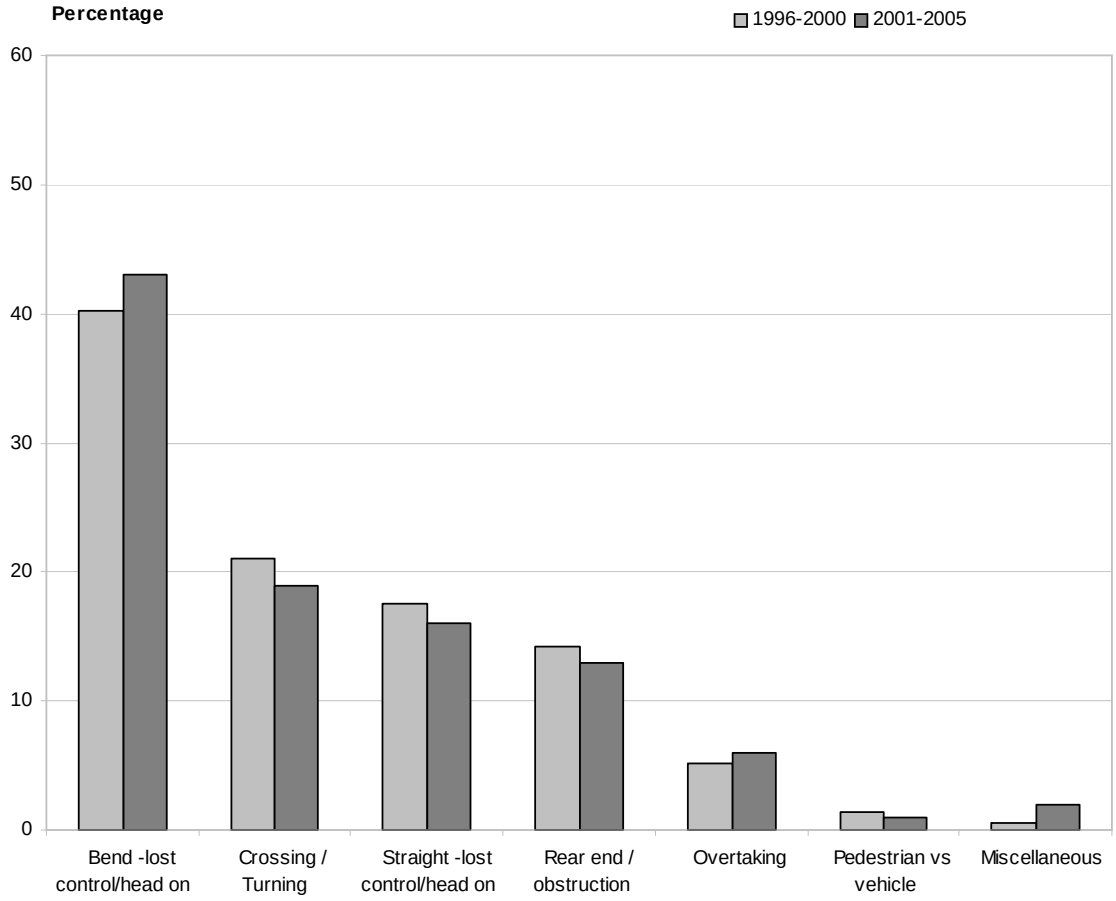
Figure shows percentages for all minor, fatal and serious crashes combined

The second most common movement was rear end or obstruction situations, such as crashing into the back of a stationary or slow moving vehicle. These kinds of movements contributed to a greater proportion of injury crashes in 2001-2005 than in 1996-2000.

The proportion of crashes on urban roads that involved contact between pedestrians and vehicles decreased in 2001-2005 compared to 1996-2000.

On rural roads, the most common vehicle movement contributing to injury crashes was losing control or meeting another vehicle head-on on road bends. A larger proportion of rural road crashes in New Plymouth was for this reason in 2001-2005 compared to 1996-2000. A slightly higher proportion of crashes was also linked to overtaking.

Figure 7.9: Movement type involved in injury crashes on rural roads, New Plymouth District, averages for 1996-2000 and 2001-2005



Source: Data supplied by Land Transport New Zealand

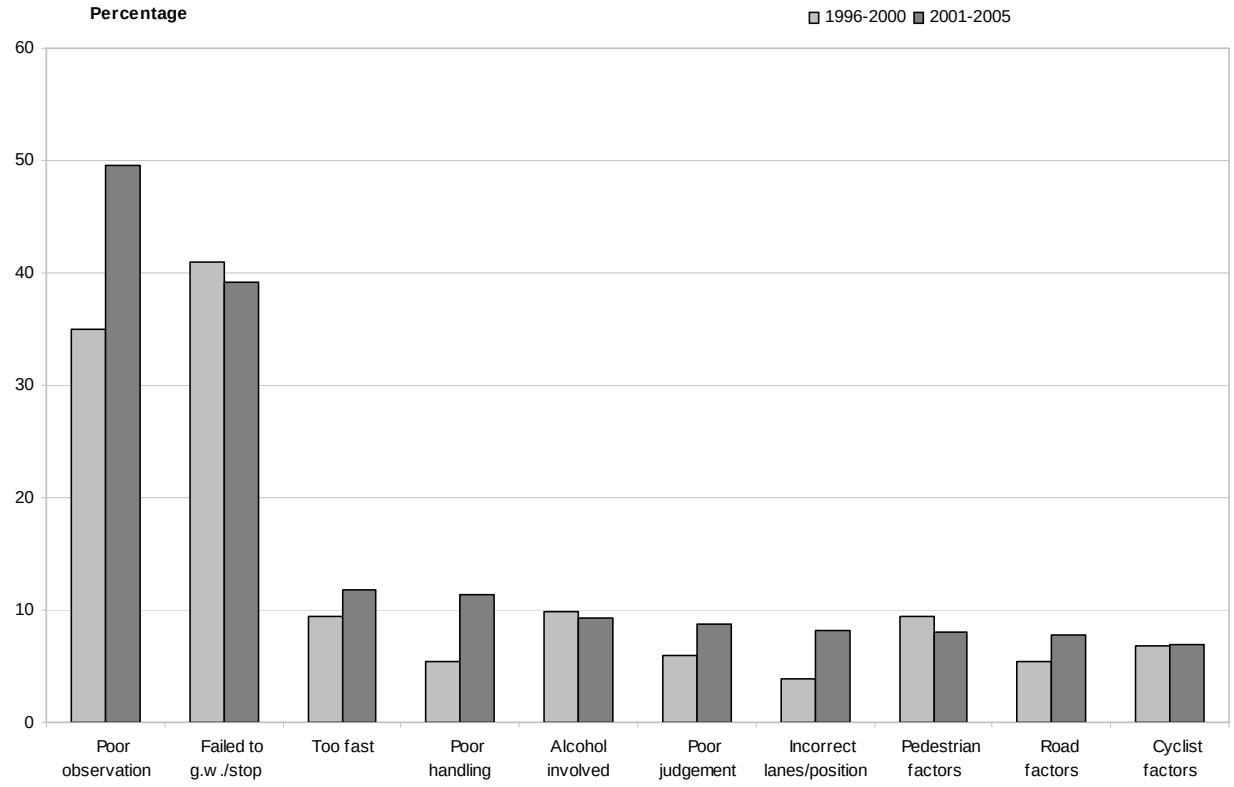
Note: Data in Appendix Table A.94

Figure shows percentages for all minor, fatal and serious crashes combined

Contributing factors to crashes

Poor observation and failing to give way or stop were the two most common contributing factors to injury crashes on urban roads in the New Plymouth District. The proportion of crashes attributed wholly or partly to poor observation increased in 2001-2005 compared to 1996-2000 (Figure 7.10). Increases were also evident in the proportion of urban crashes resulting from going too fast, poor vehicle handling, poor judgement, being in the incorrect lane or position, and road factors.

Figure 7.10: Top ten contributing factors to injury crashes on urban roads, New Plymouth District, averages for 1996-2000 and 2001-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix Table A.95

Figure shows percentages for all minor, fatal and serious crashes combined

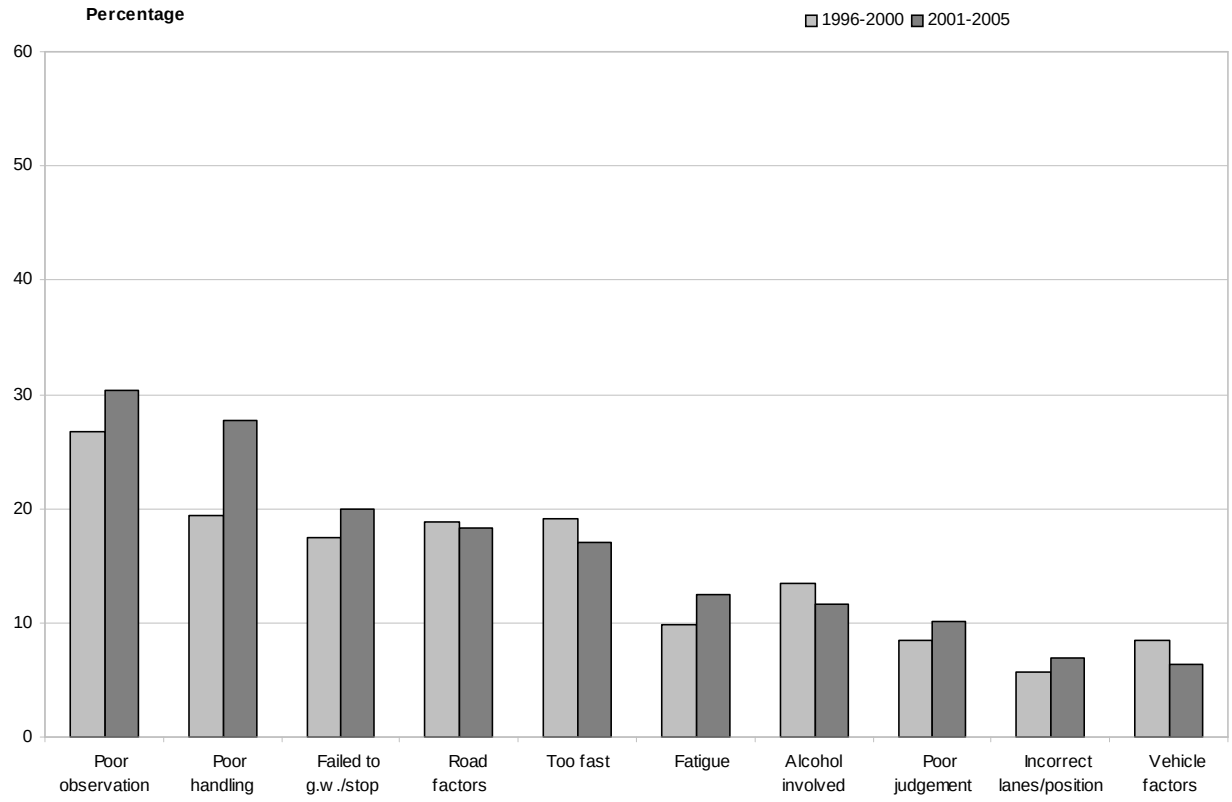
Ranking based on data for 2001-2005

Percentages add to more than 100 as several factors can be relevant in a crash

On rural roads, poor observation was again the most common factor contributing to injury crashes. However, poor vehicle handling was a much more significant contributing factor to crashes on rural roads than on urban roads.

The five year period 2001-2005 saw increases in the proportion of rural road crashes attributed to poor observation, poor handling, failure to give way or stop, fatigue, poor judgement and being in the incorrect lane or position.

Figure 7.11: Top ten contributing factors to injury crashes on rural roads, New Plymouth District, averages for 1996-2000 and 2001-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix Table A.96

Figure shows percentages for all minor, fatal and serious crashes combined

Ranking based on data for 2001-2005

Percentages add to more than 100 as several factors can be relevant in a crash

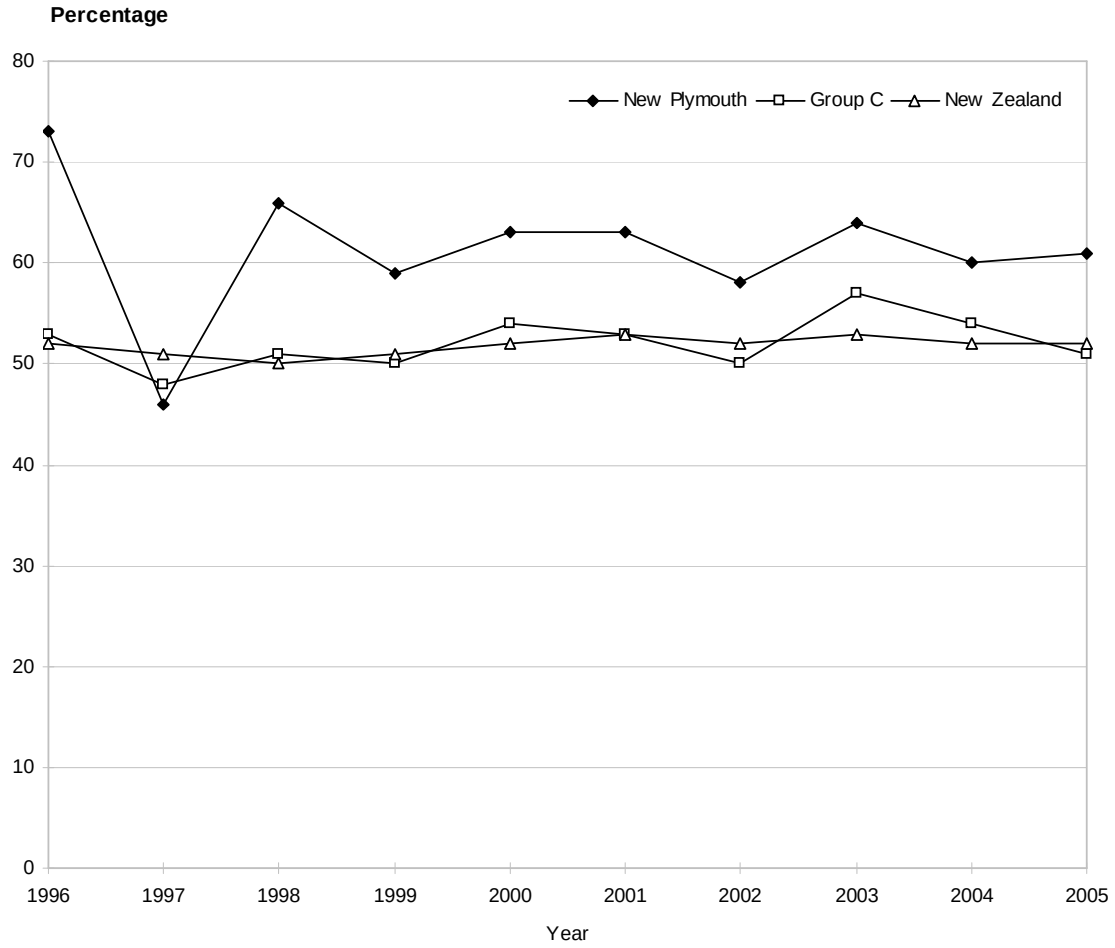
Crashes at intersections

Intersections are a common site for injury crashes in the New Plymouth District, more so than the rest of New Zealand.

Urban intersections

In all but one of the 10 years from 1996 to 2005, the proportion of urban injury crashes occurring at intersections was higher in New Plymouth District than in Group C areas and New Zealand as a whole.

Figure 7.12: Percentage of urban injury road crashes occurring at intersections, New Plymouth District, Group C areas and New Zealand, 1996-2005



Source: Data supplied by Land Transport New Zealand

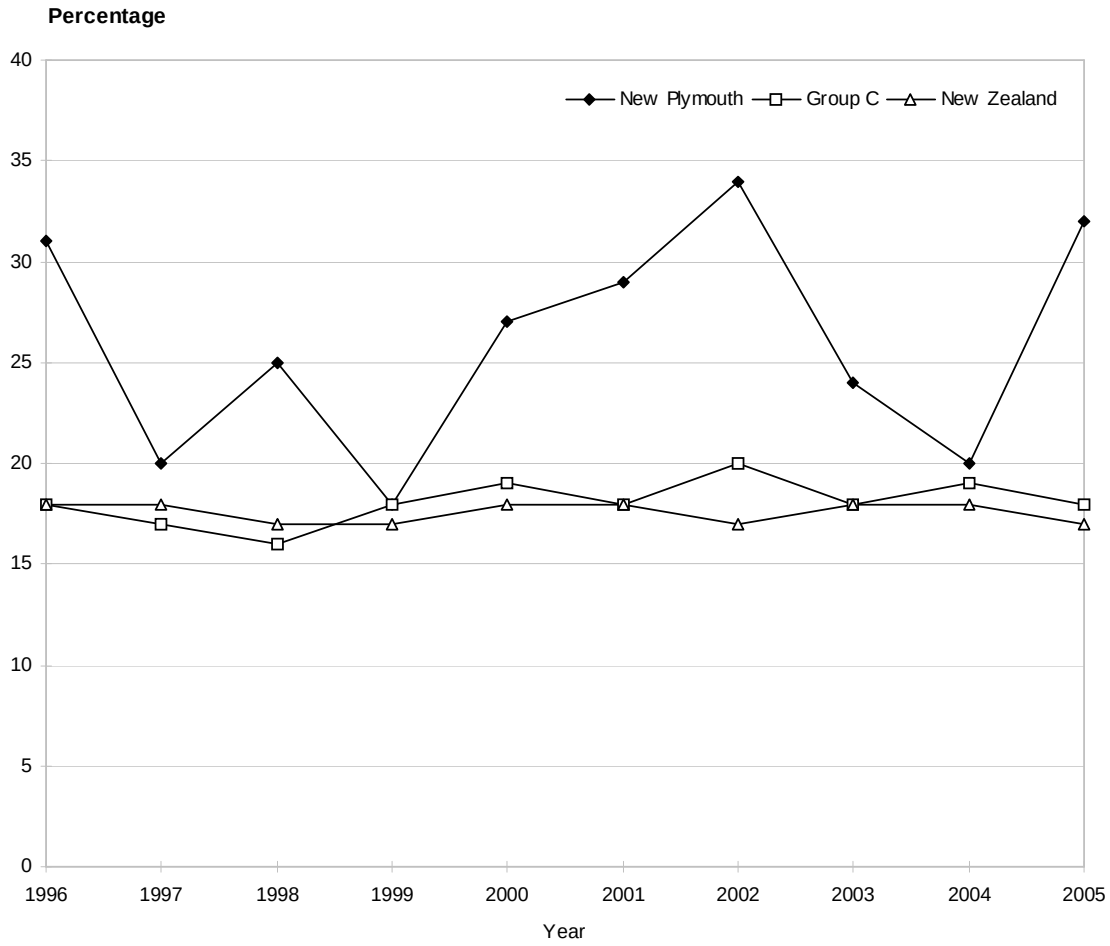
Note: Data in Appendix Table A.97

Figure shows annual percentages for all minor, fatal and serious crashes combined

Rural intersections

Similarly, the proportion of rural injury crashes occurring at intersections was generally higher in New Plymouth District than in Group C areas and New Zealand for most of the period from 1996-2005.

Figure 7.13: Percentage of rural injury road crashes occurring at intersections, New Plymouth District, Group C areas and New Zealand, 1996-2005



Source: Data supplied by Land Transport New Zealand

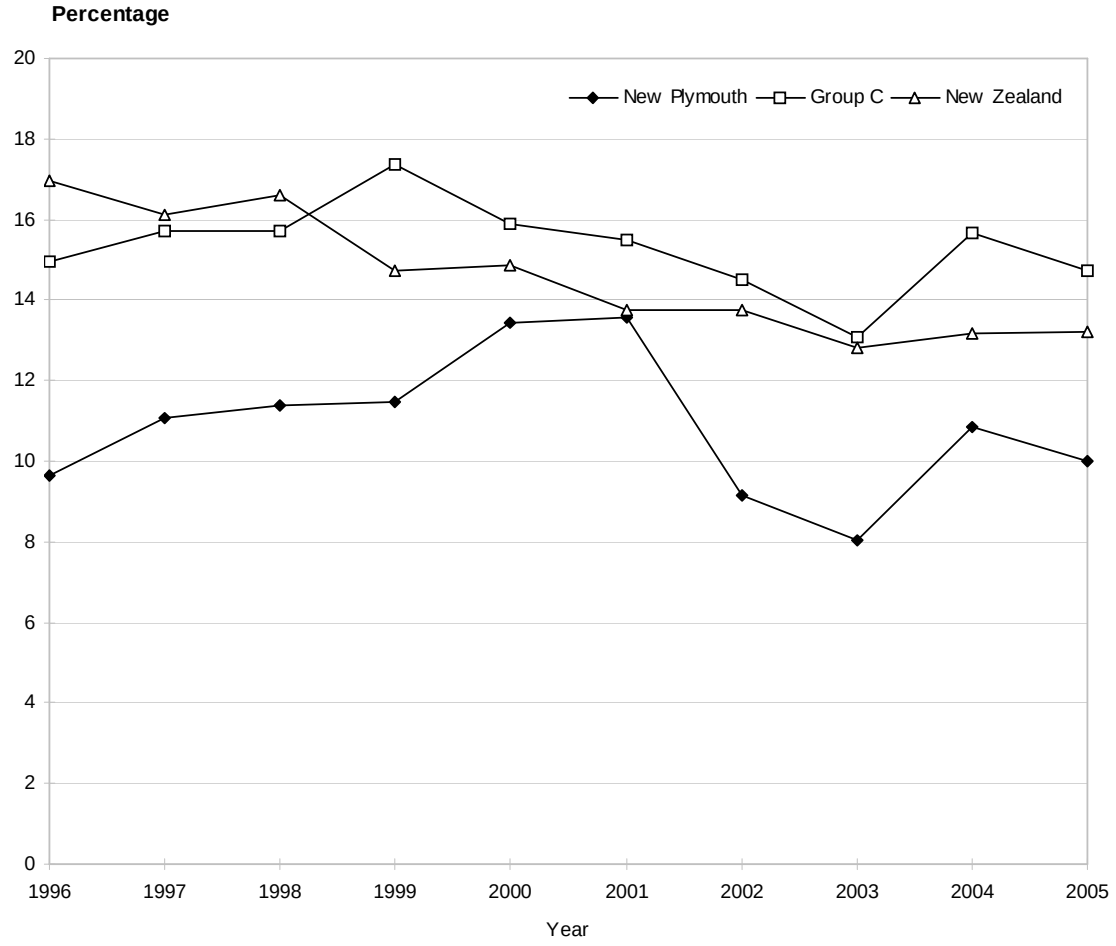
Note: Data in Appendix Table A.98

Figure shows annual percentages for all minor, fatal and serious crashes combined

Contribution of alcohol to crashes

Figure 7.14 shows the percentage of injury crashes reported as being alcohol-involved. This indicates that alcohol was a factor in a lower proportion of New Plymouth District injury crashes compared to Group C areas and New Zealand as a whole, especially in 1996 to 1999 and the four years from 2002 to 2005.

Figure 7.14: Percentage of injury road traffic crashes involving alcohol, New Plymouth District, Group C areas and New Zealand, 1996-2005



Source: Data supplied by Land Transport New Zealand

Note: Data in Appendix Table A.99

Figure shows annual percentages for all minor, fatal and serious injury combined

Seatbelt, child restraint and cycle helmet use

Annual national surveys of seat belt, child restraint and cycle helmet use have been conducted in New Zealand since the mid-1990s.

Front seatbelt use

The latest available survey of front seatbelt use was undertaken in March-April 2005 during normal working weekdays in the school term (Research and Statistics, Ministry of Transport 2006).

In New Plymouth District, the survey found 97 percent of adults travelling in the front seats of vehicles were wearing seat belts. This was one of the highest rates of front seat belt use in the country. The rate in Stratford District was 98 percent and in South Taranaki District it was 94 percent. The rate for New Zealand as a whole was 95 percent.

Rear seatbelt use

The latest national survey of rear seatbelt use was undertaken in November-December 2005 on Sunday afternoons between 2pm and 4pm during the school term (Research and Statistics, Ministry of Transport 2006a).

In New Plymouth District, 93 percent of adult rear seat passengers wore seatbelts. The national average was 86 percent. In Stratford District the rate was 88 percent and in South Taranaki District it was 92 percent.

Child restraint use

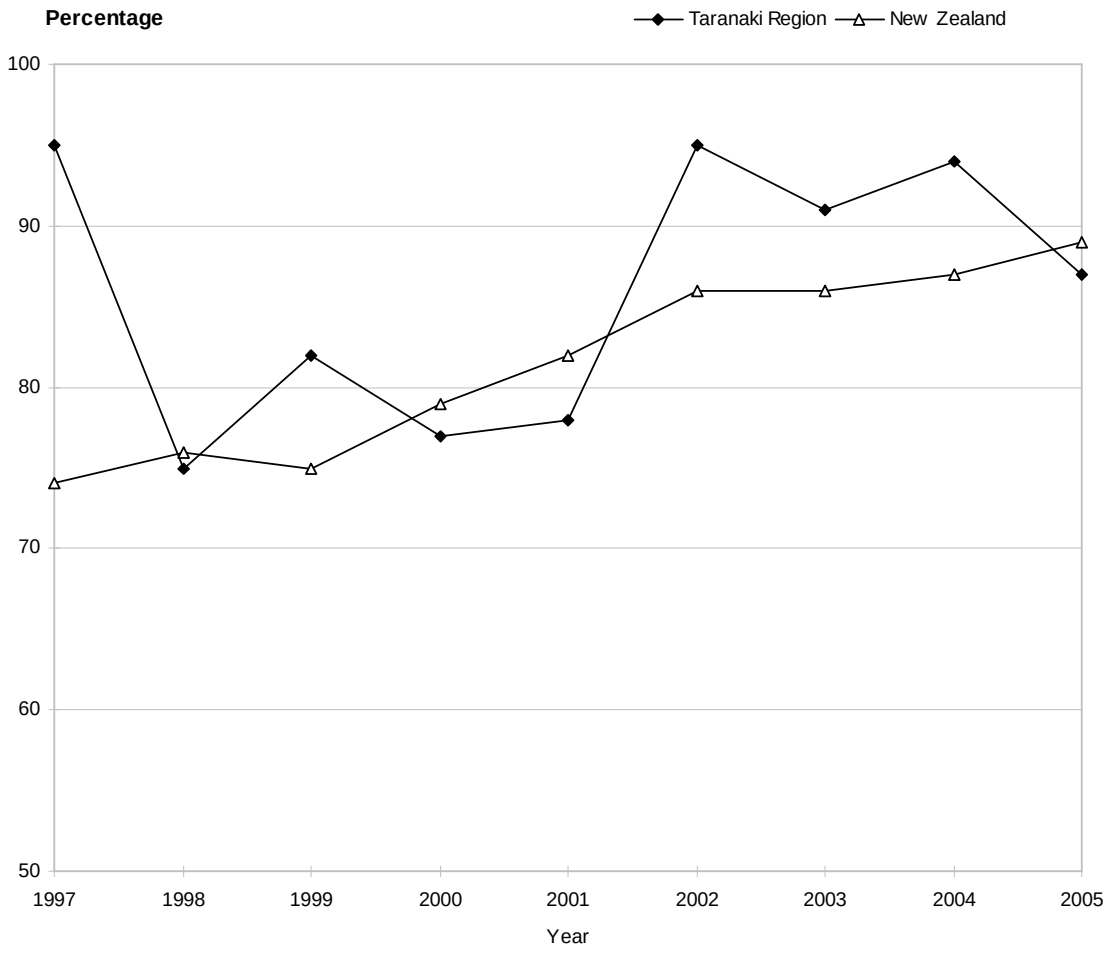
The latest available national survey of child restraint use in children under 5 years was conducted in September 2005 (Research and Statistics, Ministry of Transport 2006b). Vehicles were observed during school hours in the school term.

In 2005 in New Plymouth District, 92 percent of children under the age of 5 years were either in an infant seat, child seat, booster seat, or restrained by a child harness. This compares to a rate of 89 percent for New Zealand as a whole.

Figure 7.15 shows the annual rate of child restraint use in the *whole* Taranaki Region (which includes New Plymouth District) for 1997-2005. The Taranaki rates generally trend upwards after an initial sharp drop in 1998.[32]

[32] Trend data for New Plymouth District were not available.

Figure 7.15: Annual rates of child restraint use, Taranaki Region and New Zealand, 1997-2005



Source: Research and Statistics, Ministry of Transport (2006b)

Note: Data in Appendix Table A.100

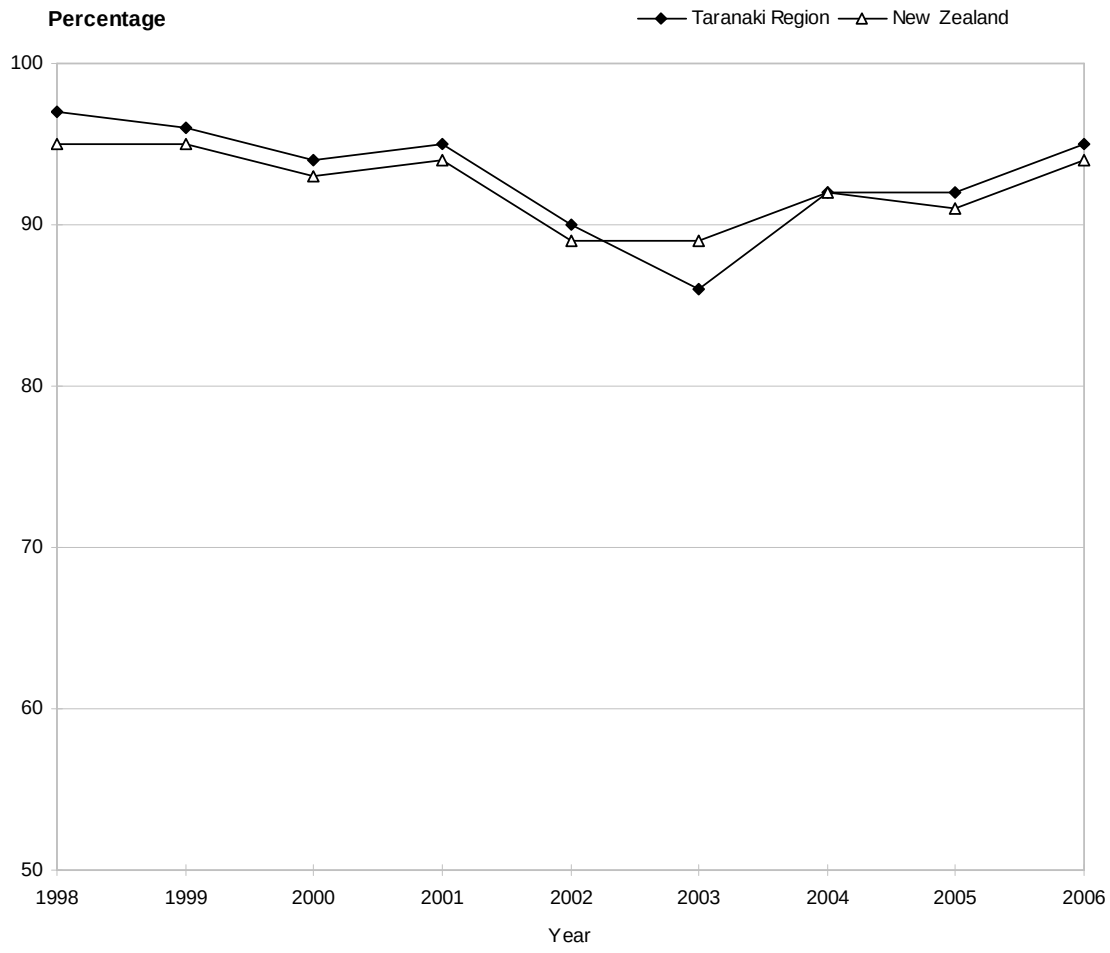
Scale begins at 50 percent.

Cycle helmet use

The latest national survey of cycle helmet use was during March and April 2006 (Research and Statistics, Ministry of Transport 2006c). Cyclists of all ages were observed between 8am and 9am and 3pm and 4pm on normal school weekdays.

Figure 7.16 shows the annual rate of cycle helmet use in the Taranaki Region (which includes New Plymouth District) for 1998-2006. In line with New Zealand as a whole, the Taranaki rates generally trend downwards from 1998 to 2003 then rise again after that.

Figure 7.16: Annual rates of cycle helmet wearing, Taranaki Region and New Zealand, 1998-2006



Source: Research and Statistics, Ministry of Transport (2006c)

Note: Data in Appendix Table A.101

Scale begins at 50 percent.

Social cost of injury crashes

The Ministry of Transport has estimated the social cost of motor vehicle crashes (both reported and unreported) in the Taranaki Region in 2005 (Ministry of Transport 2006). These costs include loss of life or permanent disability, loss of productivity, property damage and medical and legal costs.

Each fatal crash in the Taranaki Region was estimated to cost on average $3,972,000, while each serious crash was estimated to cost on average $607,000. Each minor crash was estimated to cost an average of $86,000 (Table 7.4).

A fatal crash in a rural area of Taranaki was estimated to cost on average $4,162,000, a little above the average cost of fatal crashes in rural areas of New Zealand as a whole ($3,850,000).

Table 7.4: Estimated average social cost per injury traffic crash, Taranaki Region and New Zealand, 2005

	Taranaki Region	New Zealand
Urban Roads		
Fatal crash	$3,182,000	$3,390,000
Serious crash	$569,000	$600,000
Minor crash	$80,000	$78,000
Rural Roads		
Fatal crash	$4,162,000	$3,850,000
Serious crash	$638,000	$700,000
Minor crash	$92,000	$87,000
All Roads		
Fatal crash	$3,972,000	$3,721,000
Serious crash	$607,000	$649,000
Minor crash	$86,000	$81,000

Source: Ministry of Transport (2006)

Note: Estimates include adjustments for non-reported injury crashes.

Costs expressed in June 1996 prices.

8 Police statistics on assault

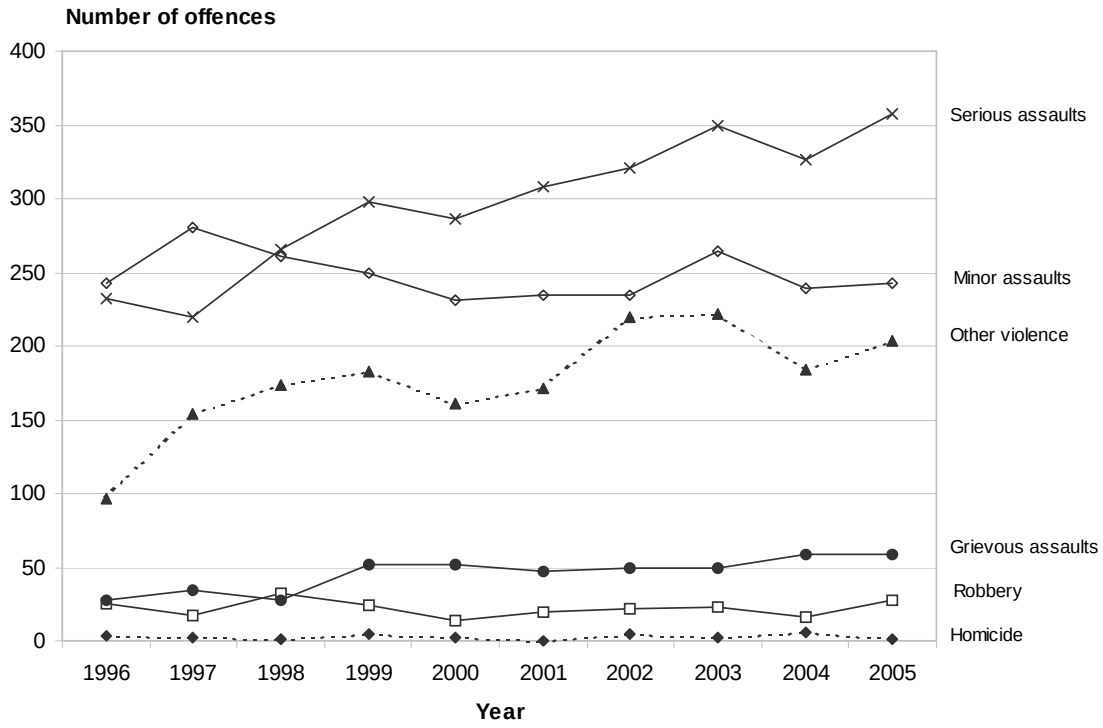
Information on reported assaults in New Plymouth District is available from local Police crime statistics. As discussed earlier in this report, assaults now cause around 4 percent of injury deaths, 2 percent of hospitalisations for intentional injury and 5 percent of Emergency Department attendances in the District.

In 2005, violent and sexual offences together contributed to 20 percent of all recorded offences in New Plymouth Policing Area[33], compared to 13 percent of all recorded offences nationally.

Violent offences

In the New Plymouth Policing Area, the annual numbers of recorded violent offences increased by 42 percent from 1996 to 2005 (from 627 to 890). Between the two five-year periods 1996-2000 and 2001-2005, there was a 17 percent increase. Serious assaults and 'other' violent offences increased the most significantly (Figure 8.1).

Figure 8.1: Number of violent offences recorded in New Plymouth Policing Area 1996-2005, by year and type of offence



Source: Data from Crime Statistics Table Builder, Statistics New Zealand website

Note: Data in Appendix Table A.102

This local increase in the number of recorded violent offences in the New Plymouth Policing Area reflected the national trends in crime statistics for New Zealand. These showed a 13 percent increase in violent offences between the two periods 1996-2000 and 2001-2005.

[33] New Plymouth District TLA plus Mokau.

During the period 2001-2005 the vast majority of recorded violent offences occurred either in dwellings (48 percent) or on public roads, streets or other public places (37 percent). The next most common locations were places licensed for the sale of alcohol (4 percent) and schools or other educational institutions (2 percent).

Far more males than females are apprehended for violent offences in New Plymouth District. In the period 2001-2006, 80 percent of the 3843 people apprehended for violent offences were male.

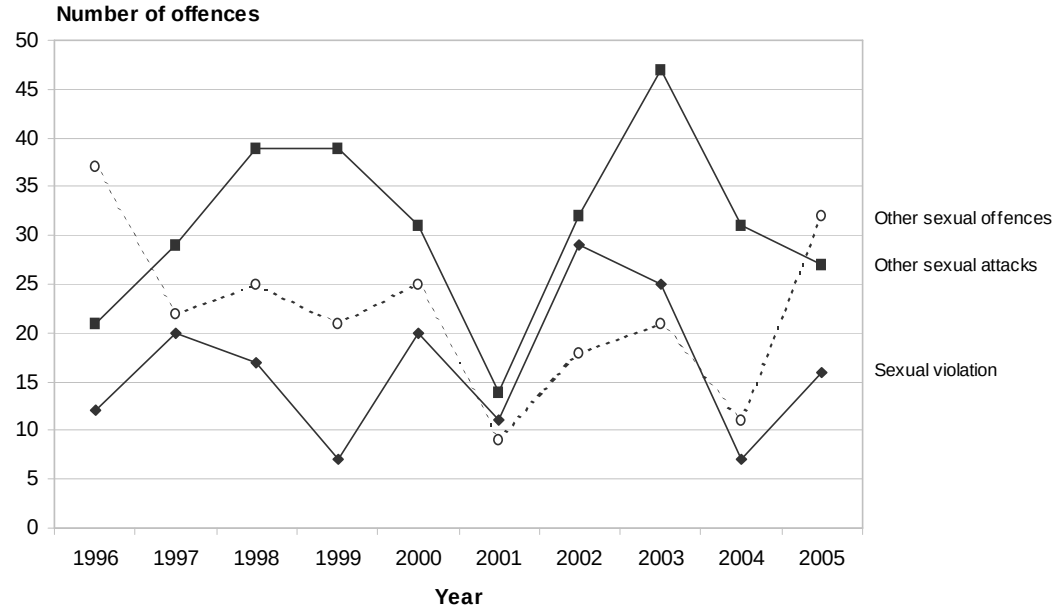
During the same five-year period, 45 percent of people apprehended for violent offences were Mäori. Thirty-four percent of apprehended people were aged 31-50 years, 29 percent were 21-30, 18 percent were 17-20, and 11 percent were 14-16.

Sexual offences

In the New Plymouth Policing Area, the total numbers of recorded sexual offences were similar in 1996 (70) and in 2005 (75). However, the numbers fluctuated over the decade 1996-2005, with a noticeable dip in all kinds of sexual offences in 2001. These fluctuations are likely to be at least partly due to random variation because of relatively small numbers.

Overall, between the two five-year periods 1996-2000 and 2001-2005, the number of sexual offences decreased by nearly 10 percent (from a total of 365 in the period 1996-2000 to 330 in 2001-2005). Nationally, there was a 3 percent decrease in sexual offences over the same two five-year periods.

Figure 8.2: Number of sexual offences recorded in New Plymouth Policing Area 1996-2005, by year and type of offence



Source: Data from Crime Statistics Table Builder, Statistics New Zealand website

Note: Data in Appendix Table A.103

During the period 2001-2005 most recorded sexual offences occurred in dwellings (54 percent) or on public roads, streets or other public places (28 percent). The next most common locations were supermarkets (3 percent), schools or other educational institutions (3 percent) and places licensed for the sale of alcohol (2 percent).

Nearly all people apprehended for sexual offences in New Plymouth District are male. In the period 2001-2006, 98 percent of the 194 people apprehended for sexual offences were male.

During the same five-year period, 23 percent of people apprehended for sexual offences were Mäori. Thirty-two percent of apprehended people were aged 31-50 years, 22 percent were 21-30, 14 percent were 17-20, 12 percent were aged over 50, and 9 percent were 14-16.

Family violence

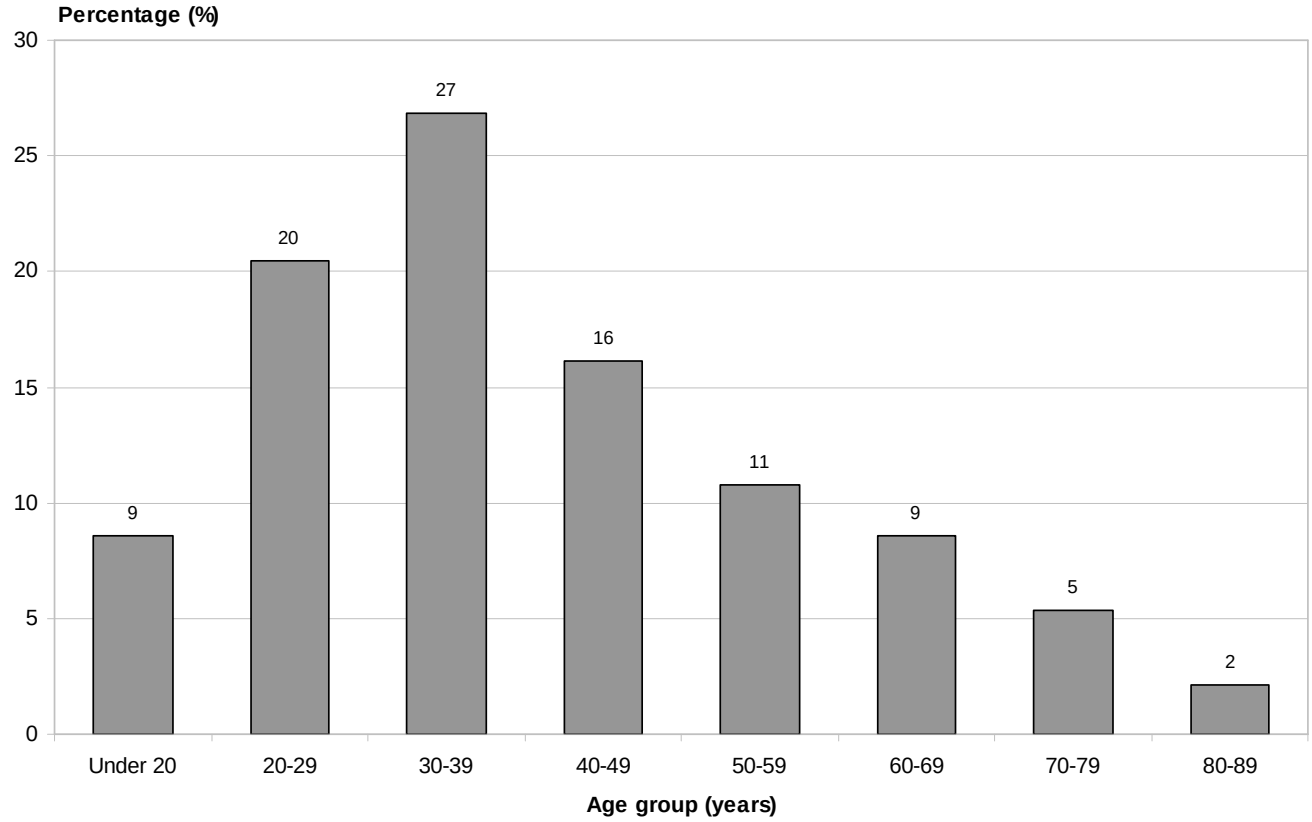
Additional statistics from the Police and other local organisations relating specifically to *family violence* in Taranaki has been examined in a previous report (McClellan et al. 2005). Family violence includes psychological abuse as well as physical and sexual assault.

9 Coroner's suicide data

As already discussed, on average there are 7 suicides among people living in New Plymouth District each year.

Of the 93 suicides investigated by the Northern Taranaki Coroner[34] in the ten-year period 1996-2005, 74 (80 percent) were by males and 19 (20 percent) were by females. The most common age for commiting suicide was 30-39 years, followed by 20-29 years (Figure 9.1).

Figure 9.1: Percentage of suicides recorded by the Northern Taranaki Coroner 1996-2005, by age group (n=92*)



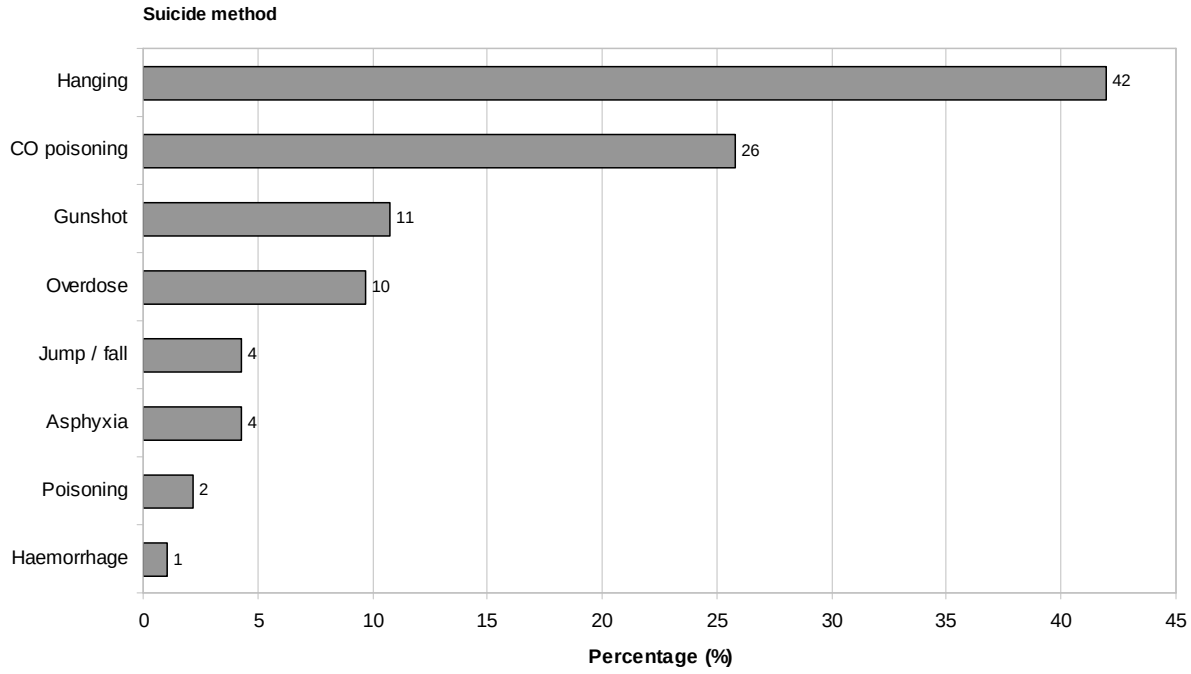
Source: Data supplied by the Northern Taranaki Coroner

Note: *The age of one person who committed suicide is unknown.

[34] Northern Taranaki is similar to the New Plymouth District TLA.

The most common suicide methods were hanging, carbon monoxide poisoning and gunshots (Figure 9.2).

Figure 9.2: Percentage of suicides recorded by the Northern Taranaki Coroner 1996-2005, by suicide method (n=93)



Source: Data supplied by the Northern Taranaki Coroner

10 Community consultation

This chapter presents the findings of the 2006 community injury prevention needs assessment consultation programme. This involved collecting information and comment from a range of agencies based in the New Plymouth District.[35]

Population groups most at risk of injury

The 42 people who participated in the 38 individual consultation interviews[36] identified the following eight population groups as most at risk of injury.[37]

1. People in the workplace – includes farming people (21 people identified this group)
2. Road users (18)
3. Young people – 15 to 24 years (15)
4. Children (12)
5. Mäori (9)
6. Older people (8)
7. People participating in sport or recreational activities (7)
8. People living with mental health conditions (5).

The consultation participants were subsequently asked to identify which of these groups they considered to be the most important or have the highest priority in terms of injury prevention (they could nominate more than one group). Their combined responses are listed below in order of frequency:

1. Road users (14 people identified this group)
2. Older people / kaumätua - mainly falls (11)
3. Intentional injuries - domestic violence, suicide, assaults (8)
4. Young people / rangatahi (7)
5. Children / tamariki – mainly poisonings and falls (7)

6= People in the workplace (6)

6= Mäori (6)

8. People participating in sport or recreational activities (1).

[35] See the Introduction to this report for details on the approach used by the research team to select and interview the consultation participants.

[36] The interviews included two small group interviews and six self-completed questionnaires returned by the New Plymouth Injury Safe (NPiS) group (see methodology section for further detail).

[37] Many participants nominated more than one group in both the 'at risk of injury' and 'high priority' categories.

The next sections summarise the information provided by consultation participants about each of these eight 'most at risk of injury' groups. Topics covered are:

- the common type of injuries and their causes experienced by the particular population group
- key risk factors underlying these injuries
- injury prevention interventions currently (or recently) operating that specifically targeted the group's injuries
- perceived effectiveness of these interventions
- suggested interventions for preventing injuries in this population group.

Road users

Fourteen participants saw the high long-life impact and cost of road injuries at a societal, economic and personal level as the key reason for designating road injuries as high priority for continued, future injury prevention work. Overall 18 people saw road users as most at risk of injury. The general impression gathered from the consultation was that efforts to reduce road crashes 'should stay up there' given that so many road crashes are preventable.

High risk groups, common types of injuries and their causes

More people were seen to survive car crashes these days with the advent of mandatory use of seat belts, air bags in later model cars, increased speed limit enforcement, mandatory child car seat use, advances in emergency responses and the management and treatment of crash-related trauma. However, the injuries sustained by survivors nowadays were seen by three people to be of a more serious nature. In other words, many of today's survivors would not have survived in the past.

Table 10.1: High risk road-user groups and related causes and risk factors

High risk groups	Key causes and risk factors
Children	Car restraints that do not meet standards, car restraint non-compliance, drivers exceeding speed limits around school crossings and around schools generally, ineffective design of road signage where schools located
Young people (15 to 24 years)	Inexperience, inattention, unlicensed driving, unwarranted cars, excessive speed, drug and alcohol use and drink-driving
Older drivers	Underlying medical factors
Taranaki drivers and drivers generally	Drink-driving, failure to drive defensively, driver fatigue
Truck drivers	See people in workplace subsection for detail
Pedestrians	Walking on road at night

ACC data was said to indicate that although road injuries represent just two percent of all ACC compensated injuries, collectively they account for 20 percent of the total ACC injury compensation budget and 'it keeps growing.' Furthermore the data suggest that road crash-related spinal and brain trauma represents a relatively small proportion of all road crash injuries but result in 'high life-time costs.'

Children

Three participants spoke of child car seat non-compliance, or the use of car seats that fail to meet recommended safety standards as a 'continuing problem'. Children from low-income families were perceived to be 'most at risk' of injury as a result of seat belt non-compliance. Three other participants suggested that excessive speed on roads near schools was another potential injury risk area for children. Two of these three participants considered the current design of school-crossing signage to be defective in that the signs are neither big nor bold enough to warn drivers entering these risk areas (see following subsection for further detail about child-specific risk factors).

Young people

Participants identified young people (15 to 24 year-olds) as a group most at risk of road-related injuries. A further three participants considered young Mäori male drivers to be a particularly high risk road user group. Other young driver related risk factors included inexperience, alcohol and drug use and abuse, inattention (e.g. 'texting while driving'), 'boy racing' or 'hooning' (see following section for further information about youth-specific risk factors).

One participant saw drink-driving, particularly among males, as 'a real problem in Taranaki' and one that was not solely confined to young male drivers … 'They [young drivers] are often better than older drivers' when it comes to not drink-driving.

Other general risk factors for road injuries included excessive speed, inattention and carelessness, poor road design, driver fatigue, and failure to drive defensively (mainly not thinking ahead, for instance by thinking 'what could happen here?'). The latter was considered a particular problem at intersections; a frequent crash site according to two participants. One of these participants believed apathy and 'a certain amount of fatalism' underpinned the driving of some New Zealanders, an attitude that held 'when your number's up, it's up.' This type of fatalistic attitude was seen to preclude any notion of defensive driving.

Older drivers

Two participants suggested that underlying medical conditions were a potential risk factor for older drivers, for example poor eyesight, heart conditions and deteriorating cognitive abilities.

Truck drivers

Three participants identified truck drivers as another high road-user risk group (see section on people in the workplace for further information about truck driver-specific risk factors).

Pedestrians

Two participants saw pedestrians, particularly children and older pedestrians, as two groups most vulnerable to vehicle-related injuries. Children were seen as particularly vulnerable to injury and death from vehicles backing out of garages and driveways. The coroner had recently investigated the death of a pedestrian hit by a passing car at night. The danger of walking on the road at night was considered a high injury risk activity.

Existing interventions targeting road users

The most commonly identified existing road-user initiatives that were known to be designed either directly or indirectly to prevent road-related injuries included:

- Kidsafe and New Plymouth Police car restraint surveillance programme and the *Safe to Go* car seat training programme (mentioned by four participants)
- Land Transport New Zealand and the New Zealand Police national road safety public awareness campaigns (mentioned by four participants)
- ACC's ThinkSafe injury prevention national campaign (mentioned by three participants)
- NZ Police's core business speed enforcement surveillance (identified by three participants)

- The Taranaki region's intersectoral *THINK*smart sports codes accreditation initiative[38] (mentioned by two participants)
- The Mokau 'Driver Reviver' initiative (identified by two participants)[39]
- ACC's mobile speed trailer[40] (identified by two participants)
- The intersectoral *Drink Safe 4 Youth* initiative (identified by two participants) – (see following discussion for further information about this initiative
- The New Zealand-wide Students Against Drunk Driving programme (identified by one participant)
- The Alco-Link Project[41] (mentioned by one participant)
- Land Transport New Zealand's core business activities that include working with those transport companies whose trucks fail safety compliance tests to bring them up to recommended standards.

Perceived effectiveness of existing initiatives

The *national road safety campaign*, particularly the drink-driving and seat belt aspects of the campaign, was one initiative where participants said there was 'hard evidence' available indicating its effectiveness in reducing the road toll (mentioned by six participants). However, one of these same participants suggested that the lowered road toll was more likely an outcome of a broad spectrum of collective efforts of a range of government and non-government agencies.

Other identified indicators suggesting effectiveness in reducing harm and actual injuries included:

'Mean speeds' were reported by two participants as having 'come down in the Central region'. This trend was attributed to the increased emphasis by the Police on their speed surveillance work.

One well child care, home visiting service provider said their service had found a high level of parental compliance in the fitting and use of car safety seats that met recommended safety standards.

Three participants commended ACC's *speed trailer* initiative. They felt it served as a useful reminder and a warning to everyone to keep to the designated speed limit.

Two participants considered the 'controversial' Police speed quotas as a very effective way of making people observe the country's speed limits. Both felt the recent public furore regarding speed quotas

[38] *THINK*smart is a sports clubs targeted initiative operating in the Taranaki region. The initiative aims to reduce under-age drinking in sports clubs and encourage responsible management of the sale and consumption of alcohol in the clubs.

[39] The Driver Reviver initiative was funded by ACC in collaboration with local Police and two Mokau cafés. The initiative involved Police stopping drivers at Mokau and handing them driver fatigue information packs (packaged by local mothers from the Tainui Playgroup). The packs included a $3.00 voucher that drivers could choose to spend at one of the two local cafés. The initiative aimed to encourage drivers to take a break from driving. Mokau was chosen because it is located at a strategic point where drivers should be taking a reviver stop.

[40] The speed trailers are available to communities through ACC who was said to have bulk-purchased the trailers a few years back. Local Police take the trailers to selected strategically positioned sites. The trailers serve to remind and warn drivers to keep their speed down. The Police usually maintain an enforcement presence about 2 kilometres down from the trailer site to apprehend those drivers who have failed to heed the warning.

[41] The Alco-Link project is an intelligence gathering initiative principally funded by ACC and led by the New Zealand Police since 2005. Everyone with an offence is asked a set of alcohol-related consumption questions that focus on when and where the offender had their last drink. The intelligence gained is collated and evaluated to identify 'problem' licensed premises for subsequent Police action (Dyson 2005: 25)

should be ignored given that speeding was in fact illegal. Speeding meant placing other peoples' lives at risk as well as your own.

Two participants considered that the sports club-targeted *THINK*smart initiative had shown great promise when it was first introduced into the Taranaki region. In its first year *THINK*smart achieved a 95 percent uptake. Clubs reputedly had shown real interest in the initiative and had made significant improvements in the way they managed the sale and consumption of alcohol on club premises. Both participants expressed disappointment about an apparent fall off of interest in *THINK*smart in the sense that relatively few sports clubs took up the opportunity to enter their clubs in the 2006 *THINK*smart awards. This occurred despite 'substantial financial rewards' being offered to winning entrants. The initiative's developers and promoters were in the process of commissioning a follow-up evaluation in an effort to identify possible reasons for the low level of interest in the *THINK*smart awards. One member of the *THINK*smart development team felt the fall off in interest might be due to the initiative having been supplanted by another similar SPARC promotion. The second participant suggested that the low entry level might be due to the heavy reliance of sports clubs on volunteer input. This same participant suggested that a fulltime coordinator was probably needed to maintain the interest and involvement of sports clubs.

Two participants believed the *Drink Safe 4 Youth* initiative had been very effective in raising awareness among the district's licensed and off-licensed liquor outlets (supermarkets, bottle stores and sports clubs) about the legal consequences of selling alcohol to under-18 year-olds. We were told that local Police have continued to be asked by local licensed and off-licensed liquor outlets to repeat earlier *Drink Safe 4 Youth* workshops. This was seen to be a key success measure in raising community awareness of the under-age drinking / or purchasing issue, thereby indirectly contributing to reducing alcohol-related harm among young people.

Despite the various successes that people identified, three participants recalled several recent 'horrific' road crashes on Taranaki roads which they considered gave 'little room for complacency'. All saw a need to keep finding new ways of getting road safety messages through to the community. On a similar tack, one government official observed that despite all the 'good work done' to promote child car restraint use, recent data he had seen suggested that 'compliance had slipped below what we had been achieving.' Two participants expressed concern about the Kidsafe Trust having lost some of its former road safety focus.

The loss of the former Waitara young people's driver licensing initiative was seen by one participant as having left a major gap in that town. Despite the initiative 'proving 100 percent effective' (apparently all people who completed the weekend driver licensing training courses subsequently obtained their driver's license) Land Transport New Zealand was said to have stopped funding the initiative. When questioned why the funding was withdrawn we were informed that it was due to financial accountability issues. Other similar driver licensing initiatives were said to exist in the New Plymouth District according to Land Transport New Zealand.

Overall the consultation suggested a high level of satisfaction among participants with the multi-agency collaborative approach to reducing road-related injury. Some agencies such as ACC, the Health Promotion Unit and the Police were seen to have made a very effective contribution to some of the more successful local road safety initiatives. However, the lack of leadership and commitment from other road safety partners was considered 'disappointing.' The recent appointment of a road safety engineer at NPDC was seen as a very positive turn of events, suggesting to one NPiS partner that things might take a turn for the better.

Suggested interventions

Various participants suggested a range of interventions to further promote road safety in the district. These included:

- Kidsafe Trust should re-establish its former focus on road safety promotion for children (including promoting car sear compliance) in collaboration with agencies such as the Police, ACC, Land Transport New Zealand and the New Plymouth District Council (NPDC)
- Land Transport New Zealand and ACC should work out ways to reach and educate drivers on how to handle icy and adverse road conditions
- The Police should maintain their current focus on targeting drivers who speed, especially around schools
- Land Transport New Zealand should reinstate the Waitara young drivers' licensing programme
- Promote the use of breathalysers in pubs, clubs and bars
- Freshen up road safety messages and TV advertising.

Older people / kaumätua

Overall, injuries among older people (aged 65 years and over) were the second most frequently nominated of the eight priority groups. The high public health and personal costs resulting from older people's injuries and New Zealand's increasingly ageing population were the main reasons people gave for ranking older people / kaumätua so highly as a priority.

Common types of injuries and their causes

Table 6.1 summarises the key types of injuries impacting on New Plymouth District's older people and the associated causes of these injuries, as identified by the consultation participants. Rehabilitating older people following injury reportedly constitutes the largest proportion of the Taranaki Base Hospital Physiotherapy Department's workload. Older people's injuries were said to range from minor bruising and grazing through to serious fractures, mainly hip fractures. Hip fractures were described as having the potential to produce a range of negative outcomes for older people, mainly reduced mobility and loss of independence, but in the worst cases death as a result of associated complications.

Table 10.2: Older people: Common types of injuries, causes and risk factors

Common types of injuries	Common causes of injuries
Fractures - particularly hip fractures	Slips, trips and falls
Bruises and grazes	Knocks and bumps against home fittings and furnishings
Sprains and strains	Continued participation in veteran sports and physical activities
Elder abuse	Physical, emotional, financial and neglect

Women in their 70s with low bone density were considered most at risk of hip fractures. Hip fractures were generally reported as occurring following a slip, trip or fall on or over familiar domestic items. The offending items included mats, electric cords, pets, wet floors and steps and stairs. Older men's injuries were also considered more likely to occur in their home environment. However, two of the consultation participants felt that older men's injuries were too often caused by a lack of caution when carrying out familiar home maintenance tasks, for instance climbing ladders or working at heights. 'Familiarity,' said one, 'breeds complacency' [in men], whereas women are more alert to the potential dangers of such activities and take the necessary precautions or call in help.

Other factors such as poor eyesight, strength and balance problems, co-morbid medical conditions, and inappropriate use of prescriptions drugs were also seen as playing a role in older people injuries.

Veteran sport participation

Many older people were considered particularly vulnerable to sprains, strains and fractures resulting from continued participation in sporting and physical activities. 'Lots of sports codes are in there for life these days' said one participant who worked in the field of sport and recreation. Apparently most sports codes these days are actively encouraging players to continue in their sport and seeking to increase the participation of older players in sports events. Others, particularly older generation walkers, joggers and cyclists, continue to maintain their levels of physical fitness because it gives them enjoyment and a sense

of satisfaction. While these trends were seen as generally very positive, consultation participants nonetheless expected them to result in a steady increase in sports and physical activity-related injuries in the 50 plus age group. New Zealand's increasingly ageing population would also further compound this situation.

Elder abuse

The extent of elder abuse in Taranaki is unknown, as it is in New Zealand as a whole.[42] Most elder abuse appears to go unreported and remains hidden. One service provider working specifically in the area of elder protection in Taranaki reports investigating 28 cases of elder abuse in the previous 12 months. Of these 28 cases, 26 were substantiated elder abuse.

The 26 cases involved more than one type of abuse. The types of abuse were as follows:

- financial abuse (16)
- neglect (14, including one case of self-neglect)
- emotional abuse (14)
- physical abuse (6).

Family members, mainly offspring (50 percent), were the most common perpetrators of the abuse in the 26 elder abuse cases. Other perpetrators included spouses (5), residential care manager (3), residential care nurse (1) paid carer (1) and other (3). Some of the family-instigated abuse was said to have occurred in situations where the long-term carer had become both stressed and exhausted. Elder abuse had also been found to occur in families with a history of violence and alcohol and drug abuse. The frail elderly and those suffering from dementia were perceived as most vulnerable to elder abuse. It was suggested that the incidence of elder abuse was likely to increase given New Zealand's increasingly ageing population.

Existing interventions targeting older people

Strength and balance promoting, exercise-based, falls prevention initiatives were the most widely reported interventions known to target older people. The most frequently identified interventions included:

- the *Otago Exercise Programme*, designed and tested by the New Zealand Falls Prevention Research Group. The programme currently operating in the New Plymouth District was described as home-based and targeted to over 80 year-olds. It is funded by ACC and the Taranaki District Health Board (identified by six participants).
- the *Modified Tai Chi programme* targeted to older people in the New Plymouth District is another ACC falls prevention initiative that reportedly has proven very popular locally (mentioned by four participants). Tai Chi is a body-mind exercise that originated in ancient China.

The only other injury prevention initiatives specifically mentioned were:

[42] Information downloaded from Age Concern New Zealand's website specific to World Elder Abuse Awareness Day – 15th June 2006 cites international research that elder abuse and neglect occurs in both developed and developing countries and that between 3 and 10 percent of the older population experience some form of abuse. Between 1 July 2002 and 30 June 2004, a total of 1288 cases of abuse were reported in New Zealand, 59 percent of these cases involved psychological abuse, 42 percent financial and material abuse and 12 percent physical abuse. Retrieved 14 June 2006 from www.ageconcern.org.nz.

- home visits by Taranaki Base Hospital Physiotherapists and Occupational Therapists to older people discharged from hospital following an injury-related admission. The visits provide an opportunity for therapists to look out for injury prevention potential and advise accordingly (mentioned by one participant).
- the Waitara Home Safety programme (jointly funded by ACC, Fire Service, Housing New Zealand and Ministry of Social Development)[43] and the WISE Healthy Homes Project (jointly funded by Pinnacle Taranaki Primary Health Organisation and Taranaki District Health Board. While neither programme is specifically targeted to older people, nevertheless both encompass home safety checks in older people's homes (each programme mentioned by one participant).

Other initiatives seen as promoting the local population's physical fitness levels and thereby indirectly working to prevent injury prevention in the older age group include:

- SPARC's *Green Prescription* programme (promoted locally by Sport Taranaki in collaboration with the local PHOs) and *Push Play*
- Aqua jogging and *50s Forward* programme (New Plymouth District Council Aqua Centre)
- The *Active in Age* programme (an Arthritis Foundation programme)
- The Marae-based kaumätua exercise and kapa haka programmes.

Perceived effectiveness of existing initiatives

The joint ACC / Taranaki DHB funded Otago Exercise Programme (OEP) and ACC funded Modified Tai Chi programme were both described as 'having evaluated well'. According to one participant, the OEP achieved a 35 percent falls reduction in its original random controlled research study. Locally the OEP evaluation data was currently being 'pulled together' and preliminary results were reportedly 'looking good.' According to one participant, demand for the Modified Tai Chi programme had outstripped supply in the New Plymouth District as there was 'a scarcity' of locally available qualified trainers.

One participant described Sport Taranaki's programmes for older people as having been very good in the past but recent changes in personnel had reportedly seen 'a change in emphasis' away from programmes like 'Push Play' for older people, supposedly because research suggested that 'older people did not need it.' On the other hand, three other participants indicated that evaluation results showed the Green Prescription programme promoted by Sport Taranaki was also effective, although the programme is not specifically targeted to the over 65 age group.

The two local home safety programmes mentioned earlier, were both considered very effective at reducing risk of injury in all age groups, including older people.

[43] According to national domestic fire statistics, the percentage of Waitara fire call outs is well above the national average. Responding to this information, this jointly-funded home safety initiative installed cost-free smoke alarms in homes requiring these devices.

Suggested interventions

Participants perceived a need for a number of different programmes and initiatives for older people. Alternatively some saw a need to strengthen or bolster existing programmes. Suggestions included:

Develop a directory of programmes and services catering for the district's older citizens. The participant recommending this initiative suggested 'there are some other good models out there'.

Develop 'train the trainer' programmes for Tai Chi for older people, to help increase the supply of Tai Chi tutors and meet what appears to be the current heavy demand.

Primary health organisations (PHOs) could employ coordinators to follow-up and ensure support is provided to older people discharged from hospital or emergency departments following treatment for injury or a stroke. It was suggested the coordinators could liase with the PHO practice nursing services and other relevant agencies. The service should adopt a holistic approach that includes assessing the older person's home environment, medication situation and their nutritional status and needs.

Intentional injuries

Eight participants identified intentional injuries as a priority area for action. Suicides, domestic violence (including child and elder abuse) and assaults were the most frequently identified intentional injuries. There were reportedly some services and programmes available to help victims of family violence as well as perpetrators. However, the consultation participants did not identify any particular prevention programmes designed to tackle what some saw as the suicide problem. This lack of programmes was regarded by some as a major gap. Others saw suicide prevention as one of those areas that belonged in 'the too hard basket.' However, two NPiS members identified a need to implement the national suicide prevention strategy locally.

Common types of injuries and their causes

Family violence

Financial difficulties, poverty, unemployment, lack of family support, and drug and alcohol abuse were seen as key factors underpinning much of the domestic violence in the district. Women from low socio-economic families, between 'the ages of 18 and their mid-30s' were considered most at risk of sustaining injuries arising from domestic violence. One Police officer suggested that 'it's not until they grow up' that many women living in violent relationships make the break and get themselves and their children out. Two participants saw women as both victims and perpetrators of domestic violence. However men were generally seen as the more frequent perpetrators. Police experience and existing data shows 'there's a lot of recidivism going on among some male offenders.'

Statistics were also said to show that the district's domestic violence cases ranged across the spectrum of violence and abuse to include physical, sexual and emotional violence and abuse. One participant suggested that data indicated it was rare for domestic violence episodes to result in injuries requiring hospitalisation.

Domestic violence and assaults were seen by one participant as 'high priority' to prevent because of its 'far reaching impacts in addition to the immediate physical injuries.' Those impacts were seen to include the psychological and emotional effects on children who witness violence in their families and, in the broader sense, the financial costs incurred by this form of violence on the wider community.

Two participants suggested that while family violence was generally seen as a very difficult issue to tackle, there was nonetheless, according to one participant, a real need to find ways to break the cycle of violence that exists in some families. It was suggested that today's victims of family violence often became tomorrow's future perpetrators. Child abuse, partner abuse and elder abuse were largely seen as part and parcel of this cycle of family violence (see other sections for further information about child abuse and elder abuse).

Other assaults

Alcohol and drug abuse were considered major contributors in non-domestic violent assaults. These included assaults of a sexual nature. 'The risky life styles' of young males aged 17 to 27 years were seen to increase their chances of getting injured. These young males were identified as both the victims and initiators of violence. Mothers of young male offenders were identified as another sub-group of victims of violence as a result of the aggression of their sons.

Most assaults were reported to occur following drinking either at home, other private venues or at sports clubs. Little offending had been shown to occur following drinking on licensed premises. Police who were interviewed regarded the severity of youth crimes of violence to be increasing, as were youth crimes generally. Youth offending was seen to be starting at a younger age in recent years. Poor parenting was said by one participant to be the root cause of young people's offending.

Suicide and attempted suicides

Two participants were under the impression that young people under 25 were the age group most at risk of suicide. One of these participants believed this was a growing trend. However, an NPiS member indicated that suicide in older men [age not stated] had become important. Data from the district's coroner indicates that males between the ages of 15 and 68 are among those most likely to die by suicide, although middle-aged men were said to predominate in the suicide statistics. A known psychiatric history, previous suicide attempts and underlying depression were identified on inquest as contributing factors in all completed suicides.

Existing interventions targeting intentional injuries

Work of the Te Rito Management Group

The New Plymouth based Te Rito Management Group (TMG), working under the auspices of *Te Rito: New Zealand Family Violence Prevention Strategy*, was reported to have completed a comprehensive family violence needs assessment for the Taranaki region in 2005. Following on from this, in 2006 it was organising family violence prevention and management training in the district and in Taranaki as a whole. In 2007 the TGM's work reportedly would be geared around the national Te Rito family violence awareness campaign.

Perceived effectiveness of existing interventions

Domestic / family violence

The district's Police prosecution rate for family violence, as a proportion of all family violence incidents reported to the Police, was said to be high compared to similar-sized urban centres. This was seen as an indicator of the effectiveness of local Police in putting together good forensic evidence so that prosecutions could be made. Police risk assessments of perpetrators and their likelihood of re-offending were also seen to be an effective way of protecting victims from further family violence. The Police were said to have generally stepped up their investigatory family violence work. This included investigating breaches of protection orders, in an effort to protect victims of family violence (mainly women and children) from further harm. In the past six months the Police's family violence files were said to be among some of the most highly scrutinised files … 'We've come to realise just how much it's costing the country.' The New Plymouth Police also reported a high success rate of over 77 percent for convictions of local men charged with assaulting women and a similarly high success rate of over 77 percent in charging those who had breached protection orders. Both were reportedly higher than other similar sized urban areas.

Scoping work and Te Rito Management Group's recent family violence needs assessment showed that a lot of good intervention work was going on, although very little was said to be going on in the way of prevention work. The district was seen to have established very effective relationships between frontline agencies working directly with family violence. Police, Women's Refuge and Child Youth and Family (CYF), as well as other agencies, were said to prepare detailed safety plans for high risk victims. These safety plans were reportedly based on 'very good profiling of high risk offenders and victims.'

The Family Court, along with CYF service providers such as Taranaki Women's Refuge and Tü Tama Wahine o Taranaki, were some of the services identified by participants as providing programmes for individuals affected by domestic violence.

The Probation Service indicated that there are 'some very good intervention programmes available' for those caught up in family violence. These were seen to 'to make a small percentage difference' to those that attend them, 'but not all go.' Some family violence victims were seen as resistant to going to the programmes on offer.

Suggested interventions

Three participants made suggestions for future action in the area of intentional injuries.

One participant suggested that family violence is currently under-reported. Cases seen now were considered 'just the tip of the iceberg.' This same participant emphasised the need to promote greater public awareness of the problem. He believed next year's *Te Rito* national awareness campaign would help to do this. However, he also noted that hand-in-hand with awareness raising came the need to provide frontline services with more resources to cope with the extra demand generated.

One person saw a need for additional family intervention programmes for family violence victims and their children, adding that 'they need to be free.'

Despite four participants having identified suicide as an injury prevention issue, none put forward any particular suggestions about how to tackle this issue. Two NPiS team members indicated a need to implement a local version of the National Suicide Prevention Strategy to address what they saw as the region's high incidence of suicide. Two other consultation participants appeared to regard suicide prevention as 'in the too hard basket.'

Young people / rangatahi

Young people, aged 15 to 24 years, were the fourth most frequently mentioned of the eight high priority groups identified during the consultation. There was considerable agreement among consultation participants that deaths in this age group were largely avoidable and preventable. Alcohol and drug abuse were seen to underpin a sizeable proportion of injuries in youth, mainly through their links to assault and road crash injuries.

Table 10.3: Young people: Common types of injuries, causes and risk factors

Common types of injuries	Common causes and risk factors
Bruising and lacerations	Falls, assaults, violent behaviour, alcohol and drug abuse, workplace injuries related to inexperience and carelessness, sexual assault
Fractures and head injuries	Vehicle crashes
Sprains and strains	Participation in sport, lack of knowledge, poor techniques, failure to wear safety gear and the use of substandard equipment

Common types of injuries and their causes

Violent behaviour and sexual assault

Injuries, fractures, bruises and lacerations stemming from 'brawling' and assaults were some of more common types of injuries mentioned by consultation participants. Taranaki Base Hospital's Emergency Department (ED) and Ambulance Service report that weekends and school holiday evenings often see a marked increase in the number of young people requiring treatment for injuries resulting from violent behaviours. Most of this violence appears to have occurred in public places.

While young males were generally considered most at risk of injuries, concern was also expressed about the increasing numbers of 13 to 15 year-old girls who were said to be putting themselves at risk of injury, particularly sexual assault, following heavy drinking sessions.

Road-related injuries and deaths

Road crashes were another commonly mentioned cause of injury among young people, including brain injuries, fractures and in extreme cases death. However, reports from Emergency Department personnel suggest that road-related injuries are 'fewer and further between than in the past.'

Alcohol and drug abuse, including abuse of 'party pills' were seen to underpin many of the road-related and violent behaviours resulting in death and injuries in the 15 to 24 age group. The problem was seen to be an increasing one.

Sports injuries

Young males injured while playing sports (mainly contact sports, though not exclusively) were also said to frequent users of the district's Emergency Departments. Key risk factors for young sports players were said to include lack of knowledge of best practice safety techniques (e.g. good scrum techniques).

Participation in extreme sports such as mountain bike and motor bike riding, snow boarding and surfing also increased the risk of injury in this age group.

Young people entering the workforce were also identified as being particularly vulnerable to sustaining injuries in the workplace, especially during the first few weeks of their employment. Immaturity and inexperience were also considered key risk factors leading to injuries in young workers (see following section for further information about workplace injuries characteristics in this age group).

Existing interventions targeting young people / rangatahi

The most frequently identified interventions aimed specifically at reducing injuries in young people included those initiated by sports bodies to generally reduce the risks of sport injuries (mentioned by four participants) and the national road safety promotions aimed at raising awareness of the risks of drinking and driving in the 15 to 24 year-old age group (mentioned by three participants).

Although not specifically injury prevention focused, the locally promoted *THINK*smart and the *Drink Safe 4 Youth* initiatives were seen as indirectly working to reduce injuries, by controlling the sale of alcohol to under-18 year-olds (mentioned by seven people).

Many sports codes were also identified as promoting coaching and 'upskilling' programmes that include components aimed at reducing the incidence and severity of sports injuries among younger players. These programmes were said to be primarily promoted and delivered through national and regional sports organisations, in association with various individual sports codes. In addition to teaching code-specific skill sets, the programmes promote the use of safety gear to protect vulnerable body areas from injury (e.g. shoulder pads and mouth-guards). They also promote 'best practice techniques' that aim to minimise risk in high injury risk situations, such as rugby scrums. SPARC regional sport trust coaching initiatives with similar objectives also operate at the secondary and primary school levels.

Perceived effectiveness of existing interventions

The previous section on road injuries covered what participants in the consultation thought about the effectiveness of the *THINK*smart and *Drink 4 Safe Youth* initiatives. Both were seen as indirectly contributing to preventing alcohol-related injuries in young people.

No 'hard or soft evidence' was provided by participants supporting the claim that sports coaching sessions were effective in reducing sports-related injures.

Suggested interventions

Six participants suggested that parents are essentially responsible for role modelling safe behaviours and for setting boundaries to help limit the risk of their children getting injured. One participant considered young people 'are given far too much freedom by parents these days.' He considered that parents should 'stop handing the car keys over so readily' and set clear boundaries about what young people can and cannot do when using a family car. Most of the six participants spoke in terms of 'kids thinking they are bullet proof', with it therefore being up to parents to point out the consequences of 'highly risky risk-taking.'

Similarly, in the opinion of some participants, curbing young people's access to alcohol and reducing their problematic drinking behaviour was also primarily the responsibility of parents. One participant observed that the considerable amount of health promotion and enforcement work done recently with

local liquor licensing outlets precluded the likelihood of them selling alcohol to under 18 year-olds. In his view, 'they [under 18 year olds] have to be getting the alcohol from home or family members'.

One participant, commenting on injuries occurring in young Mäori, suggested that 'shock-horror approaches' were the 'best way' to get through to young Mäori. He cited the example of a recent ACC / Police initiative that used a crashed car in which several young people had been recently killed. The wreck was taken into venues, such as schools, where young people were most likely to see it. The initiative was undertaken with the support and input of one of the deceased young people's mother and a police constable who had attended the crash. Their harrowing accounts were said to have made a 'real impact' on the students.

In terms of sports injuries and their impact on young people, the Health Promotion Unit reported plans to conduct a scoping study to explore the extent and type of injuries occurring in young people (and children) and to identify possible ways to address sports injuries in this age group.

Children / tamariki

Of the 42 consultation participants, seven identified children / tamariki as a high priority group for future injury prevention work. These participants generally expressed the view that although past intervention efforts indicated some success in reducing children's injuries (evidenced by a slight decrease in children's injury-related hospitalisations) there was, nevertheless, 'no room for complacency.' Parental non-compliance in relation to the use of correctly fitting child car seats, child poisonings and other home-related injuries were identified as key areas requiring continuing attention. Homes and schools were identified as the most frequent sites where children sustain injuries.

Table 10.4: Children: Common types of injuries, causes and risk factors

Common types of injuries	Common causes of injuries and risk factors
Poisonings	Poisonings, particularly from ingestion of paracetamol, other winter ailment medicines, parents' / grandparents' medicines, household cleaners and other household products
Bruises, fractures, cuts and lacerations	Falls from playground equipment, trees, cycles, scooters, skateboards, car crashes, cars backing into pedestrians, school crossings, lack of stair-gates, child abuse
Burns and scalds	Heaters, fire and hot water, baby walkers, parental ignorance of child's developmental stages, young children carrying infants around

Common types of injuries and their causes

Poisonings

Participants whose work area included a well child care focus considered that parents with young children had to be particularly careful with the storage of household cleaners and other potentially hazardous household products - 'kids are curious creatures … they shove everything into their mouths.' Medications for parents and grandparents and prescriptions for children's winter ailments needed to be safely kept out of harm's way.

Bruising and fractures

As with poisonings, children were seen to be prone to falls 'by virtue of their age.' Many children's falls were seen as leading to bruising and in the worst cases fractures. While one well child care worker acknowledged that 'it is impossible for parents to watch children 24/7' nevertheless 'it's important they're made aware of the all the potential injury safety risks in their homes.' Falls were said to occur for children as a result of being dropped by an older but too young sibling, falling down stairs and steps, and rolling off beds and other furniture. Unsupervised use of baby walkers also remained a problem in relation to falls and burns.

The use of car seats that failed to meet recommended safety standards also continued to be an issue. The latter was seen as a particular problem in some low income families, some of whom reportedly '… use hand-me-downs that are so old that they shouldn't be used.' Failure to use car seats at all was also seen to have re-emerged as an issue in the district. This was described as disappointing given past compliance successes.

Burns and scalds

Inadequate parental and grand-parental supervision was identified as a possible reason why some children came to sustain burns and scalds. Too often parents and grandparents were seen to lack 'any real knowledge of a child's developmental stages. They forget children don't have adult skills and that they are natural risk-takers.' This lack of understanding of potential injury risk areas meant they do not take basic safety precautions in their homes to keep children, especially toddlers, away from heaters, fires, matches and electric jug cords.

Child abuse

Statistics provided by the Child, Youth and Family (CYF) service indicate that 1716 child abuse and neglect notifications were received by CYF for the Taranaki region between 30 June 2005 and 1 July 2006. Of these 1716 notifications, all were followed up within the required timeframe, while 990 cases (58 percent) required further action. Over this same 12-month period, 105 children from the Taranaki region required placement in care for their own protection.

Existing interventions targeting children / tamariki injuries

Those contributing to the consultation, particularly participants with an interest in children's health and well-being, gave the impression that 'lots of attention has been given to children's injuries' in recent years. Between them these participants identified the following child-targeted injury prevention interventions:

- Well child care service providers that include significant child safety components as part of their work, such as safety checks in the home and Well Child Care Week (mentioned by 11 participants)
- The Kidsafe Trust's work, which is wholly committed to keeping kids safe – includes Kidsafe Week (mentioned by 10 participants)
- National child restraint training programmes and local car seat safety initiatives such as *Safe to Go* (mentioned by six participants)
- Safety components in the school health and physical education curriculum, including the school-based drowning prevention intervention and initiatives by the regional sports trust (mentioned by five participants)
- The Waitara Initiative Supporting Employment (WISE) *Better Homes – Safer Children* project, which includes installing safety products (smoke alarms, stair and fire guards) as well as security and home insulation products in the homes of low-income families. The home safety component of the *Better Homes – Safer Children* project is supported by ACC and Kidsafe Taranaki (mentioned by five participants)
- The forthcoming PHO / Kidsafe general practice targeted poisonings project (mentioned by four participants)
- The Taranaki DHB Health Promotion Unit's Health Promoting Schools programme (mentioned by four participants)
- Primary schools promoting school crossing safety (mentioned by four participants)
- The ACC funded falls programme promoted by the Kidsafe Trust and Piki te Ora, which includes a Mäori-specific version (mentioned by four participants)
- Follow up by Taranaki DHB's paediatric department of all children discharged from hospital after treatment for injury. The home visits include an injury prevention component (mentioned by one participant)

- Pool fencing legislation and surveillance (mentioned by one participant)
- The ACC-funded Plunket promotion of 'baby mats' displaying messages for caregivers and others about how to keep babies safe which is followed by a series of postcards containing key child safety messages to all participating parents (mentioned by one participant)
- Workshops on school playground safety (mentioned by one participant)
- Work by CYF that focuses on preventing abuse, neglect or insecurity of care in specific circumstances, keeping children who have already been harmed safe, and redressing harm and restoring or improving the wellbeing of children (mentioned by one participant)
- The Strengthening Families Forum, an intersectoral initiative (mentioned by one participant).

Perceived effectiveness of existing interventions

One well child care service provider considered the 'train the trainer' component of the children's falls prevention initiative had been very positive in up-skilling well child care workers and had been used to good effect in their work with parents: 'Many parents are not aware of the risks until we show them.'

The Waitara–based WISE *Better Homes – Safer Children* safety installation service and the well child home visiting services (both Mäori and mainstream) in particular were considered highly effective at reaching parents with home safety education messages. Factors identified as contributing to this success included: (1) working directly with parents in their homes (2) well child workers being able to see first hand what was going on in the home in relation to child safety, and (3) workers being able to assist parents to install or access child safety devices as well as check that these devices continue to operate or be used.

The work of the Kidsafe Trust and its various supporting agencies were seen as effective in the sense that recent monitoring data indicate a slight decrease over the past five years in children's admissions to hospital for injuries. Some evaluation work also shows positive parental behavioural change in terms of child health safety. However, as one participant pointed out '… it can be up to 10 years before the desired changes start to work through' … 'but even then, we [New Zealand] really don't stack up against OECD [international] child injury figures.' This same participant noted … 'We need to keep improving the quality of what we're doing.'

The ACC-promoted school injury monitoring system was considered simple to use and an effective way of keeping tabs on injuries occurring in schools. The school that participated in this consultation round appeared to have all the basic first aid systems in place.

In relation to protecting children from family violence, harm and neglect, the Taranaki CYF site was said to be one of the 'top performing' sites in terms of managing its workload and meeting government targets and timeframes for the follow-up of notifications.

Suggested interventions

Schools and road safety

Four participants identified school crossings as a major child safety issue. Concern was expressed about some driver's seeming ignorance of the Road Code as it applies to pedestrian crossings and school crossings in particular. There are reputedly 'a good many drivers around who blatantly ignore speed limits around schools.'

The school principal who participated in the consultation noted that some parents set a bad example for their children in relation to road safety. Despite the school strongly encouraging parents to use the school's pedestrian crossing when dropping children off at school, many reportedly ignore this advice. This same school has the added disadvantage of having its school campus split into two by a road. This situation causes concern for the school given the tendency of some drivers to exceed the speed limit and because children, too, often fail to use the school's pedestrian crossing. The school has had the New Plymouth District Council visit the site. The school suggested that more effective signage was needed to alert drivers to the presence of the school. The Council had yet to respond to the school's concerns.

All four participants who voiced concern about school road safety issues saw a real need to 'beef up speed surveillance around schools'. One of these participants considered there should be 'zero tolerance' of speeding in school zones. Another thought the speed limit in school zones should be reduced.

Intermediate schools

One participant saw a gap in injury prevention work in intermediate schools. They believed this to be a major issue as the New Plymouth District's two intermediate schools are both very large and students at that age are still considered to be very immature.

Two participants commended the Health Promoting Schools initiative for its work in schools. One participant wondered if the initiative might have something to offer the two intermediate schools by way of helping to create a school safety culture. However, others were less enthusiastic about this idea and considered the initiative involved far too much red tape.

Child abuse and neglect

Two participants suggested there was a need to 'mobilise the whole community' to take responsibility for reducing child abuse in this country. The death of the Kahui twins was seen to have spurred New Zealanders generally to say 'enough's enough.' Child abuse 'can't be pushed under the rug any longer', said one participant, while the other suggested that it 'takes a community to protect a child.' Neither participant offered any concrete suggestions about interventions that might be developed and implemented to tackle child abuse in the New Plymouth District.

Injury prevention programme design

One participant saw a need to adopt a more child-centred approach when developing child-targeted injury prevention programmes. Current programmes were perceived to be very adult- focused, that is developed by adults for children. The participant suggested there could be real value in tapping into children's ideas about how to prevent children's injuries. It was thought that a 'better balance' would be achieved if adults worked closely with children to develop injury prevention promotional programmes and resources.

People in the workplace

Six consultation participants considered workplace injuries to be a high priority injury prevention area.

The big energy, construction and (some) transportation companies in the New Plymouth District (and wider Taranaki region) were largely seen as having been very successful in reducing workplace injuries, establishing robust health and safety and injury monitoring systems, and promoting a safety culture that reached beyond the workplace. However, efforts to reduce workplace injuries in medium-sized and smaller businesses, including the farming community, were seen as 'having a long way to go.'

Table 10.5: Common workplace injuries, high risk groups and key risk factors

High risk groups	Common types of injuries	Key risk factors
Manual workers - riggers, scaffolders, construction, fire safety officers	Nicks, cuts, bruises, sprains and strains, squashed fingers and finger amputations	Working with heavy machinery, working with high pressure gas, working at heights, working in confined spaces, fatigue
Young workers	Suffer more serious injuries	Inexperience (first month of employment), immaturity
Older workers	Back and neck strains, knees	Loss of agility, careless due to over-familiarity, take shortcuts, long-exposure to hazardous substances
Migrants	Not stated	Communication difficulties around health and safety requirements, inexperience
Drivers	Serious injuries – death	Fatigue, poor road design, scale of vehicles, ageing work force
Farmers and their children	Chemical burns	Handling and disposal of chemicals, farm bikes, all terrain vehicles, animal unpredictability, failure to incorporate safety measures into work activities

High risk groups, common types of injuries and key risk factors

Certain industries, workplaces and work areas in the New Plymouth district were considered 'inherently dangerous.' These included:

- work at the Port, particularly the mooring of ships and the mechanical engineering workshop
- waste management
- driving large long-haul trucks (see below for further details)
- fire fighting and other rescue work
- farming (see below for further details)
- work that involved the handling and disposal of chemicals and long-term exposure to other hazardous substances such as asbestos, chemicals and welding fumes

- the energy industry, working in confined spaces and at heights on rigs, working with high pressure gas, working in all weather conditions (particularly on rigs such as Pohokura), extremely physically demanding work
- the construction industry, working with machinery and scaffolding
- the trucking industry (see below for further details).

Types of workplaces injuries reported to have occurred in New Plymouth district's industrial work sites over the past few years included fractures, back, spinal and head injuries (resulting from falls, trips and slips), bruising and cuts, lacerations, squashed fingers and, in the most serious cases, amputations. This latter category of injuries was largely considered to be linked to working with heavy machinery. Eight participants made reference to the waste management worker who recently lost three of his limbs in one such interaction, an incident described as 'the most horrific' of all workplace injury incidents.

The occupations most frequently singled out for having a high injury risk were construction workers (particularly scaffolders), oil riggers, truck drivers, farmers (and their children) and waste management workers. Other groups identified as vulnerable included young manual workers on first entering the workforce, older workers, migrants and shift workers.

Young manual workers

The 'building boom' in the New Plymouth district over the past few years was seen to have increased the risk of workplace injuries, particularly in the construction industry.

Young manual workers, especially those recently entering the construction workforce, were also seen to be particularly vulnerable to workplace injuries. One participant suggested that, as a group, young manual workers also tend to suffer more serious injuries. The 'building boom' had reportedly generated a need for apprentices. According to one consultation participant, some employers simply assume that these young workers are mature when 'in reality they are not,' hence their vulnerability. Two participants regarded young males as inherently at risk of injury in the workplace because 'they think they're bullet proof' and consequently fail to see potential injury risks.

Older workers

Five participants indicated that a 'sizeable proportion' of the workforce in the district's construction industry is 'quite mature'. This was also said to be a feature of the workforces in other industries in the district. While older manual workers (60 years plus) were valued for their knowledge and experience, they were also seen as relatively more prone to injury. This vulnerability was largely put down to age-related, musculo-skeletal limitations and the 'bullet proof mentality' mentioned earlier. Injuries had the potential to have considerable detrimental impact on an older worker - 'What's quite a minor injury for a younger worker can be much more serious for the older worker.'

Migrant workers

Migrants were identified as another injury-vulnerable group in the workplace. Communicating health and safety procedures to migrant workers, particularly those for whom English is a second language, was identified as the main risk factor contributing to injuries in this group. However, the New Plymouth District had very few migrant workers fitting this description.

Shift workers

Oil riggers and long-haul truck drivers were the two most frequently mentioned high injury risk occupations. Both were said to participate in shift work and longer than average working hours. ENSCO's riggers for instance were said to work 12-hour shifts for several days at a time. This work is physically demanding and frequently involves working in adverse weather conditions. Drivers of large, long-haul, heavily laden trucks were perceived to be most at risk of crash-related injuries and fatalities. Shift work and long working hours were seen as having the potential to induce fatigue. Poor road design and adverse weather conditions were additional risk factors for drivers. Road injury data also indicated that underlying medical conditions were implicated in some serious injuries and fatalities among older drivers. The latter was of some concern to one participant who considered the average age of the road transport workforce was likely to continue to increase, especially given the transport industry's failure to attract young people into its workforce.

Farming families

Five participants regarded farmers and their children to be predisposed to serious injury and death due to the inherent dangers of working with and living around: heavy machinery, unpredictable animals, hazardous chemicals, and (in the case of children) waterways and water troughs.

Today's farm bikes and all terrain vehicles were seen to have increased the risk of injury 'because they go places that tractors couldn't.' All five participants made reference to a recent farming fatality involving the small daughter of a Taranaki farming couple and the subsequent court case that sought to determine the father's culpability in the child's death.

Four people saw farms injuries as an increasing problem. One person considered local farmer-targeted injury prevention efforts had been relatively unsuccessful to date. Farmers were viewed to be a very hard group to reach and work with to prevent injuries. Getting through to farmers was complicated by the fact that the farm is both a home and an industrial work site. Furthermore, unlike some larger industries in the district (e.g. energy, transport and Fonterra) where the number of employers involved is relatively small, with farming 'you're dealing with literally thousands of independent operators.' According to one participant, when it comes to promoting farm safety, 'they [farmers] have their head in the sand' while another described farmers as 'highly resistant to change.' One participant with a first aid training background regarded farmers, as a group, to be 'resistant to safety guidelines' … 'they rarely take first aid courses' despite what is seen to be a very high need. The local Coroner believed that farmers had generally weighed up the risks and then made the judgement not to wear helmets or seat belts and to let very young children drive ATVs. The Coroner, like one other participant, thought that the father whose small daughter was recently killed while driving the farm's ATV should have been convicted. This would have acted as a warning to the whole farming community.[44]

The rural group saw some farmers as choosing to ignore farm safety warnings and being prepared to take what other farmers and agencies regarded as undue risks. They also agreed that farmers are a hard group to reach – they find it 'difficult to take time off' to attend farm safety seminars.

[44] The Coroner said he had no problem in this report recording him as holding this view. The researcher was informed that the Coroner's views had been sent to the South Taranaki Federated Farmers branch to draw to the farming community's attention the foolishness of such acts and thereby reduce the chances of the occurrence of other deaths in similar circumstances. The Coroner's Act apparently includes a clause that authorises coroners to take this action where they see fit.

Non-compliance with health and safety requirements

Non-compliance with a workplace's health and safety requirements was reported to be relatively common. Employers, even those with very good health and safety systems, needed to be ever-vigilant to ensure that workers used safety equipment and complied with the workplace's health and safety requirements.

Existing interventions targeting workplace injuries

Participants identified a range of workplace-targeted health and safety initiatives that are either currently operating or about to commence in New Plymouth District. These are discussed below.

Workplace health and safety programmes

Health and safety officials who participated in the consultation indicated that the industries they worked in had largely moved away from the traditional workplace injury-specific health and safety model, to one that works to create a 'safety culture' that includes but also extends beyond the immediate workplace. This approach aims to encourage workers to consider the likely financial and economic impact that any injuries might have on them and their families personally, on their workplace and on society as a whole. In using this approach, the companies aim to maximise health and safety compliance within their own workplaces, while at the same time promoting safety practices that workers take back to their home environments. Fewer days off work as a result of injury was seen to be one of the key advantages of the safety culture health and safety model.

Large companies like Shell Todd, ENSCO - Oceanics International Company and Port Taranaki, whose health and safety people contributed to this consultation, had reportedly achieved significant reductions in worker injuries and days off work due to injury in recent years. ENSCO, the company developing Pohokura, one of the region's most recent energy drilling sites, reported no lost time for injuries on its Taranaki sites for 406 straight days. Internationally, some ENSCO rig sites were said to have gone 10 years without any serious injuries or fatalities. This was attributed to the company's rigorous health and safety systems which have significantly reduced the risks of injury on rigs.

All new Pohokura rigger recruits are reported to be given intensive training before ever going out on a rig. They also receive ongoing mentorship and close supervision once they commence working on the rigs. Specialised training, regular health and safety meetings and the provision of safety gear and equipment were all part and parcel of ENSCO and Shell Todd's ongoing health and safety training packages.

Port Taranaki reportedly takes an equally rigorous approach to health and safety. As a result apparently there has been a very low incidence of serious injuries in the last 4-5 years, with the worst being two instances of 'broken fingers'. Most injuries occurring at the Port were described as minor, such as nicks, cuts and bruises. Like ENSCO, all injuries at Port Taranaki, no matter how minor, are reported as 'near misses.' In 2003 public access to the Port was stopped. This action was seen to have reduced injuries at the Port.

Taranaki Health Safety and Environment (HSE) Centre

According to one health and safety consultant from an oil and gas exploration company, 'Taranaki leads New Zealand in terms of its very proactive workplace health and safety performance.' One of the three participants who made reference to the recent opening of the safety award winning Taranaki Health Safety and Environment (HSE) Centre, considered the Centre to be the 'jewel in the crown' of what he described as the region's commendable health and safety performance record.

The HSE Centre operates as a one-stop training centre for the region's workers, people preparing to enter the workplace and the community in general. The Centre introduces its trainees to general workplace health and safety concepts as well as concepts relevant to particular workplace sites (e.g. dairy industry, construction industry, food industry) and activities (e.g. working at heights, working in confined spaces). The HSE Centre was led and developed by a number of the district's large and medium-sized industries (e.g. Transfield Worley, Fitzroy Engineering, Shell Todd Oil Services, Port Taranaki, Fonterra, Fletcher Construction and Wells Electrical) and supported by ACC and the Department of Labour. It is operated by the Centre for Applied Engineering New Zealand (CApENZ) and training provided by the Centre is New Zealand Qualification Authority accredited.

Passport to safety

The HSE Centre is about to start piloting Safe Communities Foundation New Zealand's evidenced-based *Passport to Safety* (P2S) health and safety awareness programme (Safe Communities Foundation New Zealand 2006c). This initiative aims to support and encourage workplace health and safety training and help eliminate preventable workplace deaths and injuries in the vulnerable 15 to 24 year age group. According to statistics cited in the P2S flyer, young people as a group are more than three times more likely to be injured compared to other adults. Around 6000 of the work-related injuries experienced each year by people in this age group require more than a week off work. Reportedly males are twice as likely as females to sustain work-related injuries.

Taranaki HSE Centre, with the support of ACC and the Department of Labour, is currently promoting the *Passport to Safety* training initiative to the district's secondary schools and tertiary institutions.

Other recent industry initiatives

ENSCO reported that it is about to commence specialised health and safety training for staff who either work at heights or in confined spaces.

Two years ago Shell Todd incorporated the wearing of protective gloves by its rig workers into its health and safety procedures. That change is said to have brought about a dramatic reduction in workplace injuries, particularly nicks and cuts. Prior to introducing protective gloves, nicks and cuts had been one of the company's most common types of workplace injuries.

Farmsafe workshops

The *Farmsafe* workshops are sponsored by Federated Farmers and ACC in association with Agriculture ITO, Agriculture New Zealand and Telford Rural Polytechnic. *Farmsafe* flyers describe the workshop events as being as 'localised as possible.' The services of professionals with farm sector experience are used to help get safety messages across to those attending the workshops.

Farmers and all other operators wanting to purchase chemicals are required to attend safety workshops such as this in order to obtain the necessary certificate and licence to allow them to buy in bulk. Both the certificate and licence will be mandatory from January 2007.

One participant in the rural consultation group had recently attended a workshop on the management and handling of chemicals. He noted that in general farmers are not good at sitting around and listening for what he regarded as an overly long period of time. The rural consulation group as a whole gave the impression of feeling bombarded by safety information, much of which was 'never looked at.'

Perceived effectiveness of existing interventions

Port Taranaki has experienced major reductions in workplace injuries since establishing what are described as 'very robust' health and safety systems. Two broken fingers were reportedly the most serious injuries reported 'in the last four to five years'. Most injuries were relatively minor these days, despite some work areas being 'inherently dangerous', for instance mooring ships and in the mechanical engineering workshop. Injuries were said to have reduced to such an extent that 'it's hard to see how we can engineer any more safety into it.' As noted earlier, Shell Todd and ENSCO report similarly dramatic reductions in their workplace injuries as a result of setting up of quality health and safety systems.

Workplace safety culture

Five non-industry participants indicated that some companies, especially the big ones 'are doing a great job at promoting a safety culture' that extends beyond the workplace. However, most agreed that there was a long way to go with some of the medium and smaller companies in the district. Three participants contended that a real incentive exists for large companies to reduce their workplace injuries and sustain these reductions, as this in effect substantially lowers their ACC levies. The gains for smaller companies in this sense were considerably less, hence they were less likely to regard implementing quality health and safety systems as part of their core business.

Health Safety and Environment Centre

Four participants considered the establishment of the award winning Health Safety and Environment Centre to be one of the region's major achievements. The Centre's one-stop shop, workplace-targeted health and safety training model was said to be one that several other regions were endeavouring to emulate. According to one health and safety adviser, the establishment of the Centre was one of the main reasons New Plymouth District had been successful in achieving WHO Safe Community status. One member of the NPiS team observed that the Centre was a testimony to what could be achieved through 'key people working together in true collaboration to achieve a common goal'.

Department of Labour statistics

According to the Department of Labour, there were 150 health and safety related prosecutions involving Taranaki workplaces in 2005. The number of prosecutions had reportedly been decreasing until last year and hope was expressed that the latest figures were 'just a blip.'

Other suggested interventions

Regular first aid training in schools

One participant commented that schools do 'the bare minimum' when it comes to first aid training. Ring-fenced funding was needed to enable regular first aid training to be given to school staff. Agencies identified as having responsibilities or an interest in this area included the Ministry of Education, school trustees and first aid training service providers.

Develop and implement school-based farm safety days

According to the rural consultation group, some rural women's groups run successful farm safety days at their local schools. Reaching farming children was seen as potentially a very effective way of getting

safety messages through to these children as well as their parents. Children were seen as much more open than adults to taking safety messages on board. However, external organisational support and resources were said to be required to enable these kinds of safety days be run locally, as rural people generally lack the time and resources to run these kinds of ventures on their own.

The rural group also suggested that publicity around human interest stories that involve injuries is potentially an effective ways of reaching the farming community. Word of two recent farming injury tragedies were said to have 'spread like wild fire.' As another consultation participant observed, rural tragic incidents involving injuries 'are very hard lessons to learn by.' She agreed with the rural group that capitalising on rural injuries and fatalities that make the headlines might be an effective way of getting through to farmers, who she saw as continuing to ignore safety messages about allowing children to operate all terrain vehicles (ATVs).

Agencies identified as having a possible interest in developing and implementing school farm safety days included schools, ACC, Department of Labour, *Farmsafe* and rural women's groups.

Provide more frequent chemical disposal days locally

Participants in the rural group suggested that local territorial authorities provide more regular open days for farmers and others to dispose of their unused chemicals.

Develop a national driver fatigue awareness campaign

One participant suggested that a national mass media campaign was required to alert drivers to the dangers of driving while tired. ACC, Land Transport New Zealand and the Police were the agencies seen as likely to have an interest in this type of campaign.

Improve the region's road 'black spots'

Four participants saw a need for additional roading resources to improve Taranaki's black spots, such as the Tariki underpass. Participants identified the government and Land Transport New Zealand as the agencies responsible for improving the region's roading black spots.

Promote 'employer of choice' concept

One industry health and safety consultant suggested that DOL, ACC, the HSE Centre and NPiS should work together to promote and further encourage employers to 'become employers of choice.' By providing health promoting, safe working environments it was thought employers would be better placed to attract and maintain their workforce.

Mäori

Four participants considered Mäori a high priority group for future injury prevention work. Overall, nine participants saw Mäori as at high risk of injuries. Prominent sub-group populations identified as warranting additional injury prevention work included tamariki, rangatahi, kaumätua and sports people.

Table 10.6: Mäori: Common intentional injuries, key risk factors and causes

Common types of injuries	Common causes of injuries / risk factors
Tamariki	Falls, burns and scalds, poisonings, non-compliance with child car restraints
Rangatahi	Road crashes – unwarranted and unsafe cars. Injuries seen as ranging from minor to serious Risky and aggressive behaviours
Kaumätua	Slips, trips and falls – poor vision, underlying medical conditions, failure to identify potential risks in their homes
Sports injuries	High level of participation in contact sports, lack of knowledge of available safety gear / reluctance to use safety gear

Common types of injuries and their causes

Generally participants tended not to see Mäori injuries patterns as any different from those experienced by non-Mäori. However, four participants identified Mäori as a priority group for targeted injury prevention work. One participant suggested Mäori 'need more than more – our people are slow to take preventative measures on.' This same participant saw a need to just keep persisting with appropriately targeted programmes and consistent safety messages.

Three participants described Mäori as a population group with generally high health needs. One person saw this as largely due to past and current social inequalities. All four participants saw Mäori as less likely to access treatment for their injuries or present for follow-up, while one person considered many Mäori 'are just not good at engaging with health professionals.' Mäori, as a group, reportedly had low ACC claim rates despite the known need. One person saw poverty and financial indebtedness to general practices as one of the barriers to some Mäori not accessing treatment for their injuries.

Tamariki, rangatahi and kaumätua were identified as most at risk of injury. As with New Plymouth District children generally, tamariki were considered vulnerable to slips, trips and falls, and poisonings from ingestion of parents' and grandparents' medications, winter ailment prescriptions and other hazardous household products. Non-use of car restraints or using substandard car seats were considered continuing problems among some low income Mäori families, despite the ongoing good work of various Mäori health providers.

One participant saw tamariki living in low income families as at risk of burns. Many low income families were thought to lack smoke alarms in their homes, while access to matches and lighters was thought to be easier because many Mäori parents smoke.

While some car crash-related injuries experienced by rangatahi were seen to be relatively minor, many others were reportedly serious. One advisor in ACC was said to have seen 'a lot of Mäori in wheel chairs,' a feature he attributed to past car crash injuries. Another participant expressed concern about the number of rangatahi driving unsafe and unwarrantable cars. This participant saw the loss of Waitara young people's licensing initiative as a major blow for the town's young Mäori.

The risk of injury from assaults was also seen to be high among rangatahi. As a group they were perceived as both victims and perpetrators of assaults. Alcohol and drugs were thought to underpin much of the assault-related injuries.

Kaumätua were considered particularly prone to slips, trips and falls. Participants identified various causes of accidents among kaumätua. These included trips over grandchildren's toys, slips on bathroom floors and other slippery surfaces and falls down steps. Often these falls were linked to poor vision and underlying medical conditions. Because mats and other similarly potentially hazardous household items have been a constant feature in people's homes, kaumätua tend not to see these as possible safety hazards.

Existing interventions targeting intentional injuries

The Kidsafe Trust promoted tamariki falls projects and the ACC / Taranaki DHB's kaumätua targeted falls projects were both identified as having evaluated well in terms of reach and effectiveness. Much of the success of these two initiatives was attributed to the willingness of the various agencies involved to work together. The kaumätua-targeted, evidenced-based Otago Exercise Programme was thought to be working very effectively for the district's kaumätua, as was the targeted Tai Chi programme. The involvement of the Taranaki DHB was seen as very important for enabling the programmes to be taken out to kaumätua living in the district's outlying areas.

Mäori specific services such as Piki ti Ora and Manaaki Oranga were identified as effectively working to prevent injuries to tamariki.

ACC and the Ministry of Health reportedly had recently completed running a pilot programme to identify barriers to treatment and follow-up for injuries among Mäori. New Plymouth District was one of four separate pilot programme sites. The pilot was said to have evaluated well and it seems aspects of the pilot are to be 'rolled out' in future. One such aspect includes appointing a 'practice champion' in participating clinics to follow-up all Mäori patients receiving injury treatment, to promote treatment compliance and access to ACC entitlements. The long-term goal is to engender better self-management of injuries and their aftermath.

Perceived effectiveness of existing interventions

As with older people generally, ACC and the Taranaki DHB in particular were seen to be doing a great job of taking effective falls prevention initiatives out to kaumätua.

(See other relevant earlier and subsequent sections in this chapter for further information regarding the effectiveness of injury-focused interventions directed at sub-populations that include Mäori.)

Suggested interventions

Four participants indicated there was a need to do some work around the prevention of sports and recreational injuries among Mäori. It was suggested this work should include collation of relevant statistics. The Taranaki DHB's Health Promotion Unit plans to undertake a general scoping exercise on sports and recreational injuries between 2006 and 2007. We understand this scoping exercise will include collation of sports and recreational injury statistics for both Mäori and non-Mäori.

An NPiS member indicated that the coalition's membership was keen to see regular surveys undertaken to 'look at trends and specific patterns of injury involving Mäori.'

Another participant saw scope for mounting a Mäori 'Survivor Idol' promotional event in NPD. Initially developed on the East Coast of the North Island (mainly Gisborne), the 'Survivor Idol' concept involves running a music and dance competition that incorporates a road safety focus. The participant considered this approach would have special appeal to Mäori of all ages and could be adapted to cover the broader themes of injury prevention and community safety.

Sport and recreation participants

People in the Taranaki region were described as being some of the more physically active in New Zealand. A sizeable proportion of the population was known to be actively involved in sports and recreation. This in turn was reflected in the region's reportedly slightly higher rates of sports and recreational injuries. A scoping study was reported to be in the pipeline to explore the size of the sports and recreation injury problem and identify ways to reduce it. One participant identified sports and recreational injuries as a high priority injury prevention area, while a further seven defined particular groups of sports players and recreational activities as at risk of injury.

Table 10.7: Common sport and recreation injuries, key risk groups and causes

High injury risk sports	Common injuries	Key causes / risk factors
Contact sports	Sprains, fractures, bruises, concussion, cuts and grazes, head and spinal injuries	Failure to wear protective gear, poor techniques, injuries (concussion) not taken seriously
Extreme sports, including mountaineering and mountain biking	As above	Poor equipment, ill-equipped, Tourists and others failure to take the mountain seriously, inclement weather, high tech mountain bikes outstripping riders' capabilities
Athletics	Sprains and strains	Poor equipment – shoes
Veteran sports	Sprains and strains	Age-related physical conditions

Common types of injuries and their causes

ACC data were said to show Taranaki had a high number of sports-related claims. Sports identified as having a high injury risk included winter contact sports (mainly rugby and rugby league), netball and soccer.

It was suggested that the increase in veteran sports across the spectrum of sport and recreation meant many people were continuing to play sports into later adulthood. The risk of sport and recreation injuries was seen to be greater as the body ages.

Other risk factors identified included lack of knowledge, poor technique and the use of poor equipment. The availability of 'high tech' equipment' (e.g. cycles capable of great speeds) were seen as sometimes outstripping their riders' handling capabilities. Extreme sports, such as mountain biking, were identified as high injury risk sports.

Mt Taranaki / Egmont National Park was considered another potentially high risk recreational area, even for more experienced climbers. Tourists, inexperienced and unfit climbers were deemed most at risk on the mountain. Other mountain-related risk factors included: unsuitable clothing and equipment; inadequate provisions; failure to keep to marked tracks; and climbers with underlying medical conditions. Icy mountain conditions presented major difficulties for the inexperienced and ill-equipped especially when coming down the mountain.

Failure of some coaches and players to take seriously concussion occurring on the sports field was considered highly risky, particularly allowing players to carry on after being concussed. Two participants suggested that top level sports players and coaches should know better. Both saw the All Blacks as poor role models in this sense. Head and spinal injuries were among the most serious injuries impacting on participants in contact sports, with both having long-term consequences.

Existing interventions targeting sporting and recreation injuries

Sport Taranaki reportedly carries out injury risk assessments and risk management for major regional sporting and recreational events in the district.

Three participants mentioned that some general practices in the district were promoting SPARC's *Green Prescription* in association with local sports trusts. While the original prototype was targeted to individuals, the next stage – Active Families – aimed to target the green prescription to whole families. SPARC's *Push Play* was another fitness promoting programme that was said to previously target older people as well as other age groups. Maintaining fitness generally was seen to help reduce falls, particularly in the older population, by improving their physical strength and balance.

Coaching programmes aimed at teaching coaches best practice techniques specific to particular codes were said to be operating in the district from time to time. Sports trust and specific sports codes reportedly ran coaching sessions for volunteer coaches including those working with students.

The secondary school *Active Schools* programme was said to include safety as well as skill development modules.

Perceived effectiveness of existing interventions

One participant noted that Sport Taranaki had worked most effectively in the past to promote fitness in older people. However, a change in personnel and direction had reportedly seen a drop off in Sport Taranaki's interest in the older age group, as they no longer saw a need for a focus on this age group. It was suggested that *Push Play* was not a particularly suitable programme for targeting older people.

The Otago Exercise and Modified Tai Chi programmes, discussed in earlier sections, were described as proven fitness and recreational programmes that effectively reduced injuries in older people. Local preliminary evaluation data indicated that local versions were similarly successful. However, as noted earlier, currently the demand for Tai Chi tutors appears to be at risk of outstripping supply.

The coastal walkway was seen as one of New Plymouth's 'true assets' and 'a credit to the current council and its predecessors.' One participant claimed that 'all visitors either want to walk or cycle it.' He considered the walkway a highly effective way of helping to keep people fit and indirectly promoting injury prevention.

According to one participant, protective gear such as mouth-guards were known to help reduce sports injuries. However, not all players wear these 'and they should.'

Suggested interventions

Four participants saw a need to scope the whole area of sports injuries. This project would include collating relevant statistics. The Health Promotion Unit at Taranaki DHB indicated it was planning to undertake a scoping exercise to look into sports injuries during 2006-2007.

Community awareness, capacity and readiness

This section summarises the views of consultation participants regarding the value and success of the intersectoral approach as a way to tackle injury prevention in the district.

This is followed by a summary of the views of the NPiS coalition partners about how well the current community intersectoral coalition is going and 'what could be done in the next five years to prevent injuries in the New Plymouth District?' The NPiS partners were also asked for their views regarding the level of awareness about injury prevention and the level of support for injury prevention initiatives evident among local organisations and the general public.

Views of consultation participants

The views of the 32 consultation participants were sought by asking a somewhat general question, namely – 'what do you think of taking a community-based approach to preventing injures?' The question raised many different types of response. The first category of responses largely focused on the strengths of the intersectoral community-based model of action as a way to address injuries. The second category of responses centred on the perceived effectiveness of the NPiS coalition partners and other injury prevention targeted intersectoral groups currently operating in the community. The third category of responses largely referred to what people perceived to be weaknesses in NPiS's current approach to community-based injury prevention.

Strengths of the intersectoral injury prevention approach

Ten consultation participants saw the New Plymouth District and Taranaki region generally as having a good history of working collaboratively and constructively to work through solutions and come up with effective injury prevention initiatives. One in this group considered that *most* of the major stakeholders were involved, while another suggested that 'we have *all* the right partners around the table.'

Thirteen people saw the collaborative injury prevention approach as 'the only way to go'. It was described by one as 'a smart way to work' given that the work 'can't be left to one group'. Others saw the approach as being holistic in that 'it presents the big picture'. One Police officer described injury prevention as 'bigger than Ben Hur' … 'its essential that we work together.'

Three participants suggested the collaborative approach helped to ensure consistency when working on specific injury topic areas – 'it's important that everyone is 'singing from the same songbook.' Another was hopeful that by having all the lead agencies working together, this would increase the chances that injury safe messages and approaches would not only be consistent and compatible but also be based on sound evidence.

Eight participants were of the opinion that the sharing of resources increased the pool of funding available to address community injury priorities. As one person put it, 'one gets a bigger bang for the bucks.' The collaborative approach was also seen to reduce the risk of duplication and consequential wasting of what are seen to be limited resources.

Perceived effectiveness of the current collaborative approach

Examples identified as successful local interagency-driven initiatives included; the road safety drink-driving and 'Think Before You Buy Under 18s Drink' alcohol initiatives, the children and older people's falls prevention work, the Road Safety Action Plan, the Better Homes – Safer Children project, the

Health Safety and Environment Centre and the work of the Kidsafe Trust. The success of such projects was attributed to the right agencies and people coming together and working in 'true collaboration' to achieve a common goal.

Perceived weaknesses of the current collaborative approach

Two participants saw a need for 'grass roots' input from community service providers into the work of the NPiS coalition. One of these participants was critical that the some NPiS partners had no real knowledge of injury prevention.

Another participant suggested that NPiS needs to lift its profile in the wider community.

One government agency representative suggested that it is sometimes difficult for agencies to work outside their core business. Another suggested there was a need to be clear about people's existing work roles so that each operates in their own areas of expertise.

Other comments

One participant wanted greater recognition of the role some local industries were playing in promoting a workplace safety culture, the spin-off from which is serving to promote safety in the wider community. Another suggested NPiS should use a social marketing approach to promote an even wider sense of community ownership and community responsibility.

Red Cross and the Department of Labour indicated an interest in becoming active in community injury prevention matters.

Views of NPiS coalition partners

Economic growth and an increase in tourist numbers visiting the district was seen by one NPiS member to have created a continued need to make New Plymouth a safe environment. Attitudes were said to be very good among the district's key organisations to make it a safe environment. While it was suggested that 'each group has their own agenda' it was also noted that 'they realise the practical value of working collaboratively.'

According to one NPiS coalition partner, NPiS had achieved a great deal on behalf of the community and 'deserves the national recognition that it has achieved' (including WHO Safe Community Accreditation and four safety awards). One NPiS contributor suggested that these achievements had stimulated interest in injury prevention generally and had also generated an increase in the readiness of organisations to become involved. Another agreed that the coalition was 'getting good leverage' off the WHO accreditation.

The NPiS strategic plan and other strategic documents were also seen to provide good direction and assist newcomer organisations to come to grips with the community-based injury prevention approach.

Two NPiS coalition partners suggested that keeping the momentum going would be a challenge. Another observed that 'getting a sustainable infrastructure together is really important.' The NPiS coalition was said to be endeavouring to align the coalition's focus in accordance with the New Zealand Injury Prevention Strategy and with WHO Safe Community criteria. In so doing, the coalition wished to strengthen its infrastructure in terms of:

- continuing to build strong partnerships

- establishing strong leadership
- securing ongoing funding
- increasing provider capacity
- increasing community awareness and cultural change.

Several NPiS partners outlined the coalition's plan to appoint an injury prevention co-ordinator, and recently funding for a co-ordinator has been obtained. It was suggested the appointment of a co-ordinator would help maintain the momentum achieved so far and assist the coalition partners to:

- support and facilitate the delivery of 'whole community' targeted injury safe initiatives that address local concerns and identified needs
- expand existing injury prevention programmes that are working well
- continue to work collaboratively with key agencies and build partnerships
- increase community awareness of issues through the media and other channels
- further encourage community ownership
- help promote 'a sustainable infrastructure' in order to maintain WHO accreditation
- support the implementation of the suicide strategy 'to address the unacceptable incidence of suicide in the community'
- promote safe practices in the community.

It was suggested that the NPiS coalition partners need to stay together in order to effect long-term behavioural change.

Level of community awareness and support

Local agencies

The WHO Safe Community accreditation was seen by three participants to have helped raise awareness of injury prevention issues among local agencies and the wider community. One of these participants also suggested the WHO accreditation had helped create a sense of pride in the local community. Another person saw this achievement as largely due to NPiS's 'support and drive in pushing this initiative.'

NPiS's networks were generally seen as increasing. However, some agencies were thought to be contributing more than others in terms of time and financial input. Three participants suggested there were some organisations that needed to take a more proactive role, in particular Land Transport New Zealand.

Two NPiS coalition partners thought awareness and interest in injury prevention was relatively high in the district. They based their claim on the very good attendance by staff from local organisations at the June 2006 Safe Communities Forum held at the NPDC. While some of those attending the forum were reportedly unaware of the 'bigger picture' (i.e. lacked awareness of the New Zealand Injury Prevention Strategy) it was said to be 'obvious' there was a lot of good work going on within their own organisations.

The community consultation suggested there are agencies wanting to become involved in NPiS. The Department of Labour and the Red Cross regional office were two agencies that put their hand up and indicated they wanted to be involved.

Wider community

All six NPiS members who contributed to the consultation expressed reservations about responding to the question concerning community awareness, as they felt there 'was really no way of knowing this.' One NPiS Coalition partner asked – 'Has it (community awareness) ever been measured?'

One NPiS partner suggested that media campaigns around particular projects would have likely increased public awareness of those projects. Another suggested the good uptake of some targeted initiatives was one indicator of public awareness. One other NPiS partner observed that while it is hard to gauge general public awareness, media coverage of some recent high profile injuries had been quickly followed by a barrage of letters to the editor in the local newspaper. Another suggested that more might be made of publicity surrounding some recent high profile injury incidents, to help promote safer practices in the community. The high profile work of NPiS, Kidsafe Trust and the Safer Community Council were also seen as likely to have increased public awareness.

One NPiS member observed that in general 'there's good level of support out there' but added that 'there's a hard core in sport and farming who have the she'll be right attitude.'

11 Conclusion

This section draws together material from previous sections of the report and presents it under the following topics:

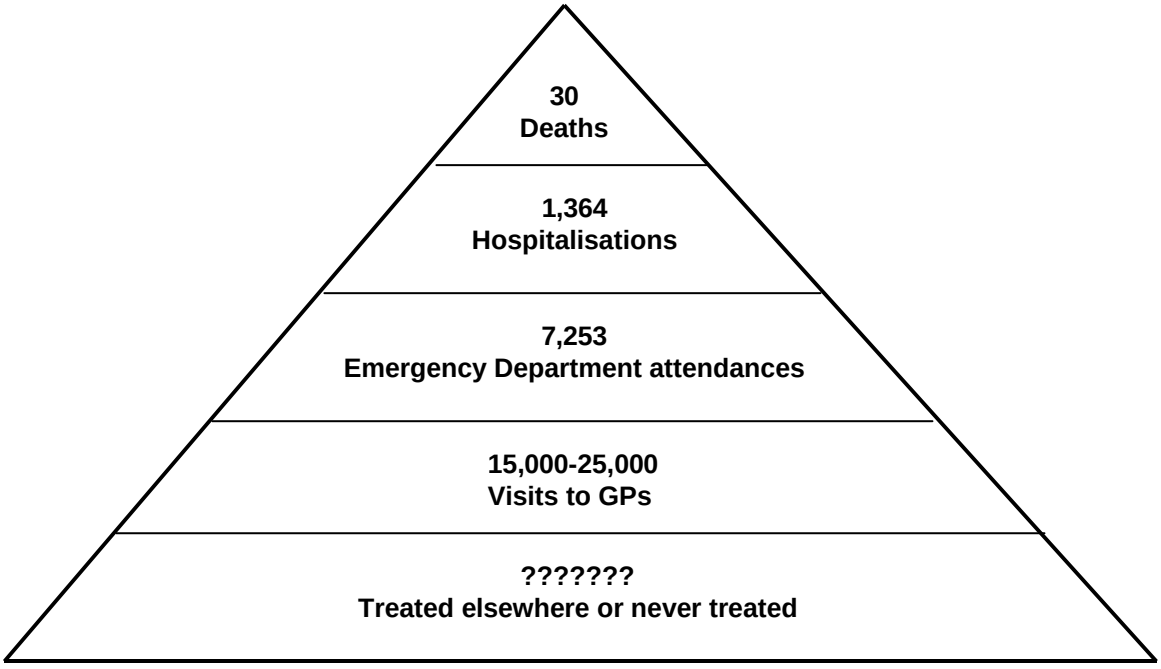
- an overview of injuries in New Plymouth District
- main changes in injury patterns since the previous needs assessment
- priority areas and related evidence from the current needs assessment
- community readiness of New Plymouth District in relation to community injury prevention and the NPiS initiative.

Injuries in New Plymouth District

Each year about 30 residents of New Plymouth District die as a result of injury. In addition there are over 1300 injury-related hospitalisations and over 7000 injury-related visits to public hospital Emergency Departments. As well, there are likely to be between 15,000 and 25,000 visits per year to local general practitioners (GPs) for injury.[45]

On top of this, a further unknown number of injuries are treated elsewhere by other health professionals or by people such as family members or school staff. Some injuries are just treated by injured people themselves or not treated at all (Figure 11.1).

Figure 11.1: Injury pyramid for New Plymouth District 2006



Source: Figure by authors.

[45] Estimated from data in Ministry of Health (1999), Ministry of Health (2004), Crengle et al. (2005).

As is the case in all regions of New Zealand, in New Plymouth District it is *unintentional* injuries ('accidents') rather than *intentional* injuries (self-harm and assaults) that comprise most of the deaths and hospitalisations from injury. Two out of three injury-related deaths in New Plymouth District and nearly nine out of 10 injury-related hospitalisations are due to unintentional injuries.

Looking more closely at all the different kinds of unintentional and intentional injuries in New Plymouth District, the three most common kinds of injury events *resulting in death* are, in order of frequency:

- transport accidents
- intentional self-harm
- falls.

The six most common kinds of injury events resulting in *inpatient admission to hospital* are, in order of frequency:

- falls
- exposure to inanimate mechanical forces (e.g. unintentionally struck by or other contact with objects, gunshots, explosions)
- transport accidents
- intentional self-harm
- exposure to animate mechanical forces (e.g. unintentional contact by another person, bitten or struck by animal)
- over-exertion, travel and privation.

The three leading causes of injury events resulting in Emergency Department attendances are:

- falls
- blunt trauma
- penetrating trauma.

Home and sports / recreation venues are the most common places where these injuries occur.

ACC new entitlement claims are most commonly for soft tissue injuries and fractures / dislocations. Injuries occur most frequently at home or at sports / recreation venues. Injuries at home and sports-related injuries together account for half of all new claims.

Further details about injury patterns in New Plymouth District have been described in Chapters 3-9 and in the report's summary.

Changes in injury patterns

While the current needs assessment was not designed to statistically identify changes in New Plymouth District's injury patterns since the previous needs assessment, some fairly consistent trends can be described for some of the injury data.[46] These trends are likely to be caused by a number of factors, including various national as well as local influences (possibly including the NPiS initiative).

Trends in injury-related *deaths* are difficult to assess because of the relatively small numbers occurring locally each year (causing quite large random variations) and a change in the ICD classification system in the year 2000. From 2000–2003, unlike the national situation, local injury mortality rates appeared to be heading downwards.[47] This followed a previous pattern from 1989–2000, where New Plymouth District had age-standardised mortality rates that were initially below, then were similar to national rates.

Trends in injury-related *hospitalisation* rates can be considered to be more reliable because of the much larger numbers. Recent trends show that from 2000 onwards, national age-standardised hospitalisation rates for injury steadily increased, while New Plymouth District rates decreased, with the gap between local and national rates progressively widening. This contrasts with trends in the earlier period from 1989 to 1997, where injury hospitalisation rates in New Plymouth District were higher than the national average.

The age-standardised rate of injury-related public hospital *Emergency Department* attendance among New Plymouth District residents was slightly higher in 2005 than in 2000.[48]

The age-standardised rate of *ACC new entitlement claims* in New Plymouth District was also slightly higher in 2005 / 2006 than in 2000 / 2001 (as it was, too, for New Zealand as a whole).

In New Plymouth District from 2000 to 2003, rates of *injury road traffic crashes* per 100,000 population were higher than the national average. The rates consistently increased over 2000-2003, as did the New Zealand rates.[49] However, after this in New Plymouth District, the rate dropped to become similar to the national average rate in 2004 and 2005. Earlier data for the five years 1996–2000 showed a progressive decrease in both New Plymouth District and national rates of injury road traffic crashes.

Police statistics showed an increase in the number of recorded *violent offences* between the two five-year periods 1996–2000 and 2001–2005, which reflected a similar trend nationally. There was a slight decrease in the number of *sexual offences* over the same period.

[46] Further statistical analysis would be required to more rigorously explore and describe these trends, such as by calculating confidence intervals or undertaking tests of statistical significance.

[47] Note, however, the small numbers and limited ability to calculate 3-year running averages over this period. Analysis of further data, as it becomes available, will be required to confirm these apparent trends.

[48] No national data were available for comparison.

[49] These are crude rates, not age-standardised rates.

Priority areas

Key people interviewed during the community consultation identified the following eight injury-related issues as being the most important ones needing to be addressed. In order of how often they were mentioned as being a priority they are:

1. road users
2. older people / kaumätua
3. intentional injuries (domestic violence, suicide, assaults)
4. young people / rangatahi
5. children / tamariki

6= people in the workplace

6= Mäori

8. people participating in sport or recreational activities.

The tables on the following pages summarise the evidence gathered about these eight injury issues during the current needs assessment.

1. ROAD USERS / TRAFFIC CRASHES

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths • Most common cause of unintentional injury death • 32 deaths over 4 years 2000-2003 (average 8 per year) • Most common cause of death for 10-19, 50-59, 60-69 and 70-79 year olds • Most common cause of injury death for males, second most common for females • Those killed usually are car occupants **Hospitalisations** • Third most common cause of injury hospitalisations, • 948 hospitalisations over 5 years 2001-2005 (average 190 per year) • ASRs 286 per 100,000 for New Plymouth District compared with 330 per 100,000 for New Zealand over 5 years 2001-2005 • Road users most commonly hospitalised = car occupants, pedal cyclists and motorcyclists • Age groups most likely to be hospitalised = 10-19, 80+ and 20-29 year olds **Emergency Department attendances** • 654 attendances in 2005 for injuries that occurred in vehicles (10% of all injury related attendances) • ASRs: 937 per 100,000 for males compared with 536 per 100,000 for females • Age-specific rates highest in 10-19 and 20-29 year olds **ACC claims** • 95 new claims in 2005 / 06 were for motor vehicle injuries (4% of all new claims for that year) • 62% of new motor vehicle-related claims were for car drivers or passengers and 18% were for motorcyclists **Road crashes** • 248 reported road crash casualties in NPD in 2005, including 7 fatal, 28 serious and 213 minor • NPD injury crash rate = 26 per 10,000 population in 2005, same as NZ rate • 54% of NPD injury crashes were on urban roads and 46% were on rural roads (2001-2005) • Poor observation contributing factor in 50% of urban crashes and 30% of rural crashes • In NPD, intersections more common site for injury crashes than in NZ as a whole	**Population groups and types of injuries** • ***All*** – drink driving, fatigue, lack of defensive driving • ***Children*** – car restraints, speeding near schools • ***Young people*** – inexperience, unlicensed driving, unwarranted cars, speed, drugs, alcohol • ***Older people*** – medical factors • ***Truck drivers*** – fatigue, large vehicles, road design, ageing workforce • ***Pedestrians*** – walking on road at night **Existing interventions** • Car restraint surveillance and Safe To Go car seat training (Kidsafe, Police) • National road safety awareness campaigns (Land Transport New Zealand, Police) • ThinkSafe (ACC) • Speed enforcement surveillance (Police) • *THINK*smart sports codes accreditation (intersectoral) • Mokau driver fatigue initiative (ACC, Police, cafés) • Mobile speed trailer (ACC, Police) • DrinkSafe 4 Youth (Police) • Students Against Drunk Driving • Alco-link • Land Transport New Zealand's work with trucking companies **Suggested interventions** • Increase focus of Kidsafe on road safety promotion for children • Driver education by Land Transport New Zealand and ACC on handling icy and adverse road conditions • Maintenance of Police's current focus on speed, especially near schools • Reinstate Land Transport New Zealand's Waitara young drivers' licensing programme • Breathalysers in pubs, clubs, bars • Freshen up road safety messages and TV advertising	**NPiS Priorities** *Short-term: 2002-2004* • Mäori road • Youth road **NZIPS Priorities** • Motor vehicle traffic crashes is 1 of the 6 national injury prevention priority areas

2. OLDER PEOPLE / KAUMÄTUA (65+)

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths • 80+ year olds have by far the highest mortality rates for injury (264 per 100,000 in 2000-2003) • Transport accidents the most common cause of injury death in 60-69 and 70-79 year olds • Falls and transport accidents the most common causes of injury death in 80+ group **Hospitalisations** • 80+ year olds have by far the highest injury hospitalisation rates (9855 per 100,000 in 2001-2005) • Falls are by far the most common cause of injury hospitalisation in the 60-69, 70-79, and 80+ groups, for both males and females • Transport accidents and exposure to inanimate mechanical forces are next most common causes • Compared with NZ, New Plymouth District residents aged 60-69, 70-79, 80+ now have lower hospitalisation rates for injury **Emergency Department attendances** • 80+ group had third highest attendance rate for injury in 2005 (after 10-19 and 20-29 year olds) • Attendance rates in 60+ group were by far the highest for falls, followed by blunt trauma • Attendance rates in 60+ group were by far the highest for injuries occurring in domestic situations **ACC claims** • In 2005 / 06 rates of ACC new claims for 60-64 and 65+ groups were lower than 20-29, 40-49 and 50-59 year olds but higher than the other age groups **Road crashes** • People aged 60+ accounted for 14% of crash casualties in 2001-2005 **Coroner suicide data** • Number of suicides among 60-69 and 70-79 year olds was lower than in all other age groups (1996 to 2005)	**Population groups and types of injuries** • ***Fractures*** (especially hip) – from slips, trips and falls • ***Bruises and grazes*** – from bumping against home fittings and furniture • ***Sprains and strains*** – veteran sports and physical activities • ***Elder abuse*** – physical, emotional and financial abuse and neglect **Existing interventions** ***Direct*** • Otago Exercise Programme (NZ Falls Prevention Research Group, ACC, Taranaki DHB) • Tai Chi (ACC) • Base Hospital physiotherapists and occupational therapists follow-up home visits after hospitalisation • Waitara Home Safety programme (ACC, Fire Service, Housing NZ, Ministry of Social Development) ***Indirect*** • Green Prescription (SPARC) • Push Play (SPARC) • Aqua jogging, 50 Forwards (Sport Taranaki, PHOs) • Active in Age (Arthritis Foundation) • Marae-based kaumätua exercise and kapa haka **Suggested interventions** • Directory of programmes and services catering for older people • 'Train the trainer' programmes for Tai Chi • PHO co-ordinators to follow-up after hospitalisations including assessment of home, medication, nutrition	**NPiS Priorities** *Short-term: 2002-2004* • Older people falls **NZIPS Priorities** • Falls is 1 of the 6 national injury prevention priority areas

3. INTENTIONAL INJURIES

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths • 33 deaths over 4 years 2000-2003 (average 8 per year, 28% of all injury-related deaths) Age-standardised rate = 12 per 100,000 • Most common causes = intentional self-harm (28 over 4 years 2000-2003), assault (5) • Intentional self-harm is the most common cause of injury-related death for 20-29, 30-39 and 40-49 year olds • Intentional self-harm is the 2nd most common cause of injury-related death for males and the 3rd most common cause for females • Intentional self-harm is the most common cause of injury-related death among Mäori and the second-most common among non-Mäori **Hospitalisations** • 537 hospitalisations for intentional injury over 5 years 2001-2005 (average 107 per year, 8 percent of all injury-related hospitalisations) • 380 hospitalisations from 2001-2005 for intentional self-harm (average 76 per year) • 157 hospitalisations for assaults (average 31 per year) • Overall, intentional self-harm is the 4th most common cause of injury-related hospitalisation • Intentional self-harm is the most common cause of injury-related hospitalisation for females aged 20-29, 30-39 40-49 • Intentional injuries 15 percent of all injury-related hospitalisations for Mäori (7 percent for non-Mäori) **Emergency Department attendances** • 223 ED attendances for assault in 2005 (5 percent of all injury-related attendances) • Males have 3 times the age-standardised attendance rates of females males for assault (587 per 100,000 compared to 191 per 100,000) • 10-19 and 20-29 year olds the most likely age groups to attend EDs for assault-related injury **Police** • 890 recorded violent offences in New Plymouth Policing Area in 2005 • 75 recorded sexual offences in 2005 **Coroner suicide data** • 93 suicides investigated by coroner from 1996-2005 in North Taranaki • 80% of suicides were by males • The most common ages for committing suicide were 30-39 and 20-29 • The most common methods were hanging (42%), carbon monoxide poisoning (26%) and gunshots (11%)	**Population groups and types of injuries** • ***Family violence*** – financial difficulties, poverty, unemployment, lack of family support, alcohol, drugs; women aged 18–mid 30s • ***Other assaults*** – alcohol, drugs, sexual assaults • ***Suicide / attempted suicide*** – people under 25, older and middle-aged males; psychiatric history (depression, previous suicide attempts) **Existing interventions** • Te Rito NZ Family Violence Prevention Strategy (Taranaki Te Rito Management Group) **Suggested interventions** • Public awareness campaign for family violence (Te Rito national campaign is planned for 2007) • Additional free family intervention programmes for family violence victims • Implementation of national suicide strategy	**NPiS Priorities** *Long-term: 2005-2010* • Mäori intentional **NZIPS Priorities** Covers 2 of the 6 national priorities: • Suicide and deliberate self-harm • Assault

4. YOUNG PEOPLE / RANGATAHI (15-24)

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths • An average of 3 10-19 year olds and 4 20-29 year olds die from injuries each year in New Plymouth District • At 60 deaths per 100,000 in 2000-2003, 20-29 year olds have the second highest rate of injury-related deaths after 80+ year olds • The most common causes of injury-related deaths among 10-19 year olds are transport accidents, accidental poisoning and intentional self-harm. • The most common causes of injury-related deaths among 20-29 year olds are intentional self-harm and transport accidents • 20-29 year olds have the highest rate of *intentional* injury death in New Plymouth District (28 per 100,000) **Hospitalisations** • In New Plymouth District each year there are 322 hospitalisations for 10-29 year olds for injuries (183 10-19 year olds, 139 20-29 year olds) • 20-29 year olds have the third highest rate of injury hospitalisation (1977 per 100,000 in 2001-2005) after 80+ and 70-79 year olds • Males aged 20-29 are 3 times more likely to be hospitalised for injury than females. Males aged 10-19 are nearly twice as likely as females to be hospitalised for injury • The most common causes of injury hospitalisations in 10-19 year olds are falls, transport accidents and exposure to inanimate mechanical forces • The most common causes of injury hospitalisation in 20-29 year olds are: for males exposure to inanimate mechanical forces, transport accidents and self-harm; for females intentional self-harm and transport accidents • 20-29 year olds have the highest rate of hospitalisation for intentional injury of all age groups (372 per 100,000) *(Continued overleaf)*	**Population groups and types of injuries** • ***Bruises and lacerations*** – falls, violent and sexual assaults, alcohol, drugs, inexperience and carelessness at work • ***Fractures and head injuries*** - vehicle crashes • ***Sprains and strains*** - lack of knowledge, poor techniques, not wearing safety gear, use of substandard equipment in sports, participation in extreme sports **Existing interventions** • General sports safety campaigns (sports organisations) • National road safety campaigns • Sports coaching and upskilling seminars (sports organisations) • *THINK*smart sports codes accreditation (intersectoral) • DrinkSafe 4 Youth (Police) **Suggested interventions** • Parents need to take more responsibility for their children's safety – they should not 'hand over the car keys' or encourage unsafe alcohol use • Shock tactics to reduce car crashes among young Mäori (e.g. displaying a car wreck at schools) • A scoping study on sports injuries among young people (and children) is planned by the Health Promotion Unit of Taranaki DHB abl**e 3.3: Deaths fro***m specific*	**NPiS Priorities** *Short-term: 2002-2004* • Youth road *Medium-term: 2003-2007* • Youth sport *Long-term: 2005-2010* • Youth violence **NZIPS Priorities** • Young people not specifically mentioned but the national strategy does focus on motor vehicle traffic crashes, suicide and deliberate self-harm, and assault

4. YOUNG PEOPLE / RANGATAHI (15-24) (continued)

STATISTICAL ANALYSIS (continued)		
Emergency Department attendances • In 2005 in New Plymouth District, 1684 10-19 year olds and 1146 20-29 year olds attended public hospital Emergency Departments for injury • Of all age groups, rates of injury-related ED attendance were highest in 10-19 year olds (16,399 per 100,000) and second highest in 20-29 year olds (16,276 per 100,000) • Males aged 10-19 are 1.7 times more likely to attend EDs for injury than females. Males aged 20-29 are nearly 3 times more likely to attend EDs for injury than females • Young people are most likely to attend EDs for blunt trauma and falls • Young people who attend EDs are most likely to have sustained their injuries in domestic situations or sports / recreation venues **ACC claims** • In 2005/06 there were 244 ACC new claims for 10-19 year olds and 352 new claims for 20-29 year olds • 20-29 year olds have the highest ACC new claim rates of all age groups (4999 per 100,000 in 2005 / 06) • Males aged 20-29 are 4 times as likely to have claims than females. Males aged 10-19 are twice as likely as females to have claims **Road crashes** • People aged 10-19 accounted for 28% of crash casualties in 2001-2005, while people aged 20-29 accounted for 19% of crash casualties **Police** • 11% of people apprehended for violent offences are aged 14-16; 18% are 17-20 and 29% are 21-30 • 9% of people apprehended for sexual offences are aged 14-16; 14% are 17-20 and 22% are 21-30 **Coroner suicide data** • From 1996 to 2005, 9% of suicides investigated by the coroner were for people under 20 years old and 20% were 20-29		

5. CHILDREN / TAMARIKI

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths • On average, 1 0-9 year old and 3 10-19 year olds die from injury each year in Taranaki • Children aged 0-9 have the lowest death rates from injury and 10-19 year olds have the third lowest death rates • Accidental drowning and submersion and other accidental threats to breathing were the most common causes of injury death among 0-9 year olds in 2000-2003 • Transport accidents, accidental poisoning and intentional self-harm were the most common causes of injury death among 10-19 year olds • From 2000-2003, there were no intentional injury deaths among 0-9 year olds and only 2 among 10-19 year olds **Hospitalisations** • An average of 168 0-9 year olds and 183 10-19 year olds are hospitalised each year for injury in New Plymouth District • Children have hospitalisation rates for injury that are in the mid-range compared with other age groups • Males have injury hospitalisation rates that are 26% above female rates in the 0-9 year age group • In the 10-19 age group, males had nearly double the rates of injury hospitalisation of females • By far the most common cause of injury-related hospitalisations among 0-9 year olds was falls. Next came exposure to inanimate mechanical forces and then transport accidents. These same three injury causes were the most common for 10-19 year olds, although falls did not dominate as much • 6 children aged 0-9 and 131 aged 10-19 were hospitalised for intentional injuries over the period 2001-2005 *(Continued overleaf)*	**Population groups and types of injuries** • ***Poisonings*** – paracetamol, winter ailment medications, parents' and grandparents' medicines, household cleaners and other household products • ***Bruises, fractures, cuts, lacerations*** – falls from playground equipment, trees, cycles, scooters, skateboards, stairs; car crashes; pedestrians (backing cars, school crossings); child abuse • ***Burns and scalds*** – heaters, fires, hot water; baby walkers; parental ignorance of child development; young children carrying infants **Existing interventions** • Well child care service providers including home safety checks and Well Child care Week • Kidsafe Trust including Kidsafe Week • National child restraint training programme, local car seat safety initiatives (Safe To Go) • Safety component of school health and physical education curriculum • Waitara Initiative Supporting Employment (WISE) Better Homes project includes installation of smoke alarms, stair and fire guards (ACC, Fire Service, DHB, PHO) • PHO / Kidsafe general practice poisonings project • Health Promoting Schools (DHB) • School crossing safety (primary schools)	**NPiS Priorities** *Short-term: 2002-2004* • Children falls **NZIPS Priorities** • Not specifically mentioned but relevant national priorities include falls, drowning and ether on a regular basis to try to

5. CHILDREN / TAMARIKI (continued)

STATISTICAL ANALYSIS (continued)	COMMUNITY CONSULTATION (continued)	
Emergency Department attendances • In 2005 there were 1017 ED visits by 0-9 year olds and 1684 by 10-19 year olds for injury • Males aged 10-19 were nearly 70% more likely to attend EDs for injury than females of the same age • The first and second most common injuries for which 0-9 year olds visit EDs are falls and blunt trauma. The first and second most common injuries for 10-19 year olds are blunt trauma and falls • By far the most common places where 0-9 and 10-19 year olds attending EDs are injured are domestic situations. Sports / recreation venues are also common for 10-19 year olds **ACC claims** • By far the lowest rates of ACC new entitlement claims in New Plymouth District are for 0-9 year olds. The next lowest rate is for 10-19 year olds **Road crashes** • In 2001-2005, young people aged 10-19 accounted for 28% of traffic crash casualties in 2001-2005. Children aged 0-9 accounted for 4% of crash casualties • In a 2005 survey of child restraint use in New Plymouth District, 92% of children under 5 were using an infant seat, child seat, booster seat or harness (compared to 89% in NZ)	**Existing interventions (cont.)** • Falls programme (ACC, Kidsafe, Taranaki Ora) • Follow up of all children hospitalised for injury (DHB) • Pool fencing legislation and surveillance • Baby mats with safety messages (ACC) • Postcards to new parents (Plunket) • School playground safety workshops • CYFS • Strengthening Families Forum (intersectoral) **Suggested interventions** • Further efforts to make school crossings safer through better parental awareness and increased surveillance of speed limits • Safety initiatives in intermediate schools • Mobilisation of community against child abuse • Involvement of children in designing injury prevention programmes	

6= PEOPLE IN THE WORKPLACE

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths and hospitalisations • No data available on whether these are work-related or not **Emergency Department attendances** • In 2005, 538 people from New Plymouth District (431 males and 107 females) attended public hospital Emergency Departments for injuries occurring at work • Injuries occurring at work account for 12% of injury-related ED attendances • Males are over 4 times more likely than females to attend EDs for work-related injuries • People aged 20-29 have the highest rates of ED attendances for injury (27% of injury-related attendances in this age group are work-related) **ACC claims** • Overall in 2005 / 06, 639 or 29% of ACC new entitlement claims in New Plymouth District were work-related • Manufacturing (19%) was the most common industry for which work-related new claims were made, followed by agriculture / forestry / fishing (16%) and construction (15%) • In terms of rates per 100,000 workers, the construction industry had the highest new claim rate, followed by transport / storage and agriculture / forestry / fishing • In 2005/06, 208 or 10% of new entitlement claims were for injuries occurring in industrial places; 246 (11%) were for injuries occurring at commercial or service locations; and 100 (5%) were for injuries occurring on farms • The most common diagnoses for new claims relating to injuries sustained in industrial places are soft tissue injuries (43%) and deafness (20%) • The most common diagnoses for new claims relating to injuries occurring in commercial / service locations are soft tissue injuries (48%) and fracture / dislocations (20%) • The most common diagnoses for new claims relating to injuries occurring on farms are soft tissue injuries (42%) and fracture dislocations (30%)	**Population groups and types of injuries** • ***Manual workers*** – riggers, scaffolders, construction workers, fire safety officers – cuts, bruises, strains/sprains, finger amputations – heavy machinery, high pressure gas, heights, confined spaces, fatigue • ***Young workers*** – more serious injuries because of inexperience and immaturity • ***Older workers*** – back, neck and knee strains – reduced agility – carelessness because of over-familiarity, take short-cuts, prolonged exposure to hazardous substances • ***Migrants*** – communication difficulties around health and safety, inexperience • ***Drivers*** – serious injuries / death – fatigue, poor road design, large vehicles, ageing workforce • ***Farmers (and their children)*** – chemical burns, farm bikes, ATVs, animal unpredictability, resistance to safety measures, combined home and workplace • ***Workers in small to medium workplaces*** – lack of safety culture compared to large companies **Existing interventions** • Workplace health and safety programmes by large companies (Shell Todd, ENSCO, Port Taranaki) • Taranaki Health Safety and Environment (HSE) Centre (ACC, DHB, medium and large industries) • Passport to Safety health and safety awareness programme for 15-24 year olds (HSE Centre, ACC, Dept of Labour) • Farmsafe workshops (Federated Farmers, ACC, Agriculture ITO, Agriculture NZ, Telford Rural Polytechnic) **Suggested interventions** • Regular first aid training for school staff • Farm safety days to be held at local schools including use of local human interest stories concerning farm injuries • More regular local chemical disposal days • National driver fatigue awareness campaign • Improve local roads' 'black spots' • Promote 'employer of choice' concept to attract workers to safe working environments	**NPiS Priorities** *Medium-term: 2003-2007* • Workplace (agriculture) **NZIPS Priorities** • Workplace injuries (including occupational diseases) is 1 of the 6 national injury prevention priority areas

6= MÄORI

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths • 20 deaths over 4 years 2000-2003 (average 5 per year) • Age-standardised rates (ASRs): 64 per 100,000 for Mäori compared with 32 per 100,000 for non-Mäori • Most common causes = intentional self-harm, transport accidents • Intentional injuries 40% of injury deaths for Mäori (25% for non-Mäori) **Hospitalisations** • 757 hospitalisations over 5 years 2001-2005 (average 151 per year) • ASRs 1819 per 100,000 for Mäori compared with 1800 per 100,000 for non-Mäori • Most common causes = falls, exposure to inanimate mechanical forces, transport accidents • Mäori age-specific rates for injury hospitalisation slightly higher than non-Mäori in every age group except 10-19 and 80+ • Intentional injuries 15 percent of all injury-related hospitalisations for Mäori (7 percent for non-Mäori) **Emergency Department attendances** • 923 attendances in 2005 • ASRs: 10,538 per 100,000 for Mäori compared with 11,265 per 100,000 for non-Mäori • Mäori had lower age-specific rates for 0-9, 10-19, 20-29, 60-69, 80+ (compared to non-Mäori) **ACC claims** • 10 percent of new claimants were Mäori **Road crashes** • In 2005, Mäori comprised 19 percent of drivers who were road crash casualties in New Plymouth District **Police** • 45% of people apprehended for violent offences were Mäori • 23% of people apprehended for sexual offences were Mäori	**Population groups and types of injuries** • ***Tamariki*** - falls, burns, scalds, poisonings, non-compliance with car restraints • ***Rangatahi*** – road crashes, use of unwarranted and unsafe cars, risky and aggressive behaviours • ***Kaumätua*** – slips, trips, falls (risk increased by poor vision, underlying medical conditions, failure to identify potential risks at home) • ***Sports injuries*** – high level of participation in contact sports, lack of knowledge of available safety gear / reluctance to use safety gear **Existing interventions** • Tamariki falls project (ACC / Kidsafe) • Kaumätua Otago Exercise Programme (ACC/DHB) • Mäori specific services (Piki te Ora, Manaaki Oranga) • Access to treatment and follow-up of injuries and ACC entitlements (Mäori, ACC, Ministry of Health) **Suggested interventions** • Scoping of sports injuries information • Regular surveys of Mäori injury patterns • 'Survivor Idol' road safety promotional event (music and dance competition)	**NPiS Priorities** *Short-term: 2002-2004* • Mäori road *Long-term: 2005-2010* • Mäori sport • Mäori intentional **NZIPS Priorities** Mäori not specifically mentioned, although relevant national priorities are falls, motor vehicle traffic crashes, suicide and deliberate self-harm, and assault.

8. PARTICIPANTS IN SPORT OR RECREATION

STATISTICAL ANALYSIS	COMMUNITY CONSULTATION	EXISTING PRIORITIES
Deaths and hospitalisations • No data available on whether these are sports / recreation related or not **Emergency Department attendances** • Sports / recreation venues are the second most common places where injuries occur to NPD people who attend public hospital Emergency Departments (14% of injury-related ED attendances) • In 2005, 654 people (449 males and 205 females) attended EDs for injuries that occurred at sports / recreational venues • Males have ED attendance rates for sports / recreational injuries that are more than double those of females • Compared to other age groups, 10-19 year olds and 20-29 year olds were far more likely to require ED treatment for injuries sustained at sports / recreation venues **ACC claims** • In 2005 / 06, 423 (20%) of ACC new entitlement claims were for injuries occurring during sport / recreation; this was the most common activity being participated in prior to injury • Rugby union (17%), netball (10%) and soccer (10%) are the most common types of sports / recreation activities in which injuries occur leading to ACC claims • In 2005 / 06, 391 or 18% of new claims were for injuries occurring at sports / recreation venues (278 males and 113 females) • 21% of new claims made by males are for injuries occurring at sports / recreation venues, compared to just 14% for females • By far the most common diagnoses for injuries occurring at sports / recreation venues are soft tissue injuries (60%) and fracture / dislocations (33%)	**Population groups and types of injuries** • ***Contact sports*** – sprains, fractures, bruises, concussion, cuts and grazes, head and spinal injuries – failure to wear protective gear, poor techniques, injuries (concussion) not taken seriously • ***Extreme sports*** – includes mountaineering and mountain biking – sprains, fractures, bruises, concussion, cuts and grazes, head and spinal injuries – inadequate equipment, tourists (and others) not taking the mountain seriously, weather, high tech mountain bikes outstripping riders' capabilities • ***Athletics*** – sprains and strains - poor equipment (e.g. shoes) • ***Veteran sports*** – sprains and strains – age-related physical conditions **Existing interventions** • Injury risk assessment and management (Sport Taranaki) • Green prescription / Active Families (GPs, SPARC, local sports trusts) • Push Play (SPARC) • Best practice programmes for coaches (sports trusts and sports codes) • Active schools (secondary schools) • Otago Exercise Programme • Tai Chi • New Plymouth Coastal Walkway (Keeping fit reduces injuries) **Suggested interventions** • Scope whole area of sports injuries (Health Promotion Unit of DHB planning to do this 2006/07)	**NPiS Priorities** *Short-term: 2000-2004* • Sport (all ages) *Medium-term: 2003-2007* • Youth sport *Long-term: 2005-2010* • Mäori sport **NZIPS Priorities** • Not specifically mentioned

Other priority areas

Other priority areas that could be considered are:

- drowning (which accounted for 6 deaths in 2000-2003, including 3 under 19-year-olds)
- injuries occurring to people at home (this was cited as a priority area in the last needs assessment, but not in the current one)
- males (many of the statistical indicators show that males have much higher injury rates than females, particularly in younger age groups).

Community readiness

Assessing the readiness of New Plymouth District for a community injury prevention initiative was not a specific aim of the current project. However, the information we collected enables us to make some comments that could contribute towards this process. Further information would be needed to more comprehensively assess New Plymouth District's community readiness for such an initiative.

In making these comments, we have used the six dimension headings from the community readiness tool developed by the Tri-Ethnic centre of Colorado State University (Edwards et al. 2000; Oetting et al. 2001; Slater et al. 2005; Thurman et al. 2003).[50]

Existing efforts – programmes, activities, policies

Since its establishment in 2000 (originally as the New Plymouth Injury Safe Advisory group), the New Plymouth injurySafe group has been very active in developing, running and supporting activities and programmes to prevent injury in New Plymouth District. Examples of these activities are:

'Horsing Around' (rider safety and skills programme for young people)	Annual Kidsafe Weeks
Training seminars on playground safety for primary schools	Health and Safety Expo
Road safety campaigns such as 'Down with Speed' and ACC Stop Bus	'Think Before You Buy Under 18s Drink' campaign
Education sessions on preventing falls among children	Health Safety and Environment Centre promoting health and safety in workplaces
Otago Exercise Programme and Tai Chi for older people	Kidsafe free checks of child car restraints
*THINK*smart sports club accreditation programme	Resource kit on falls, burns and poisonings among 0-4 year olds
Mokau 'Driver Reviver' campaign	Walking school buses
Annual ThinkSafe Farm Safety Team Challenges for secondary schools	

As well as these activities, the group has (among other things): commissioned two community injury needs assessments (including the current one); developed a strategic plan and an annual plan;

[50] See Chapter 1 for a more detailed discussion of this tool.

successfully applied for World Health Organisation Safe Community accreditation; and worked on its intersectoral relationships within the group and with others outside the group.

While an evaluation of the NPiS initiative as a whole has not yet been carried out, smaller evaluations of individual activities are ongoing. To date, these evaluations have included pre- and post-intervention surveys, random telephone surveys, focus group interviews of activity participants, and injury data analysis. NPiS personnel also contributed to the formative evaluation of the local ThinkSafe community project.

Community knowledge / awareness of these efforts

There is indirect evidence that there is a reasonable degree of knowledge among community organisations and the wider community. For example:

- a high number of people and organisations participating in specific NPiS activities such as the Otago Exercise Programme, Tai Chi and the *THINK*smart programmes
- the high level of response, such as letters to the editor, after stories about NPiS activities in the media, in particular the WHO accreditation as a Safe Community.

However, a few people consulted for this project believed that increasing awareness in the wider community, and increasing the input of 'grassroots' community and service providers into NPiS activities, may be areas that could benefit from further effort in the future.

Eventually it may be helpful to more directly measure the level of awareness of NPiS activities among members of the wider community, for example through a community survey. However, this is likely to require special funding.

Leadership – appointed leaders and influential community leaders

The New Plymouth Injury Safe Advisory Group, and subsequently New Plymouth injurySafe, have provided a great deal of leadership in establishing a community injury prevention initiative in New Plymouth District. The intersectoral group includes some (possibly most) of the key organisations responsible for injury prevention and general health promotion in the local population, particularly government agencies, the Health Promotion Unit of Taranaki DHB and Tui Ora Ltd. The NPiS group has also fostered New Plymouth District Council's leadership in this issue. A high level of leadership skills by the group was also necessary in the process of the District successfully applying for accreditation as a WHO Safe Community.

Community climate – existing community attitudes to a particular issue

According to feedback from key people in the community, New Plymouth District has a good history of organisations working collaboratively. Working across sectors on the issue of injury prevention was seen to be essential and beneficial because of:

- the large scale of the injury prevention issue
- the potential to use a holistic approach to the problem
- the ability to use a more consistent approach across organisations
- greater efficiency in being able to share funding and other resources to address the issue
- the potential to reduce duplication and waste of resources across organisations.

Local organisations are now said to be very supportive and committed to the idea of safety promotion and injury prevention. The current economic growth of New Plymouth District and the increase in tourism also means that it is necessary to ensure a safe environment.

However, little is directly known about the wider community's general attitudes towards, and levels of support for, injury prevention. While there has been good support for many NPiS activities, resistance to safety measures among some groups (such as farmers and sports clubs) was identified as an issue in the community consultation.

Community knowledge about the issue

The results of two needs assessments, statistical analyses relating to specific NPiS activities, and the WHO Safe Community accreditation application process, mean that there is quite a high level of knowledge, at least among leading injury prevention organisations, about the degree and nature of injury patterns in New Plymouth District. There is also likely to be developing knowledge about what works, and what is less successful, in preventing injury in the local community as activities are evaluated.

However, there is no direct knowledge about how much the wider community (the 'general public') knows about injury issues. Many of those who have participated in NPiS education activities may now have improved knowledge about specific injury issues (for example, falls, burns). However, again because a general community survey has not been carried out, the local population's level of knowledge and use of injury prevention measures appears to be largely unknown.

The community consultation suggested that increasing the community's knowledge and awareness of injury issues would increase its ownership and responsibility for prevention measures such as the NPiS initiative.

Resources available to address the issue – including funding, trained staff and time

The NPiS initiative currently has direct funding from the ACC, Ministry of Health, Tui Ora Ltd, and Land Transport New Zealand. There are also the equivalent of 4.2 full-time staff working on injury prevention in ACC, Taranaki DHB, New Plymouth District Council and Tui Ora. Additional time is given from staff from organisations like the Police, Fire Services, Plunket, Department of Labour, Occupational Safety and Health and so on.

Other organisations and businesses give in-kind contributions such as discounted products and free equipment for specific projects.

The level of professionalisation of at least some of the members of NPiS is very high, evidenced by the successful bid for the District to become a WHO Safe Community.

There is currently no dedicated co-ordinator for the NPiS initiative, although funding for one has recently been obtained. Evaluations of many other intersectoral groups have shown that having a co-ordinator significantly increases the chances of initiatives being successful.

How ready is New Plymouth District for a community injury prevention initiative?

Considering the evidence summarised above, New Plymouth District has obviously achieved many of the nine 'stages of readiness' outlined in the community readiness model.

A lack of direct evidence on the awareness, knowledge, attitudes and behaviour of the general population towards injury prevention makes it difficult to assess exactly which stage the NPiS is at. However, it appears to be around stage 7 (stabilisation) or stage 8 (confirmation / expansion); with elements of stage 9 (professionalisation / community ownership).

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