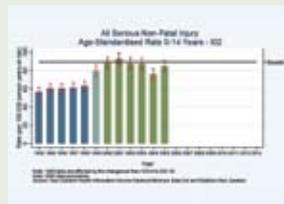
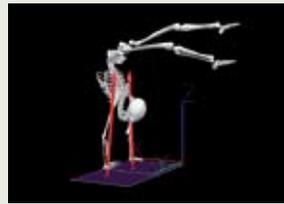


UNIVERSITY OF
Otago
 INJURY PREVENTION RESEARCH UNIT



IPRU

2008 ANNUAL REPORT



IPRU

2008 ANNUAL REPORT

For the year ending 31 December 2008

The goal of the Injury Prevention Research Unit is to contribute to reducing the incidence, severity and consequences of injury in New Zealand.



Major purchasers of the IPRU's research are the Accident Compensation Corporation, the Health Research Council of New Zealand, the Alcohol Advisory Council of New Zealand and the Road Safety Trust.

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FROM THE DIRECTOR

This year the Injury Prevention Research Unit (IPRU) has been able to focus on undertaking its research. It was a relief to staff that 2008 required less activity on securing research funding, as our previous year's effort successfully established medium term funding streams for most of our work. Research continued to focus on key areas of injury, many of which are priorities for the New Zealand Injury Prevention Strategy (NZIPS). This year's research reflects the range of expertise IPRU staff bring to the complex problems of reducing injury.

Road safety issues are never far from the media headlines, and young drivers continue to feature prominently. Our main effort to address the problem of young drivers is the New Zealand Drivers Study (NZDS). This is a large follow-up study of 3992 newly licensed drivers, 824 of whom self-identified as Māori. A major challenge for any longitudinal research is keeping track of the study participants. For the NZDS, however, we are extremely fortunate to have the ongoing support of the Driver Licensing Registry (DLR) in Palmerston North. As well as maintaining the driver licensing database for the entire country, DLR also maintains a database that includes only the NZDS participants. With the study participants' consent, DLR checks this database each week and informs us of any changes on the records of any of our study members. From this we know who has upgraded their licence and is due for their next interview. There is little doubt, that without the support of DLR, the follow-up stages of this study would be extremely difficult, if not virtually impossible.

Another aspect of the NZDS that has been very encouraging is the 1200 parents/caregivers of young drivers who are also taking part in the study. This aspect of the NZDS has the potential to provide very useful information on the role of parents as the supervisors of young newly licensed drivers, which should help guide policy and programmes in the future. Indeed, the value of the NZDS to help inform road safety policy for young drivers has already been acknowledged by the Ministry of Transport which is responsible for developing New Zealand's 2020 Road Safety Strategy.

As in previous years, the recent summer holidays were marred by a series of drowning fatalities. In 2008, the Drowning Prevention Council, representing the major agencies associated with water safety, was established to take a leadership role in implementation of the New Zealand Drowning Prevention Strategy: 2005-2015. The IPRU contributed to the work of the Council this year with the completion of a multifaceted project involving a systematic review of the recent literature on risk factors and interventions, an examination of trends in drowning mortality statistics, and a comparative assessment of drowning and water rescue data bases maintained by New Zealand agencies. In addition, the IPRU continued to have a researcher appointed to the Council's Research Advisory Committee, thereby maintaining its long association with the development and implementation of the Drowning Prevention Strategy.

Child injury receives a mixed press. On one hand there is public dismay and abhorrence at injuries, both intentional and unintentional, that reach the headlines. On the other hand, there are many who voice concern at children being over-protected and not learning how to calculate risk and keep themselves safe. While opinions on such issues may differ, New Zealand does have a relatively high level of child injury death when compared to other similar countries. Most injuries, whether resulting in death or hospitalisation, are unintentional, and children under 5 years of age bear a high proportion of that burden. IPRU's research into understanding what influences parents in their decisions about safety for their young children is part of investigating why this is occurring and how to develop or deliver efficacious interventions more effectively. This approach has been affirmed by international research and policy development particularly by recommendations made in two recent World Health Organization reports, the 'World Report on Child Injury Prevention' and 'Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health' that call for research to provide greater understanding of the 'causes behind the causes' of poor health and injury.

The IPRU research on childhood intentional injury also explores the causes behind the causes. Regrettably physical child abuse continues to be a major concern for New Zealand. Being able to determine how an injury event took place, and in particular whether the causal explanation fits the observed injury, is a major challenge in forensic science. In collaboration with the University of Otago's School of Dentistry, IPRU's biomechanics group is examining the usefulness of a variety of mathematical techniques, including the biomechanical model of child impact previously developed by this group to look at child playground fall injuries, for estimating the probability that an injury was inflicted intentionally. Improved tools for rigorously analyzing the probable circumstances and causes of injury will enhance the value of trauma evidence.

The Health Research Council of New Zealand (HRC) and Accident Compensation Corporation (ACC) funded project "Prospective Outcomes of Injury Study" (POIS) is a further example of the importance of research to examine the details of the after-effects of injury. This disability study seeks to develop predictors of the outcome following injury. Crucial to its success has been the recruitment of sufficient Māori participants to allow a dedicated Māori-specific analysis of the predictors. This arm of the study required a whole new study within it, namely, the translation of an international health status measure recommended for use in studies of injury outcome, the EQ-5D, into *Te Reo Māori*. The translated version has been completed, ready for presentation to the International Translation Committee for final approval.

A key plank of our surveillance work has been the development of indicators of injury incidence to monitor the national impact of the New Zealand Injury Prevention Strategy (NZIPS). These indicators have now been adopted by all of the NZIPS lead agencies: ACC, Health, Justice, Labour, Social Development, and Transport. Complementing the production of these fatal and serious non-fatal injury indicators chartbooks was new work that investigated the development of impairment indicators. The current indicators are based on injuries that represent a significant threat to the life of those who experience those injuries. There are other important injuries, however, that represent minimal threat to life but result in significant disability (for example, amputation of fingers/thumb or penetrating eye injuries). The impairment indicators capture serious injuries along this disability dimension. The production of a chartbook of the trends of the viable non-fatal impairment indicators developed should provide additional evaluation tools to NZIPS.

Injury in the farming sector is a major area of concern for the ACC in particular. This year has seen the culmination of a collaborative project investigating the key characteristics of the development and implementation of effective occupational health interventions to improve occupational health and safety on farms. Findings from this research offer a starting point for the development of a strategy to improve occupational health and safety on farms building on efficacious interventions and taking into account the complex factors that shape injury and ill-health outcomes on New Zealand farms. For example, the heterogeneous nature of the farming community and socio-cultural factors mean some members of this community are more at risk of injury than others.

IPRU staff were involved in international farming collaborations, for example, on projects in agricultural safety in Australia and Canada, the findings of which will be relevant to agricultural injury prevention in New Zealand. These collaborations provide valuable experience particularly for new post-doctorate staff members, and I look forward to the establishment of further networks of occupational and injury epidemiology researchers within Australia and Canada.

The IPRU continued to develop its expertise in injury-related issues such as depression, aggression and alcohol use. One project investigated aggressive behaviours and their consequences in schools, while others focused on applying research through developing and trialling interventions to reduce harm in the injury-related areas of depression and alcohol use. Depression is implicated in suicide and self harm and so is of concern for injury prevention. We received a very positive response from participants when RID (Recovery via Internet from Depression), our national online trial to reduce depression and self-harm, commenced. New funding enabled the expansion of the current programme of internet-based interventions to address partner violence and examine the usability of national depression information websites.

Alcohol is a leading modifiable cause of injury among young people in New Zealand. The year saw the publication of the results from the *e-SBI* trial. *e-SBI* was an ambitious study of patients recruited at the University of Otago Student Health Service, screened in the waiting room for hazardous drinking and randomly assigned to receive a web-based brief intervention or screening alone. The findings, based on a sample of over 500 hazardous drinkers followed up over 12 months, replicated previous research conducted by IPRU, showing that this 10-minute interactive program, delivered in a primary healthcare setting, reduces hazardous drinking and related problems in a population group with high injury risk. The publication of the findings in the prestigious journal *Archives of Internal Medicine* is evidence of their importance and international relevance.

I am pleased to report that during 2008 the IPRU continued to expand and develop the breadth of its research programme which is of direct relevance to key injury issues both in New Zealand and globally. We appreciate the widespread support received from various government agencies, non-government organisations and from the community at large through its participation in various projects.

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ROAD SAFETY

Traffic crash injury is a leading cause of death and serious injury among the adolescent/young adult population of New Zealand. Since 1987, when graduated driver licensing was first introduced, the rate of serious traffic injury has significantly decreased. Nevertheless, there is still much room for improvement. To achieve this improvement we need to identify how we can modify the early driving experience of our young people, which is the time when they are at greatest risk of crash involvement. The primary focus of our main research project, the New Zealand Drivers Study, aims to provide scientific evidence that is directly relevant to the development of policy and programmes for newly licensed young drivers in New Zealand. The other focus of our road safety related research during 2008 was a study of motorcyclists and motorcycling in New Zealand.

YOUNG DRIVERS

The New Zealand Drivers Study (NZDS): A Follow-up Study of Newly Licensed Drivers



The New Zealand Drivers Study is a prospective cohort study of 3992 newly licensed car drivers. The study participants are being followed up as they progress through the graduated driver licensing system to obtain detailed information on the driving and driving-related behaviours of novice drivers. This information is obtained in a series of interviews which are linked to the three licensing stages of the graduated driver licensing system. Stage 1: Face-to-face recruitment of the study participants took place after passing the learner licence test, at which time signed consents and a baseline questionnaire were completed. Stage 2: The first follow-up interviews take place after the restricted licence test has been passed. This telephone interview includes items relating to driving behaviour and driving related attitudes and experiences during the learner licence period, and expectations of the restricted licence stage. In addition, 1200 parents/caregivers of young drivers were interviewed at this stage to examine the role of parents/caregivers as the supervisor of a young learner driver. Stage 3, the second follow-up interview, is also a telephone interview and corresponds to passing the full licence test. This interview includes items relating to experiences as a restricted licence driver. Consent was obtained from virtually all study participants to follow up their traffic records using national traffic crash and injury databases for ten years after they gain their full licence.

Primary Aim:

To explore the relationship between a comprehensive range of driving and traffic safety related factors, for example, driving experience, motivation for driver licensing, driver training, alcohol and drug use, risk-taking, and subsequent traffic crashes and convictions among newly licensed drivers; and from this, to identify specific areas that can be targeted to reduce traffic-related injury among this high-risk group.

Secondary Aims:

- ~ To examine this relationship specifically for newly licensed Māori drivers (see below);
- ~ To examine the role of parents/caregivers as supervisors of newly licensed drivers (see below);
- ~ To evaluate the impact of current novice driver training programmes on driving-related outcomes.



Project Team: Dorothy Begg, John Langley, John Broughton, Rebecca Brookland, Shanthi Ameratunga, Anna McDowell

Funding: Health Research Council of New Zealand, Accident Compensation Corporation, Road Safety Trust

Additional Support: The Driver Licence Registry (DLR) maintains a database of the NZDS study participants and tracks their progress through the licensing system. New Zealand Automobile Association accommodated the recruitment of study participants at their agencies throughout New Zealand.

Progress: Stage 1, recruitment of the newly licensed driver cohort, was completed in January 2008. By the end of the year more than half the cohort had passed their restricted licence test and 90% of these had completed the stage 2 interview. Around 10% had gained their full licence and 95% of these had completed stage 3, the second follow-up interview. Analysis of the baseline data began and papers were prepared for publication.

Parental Influence on the Driving Experiences of Young Newly Licensed Drivers

Parents potentially play an important role in influencing adolescent driving experiences, given that the young driver may still live at home and parents are generally involved in the driving process from the beginning. For example, parents often teach adolescents how to drive and manage early driving experience by limiting vehicle access, placing restrictions on when, where, and with whom, driving may occur, and by the driving behaviours they model.

The Parent Study is part of the New Zealand Drivers Study (NZDS), a prospective cohort study of 3992 newly licensed drivers. For the parent study, 1200 parents and young drivers (aged 15-17 years at learner licence stage) were interviewed at the restricted licence stage. Data on young driver crashes, convictions, and infringements during their first 12 months of unsupervised driving will be obtained from national traffic crash and injury databases.

Aim:

To examine the influence of parents' driving related attitudes and experiences on driving experiences and the negative traffic-related outcomes of adolescents as newly licensed drivers.

Specifically this study aims to:

- ~ Describe parents' knowledge, opinions, and experience with licensure;
- ~ Explore the relationship between parents' and young drivers' attitudes and behaviours relating to driving related issues; and
- ~ Examine the influence of parental driving related attitudes and behaviours on subsequent negative driving related outcomes of young drivers (such as traffic violations and crashes).

Project Team: Rebecca Brookland, Dorothy Begg, John Langley, Shanthi Ameratunga



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Funding: Health Research Council of New Zealand, Accident Compensation Corporation, Road Safety Trust

Progress: During 2008, the parent and young driver interviews were completed and a presentation made at an international conference.

Newly Licensed Rural and Urban Māori Drivers: New Zealand Drivers Study

Aim:

To examine the experiences and opinions of newly licensed Māori drivers in New Zealand in order to identify some of the underlying behaviours and beliefs within this high risk group.

Specifically the two core objectives are to:

- ~ Examine in the overall New Zealand context, the experiences and opinions of newly licensed Māori and non-Māori drivers; and
- ~ Describe and compare in-depth a number of driving, behavioural and personality related factors between newly licensed Māori drivers in rural and urban areas.

Project Team: Anna McDowell, Dorothy Begg, Jennie Connor, John Broughton

Funding: Health Research Council of New Zealand, Accident Compensation Corporation, Road Safety Trust

Progress: The cohort of newly licensed Māori drivers is part of the New Zealand Drivers Study cohort, and comprises 824 participants who identify as Māori, either as their sole ethnic group or as one of the ethnic groups to which they belong. A presentation was made at an international conference and a Masters thesis was submitted.

DUNEDIN MULTIDISCIPLINARY HEALTH AND DEVELOPMENT STUDY (DMHDS)

The DMHDS is a longitudinal study of a birth cohort of 1037 people born in Dunedin between 1 April 1972 and 31 March 1973. This cohort was interviewed every two years from age 3 to 15 years, and again at ages 18, 21, 26 and 32 years.

Road safety research has been part of the DMHDS for many years, and the period from ages 15 to 26 years was a rich source of data providing the opportunity to continue exploring a range of topics on various aspects of road safety for young drivers. The aims and investigators for the various studies involved can be found in previous annual reports.

Progress: A paper from this study was accepted for publication in a peer-reviewed journal.



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MOTORCYCLE INJURIES AND DEATHS: PREVENTION, POLICY AND LEGISLATIVE DEVELOPMENT

Motorcyclists are seriously over-represented in traffic crash statistics and ACC compensation claims. In recent years there appears to have been a revival in motorcycling in New Zealand but because of a lack of research, much of our knowledge about the nature and extent of this revival, and what is influencing it, is anecdotal or speculative. This programme of research is designed to address the knowledge gaps and provide the ACC and other potential stakeholders with a sound evidence base for the development of policies and programmes to reduce motorcycling injury in New Zealand.

This programme of research has three main components: an epidemiological study, a systematic review and a qualitative study.



Epidemiology of Motorcycling Injury in New Zealand

Aim:

To provide an overview of the epidemiology of motorcycling injury crashes in New Zealand, with an emphasis on serious injury crashes, and to examine the association between motorcycle crash characteristics and severity of injury.

Project Team: Dorothy Begg, Gabrielle Davie, John Langley, Ari Samaranayaka, Brandon de Graaf

Funding: Accident Compensation Corporation

Progress: A report describing the epidemiology of motorcycling injuries in New Zealand was completed and sent to the funding agency. An examination of crash risk factors in relation to injury severity commenced.

A Systematic Review and Comparative Analysis of Motorcycle Legislation, Policies and Programmes

Aim:

To provide an up-to-date overview of international research, policies, programmes and legislation that is of relevance to motorcycling in New Zealand.

Project Team: Pam Smartt, Suzanne Wilson, Bronwen McNoe

Funding: Accident Compensation Corporation

Progress: The review was completed and a report presented to the funding agency.

Findings: The literature review identified recent research publications and reports on factors related to motorcyclist safety, crash, and injury risk. The comparative analysis identified common threads in the road safety strategies, policies and programmes of countries generally regarded as having good road safety practices.

Qualitative Study of Trends and Culture of Motorcycling in New Zealand

Aim:

To describe reasons for riding motorcycles, attitudes and behaviour towards safety, perception of risk and predicted future trends in the motorcycling population in New Zealand.

Project Team: Jean Simpson, Nandika Currey

Funding: Accident Compensation Corporation

Progress: Focus group and individual interviews were conducted with a range of motorcyclists and key informants involved in the industry in a selection of regions in New Zealand. Analyses of these interviews commenced.

THE TAUPO CYCLE STUDY¹

Although the proportion of the population that is cycling for transport has declined in each of the last four censuses, recreational cycling is becoming more popular. More new bicycles are imported each year to New Zealand than are cars. This web-based longitudinal study is following up a large group of social cyclists, recruited in 2006, to identify the frequency of crash injury and modifiable risk factors for injury. The project is also exploring the factors that encourage and discourage cycling, both for recreation and for commuting to work and study.

Aim:

To identify risk factors for bicycle crash injuries as a guide to interventions aimed at reducing these injuries.

Project Team: Alistair Woodward, Sandar Tin Tin, Simon Thornley, Anthony Rodgers, Shanthi Ameratunga, John Langley

Funding: University of Auckland

Progress: A paper was published and a second submitted to a peer-reviewed journal.



¹ This is not managed by the IPRU, however IPRU staff are scientific collaborators on the project.

PUBLICATIONS

Refereed Journals

RJ338 Begg D, Gulliver P. A longitudinal examination of the relationship between adolescent problem behaviours and traffic crash involvement during young adulthood. *Traffic Injury Prevention* 9(6):508-14

RJ339 Begg D, Langley J. A critical examination of the arguments against raising the car driver licensing age in New Zealand. *Traffic Injury Prevention* (in press)

RJ343 Ameratunga S, Tin Tin S, Coverdale J, Connor J, Norton R. Post-traumatic stress among hospitalized and non-hospitalized survivors of serious car crashes: a population-based study. *Psychiatric Services* (in press)

CONFERENCES AND MEETINGS OF NOTE

Australasian Road Safety Research, Policing and Education Conference, Adelaide, Australia, November 10-12, 2008

Anna McDowell

Presentation

“Pre-licence driving experience in newly licensed Māori drivers”

Rebecca Brookland

Presentation

“Parent and adolescent risky driving behaviours”

Safe Communities Road Show, St Margaret’s College, University of Otago, October 17, 2008

Rebecca Brookland and Dorothy Begg

Presentation

“Addressing the young driver problem: New Zealand Drivers Study”

SPORT AND RECREATION

Sporting and recreational activities account for almost one-fifth of all injury hospitalisations in New Zealand and account for a similar proportion of ACC compensation claims. The IPRU's sport and recreational injury research programme has three main objectives: to facilitate improvements in injury surveillance, identify risk factors and evaluate injury prevention measures. Over the past year, the programme's emphasis was on new projects in the areas of water safety and non-organised sport.

SURVEILLANCE

Sport and Recreational Injury: Monitoring National Data

New Zealand has a number of national injury databases that can be used to describe the burden of injury occurring in sport and recreation. This project has built on the IPRU's experience in working with national databases and has contributed to methodological developments in this area.

Aim:

To develop a means for routinely monitoring the incidence, nature, circumstances, severity and outcomes of sports injuries in New Zealand using routinely collected data.

Project Team: Pam Smartt, David Chalmers, Pauline Gulliver, Dave Barson

Funding: Accident Compensation Corporation

Progress: Two papers were accepted and a further two papers submitted for publication in peer-reviewed journals.



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Routine Surveillance of Injury and Safety Behaviour in Rugby Union Football and Soccer

In 2001, the New Zealand Rugby Union (NZRU) launched its injury prevention programme RugbySmart but it lacked a means for routinely monitoring injury and safety behaviour among club level players at whom it was aimed. The development of a surveillance system to address this shortcoming builds on a decade of research on rugby injury undertaken by the IPRU. More recently the system has been adapted for use in soccer.

Aim:

To develop and evaluate a method for undertaking routine surveillance of injury and safety behaviour in rugby as a model for other high risk sports in New Zealand.

Project Team: David Chalmers, Bronwen McNoe, Dave Barson, Ari Samaranayaka, Pauline Gulliver

Funding: Health Research Council of New Zealand

Progress: Three papers were prepared for submission to peer-reviewed journals.



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WATER SPORT AND RECREATION

Identification of Risk Factors for Non-Submersion Swimming Injury

Swimming ranks second among the activities contributing to the incidence of aquatic recreational injury. While many risk factors for the injuries have been postulated in the literature, few have been confirmed through analytic studies. There is a need, therefore, for well-designed analytic studies to confirm the significance and contribution of such risk factors.

Aim:

To identify risk factors for injuries in recreational swimming as a means of facilitating the development of targeted interventions aimed at reducing these injuries.

Project Team: David Chalmers, Pauline Gulliver, Bronwen McNoe, Gabrielle Davie, Pam Smartt

Funding: Accident Compensation Corporation

Progress: A paper was prepared for submission to a peer-reviewed journal.

Fencing of Swimming Pools: Local Authority Survey

The Fencing of Swimming Pools Act has served New Zealand since 1987, but inconsistencies between this Act and the New Zealand Building Code prompted moves to review the legislation. A survey of territorial local authorities undertaken by IPRU in 1997 showed that enforcement of the Act was inconsistent across authorities and that numerous pools failed to comply with the requirements of the Act. As part of the review process, Water Safety New Zealand commissioned the IPRU to undertake a replication of the 1997 survey of territorial local authorities.

Aim:

To identify the current status of compliance and enforcement of the Fencing of Swimming Pools Act 1987 by local authorities.

Project Team: David Chalmers, Pauline Gulliver, Kimberly Cousins

Funding: Water Safety New Zealand

Progress: A paper was submitted to a peer-reviewed journal.

Water Safety Research: Comparative Studies and Database Development

Death by drowning is the third leading cause of unintentional injury death in New Zealand. In 2005 the ACC launched the Drowning Prevention Strategy to co-ordinate the efforts of those involved in water safety and to establish a water safety culture in New Zealand. This one-year programme of research was commissioned by ACC and its strategic partners to help achieve the objectives of the first five years of implementation of the Strategy.

Aim:

To inform implementation of the Drowning Prevention Strategy, underpin further development of the Strategy and improve water safety knowledge by:

- ~ Updating previous literature reviews on drowning including a comparative study of international policies and programmes;
- ~ Examining recent trends in drowning deaths in New Zealand for different water-based activities; and
- ~ Evaluating the current scope and quality of drowning and water rescue databases in New Zealand together with an international literature search for gold standards/best practice guidelines for national drowning databases.



Project Team: Melissa Purnell, Pam Smartt, Bronwen McNoe, David Chalmers

Funding: Accident Compensation Corporation

Progress: The project was completed during the year and three reports were delivered to the funding agency.

Findings: The literature review revealed that very few scientifically robust evaluations of drowning prevention interventions have been reported since 2004. Major gaps in the water safety policies and drowning prevention campaigns in New Zealand, and internationally, are related to alcohol use in and around water, particularly among male youth. In New Zealand, the combined contribution to the overall drowning death toll of recreational swimming, land-based fishing, underwater activities and non-recreational immersion incidents has increased since 2005, warranting further attention. The current scope and quality of drowning and water rescue databases in New Zealand were shown to vary, with no single database providing all the information required. Comparative assessments demonstrated that each of the databases evaluated provided well for the capture of victim information, event identification and data sharing. Between them, they provided well for the capture of high quality information relating to a wide range of drowning and water rescue incident types and locations.

NON-ORGANISED SPORT

Extending the Reach of SportSmart: A Survey of ACC Sport and Recreation Claimants

In its sport and recreation injury prevention programme, the primary strategy adopted by ACC is coach education delivered through national sports organisations. Not all sport and recreational activities are carried out under the auspices of national sporting organisations, however, and many participants in these activities cannot be reached through coach education programmes. The purpose of this project is to provide ACC with a profile of claimants falling into this 'non-coached' category – variously labelled non-organised, social, casual or informal sport – so they can better target this large and potentially growing group.

Aims:

- ~ To determine the relative size and population characteristics of claimants who are reached, and not reached, through ACC's current methods of delivering injury prevention messages and programmes, for four popular sport and recreational activities (football, netball, equestrian activities, cycling);
- ~ To determine the relative size and characteristics of ACC claimants involved, and not involved, in organised activity for the nominated sport and recreational activities; and
- ~ To identify potential avenues through which to communicate ACC's injury prevention messages and programmes to those not reached through ACC's traditional approach for the nominated sport and recreational activities.

Project Team: Bronwen McNoe, Melissa Purnell, Pam Smartt, David Chalmers

Funding: Accident Compensation Corporation

Progress: Piloting of the data collection procedures was completed and data collection commenced. Approximately 800 claimant interviews were completed.

Review of Literature on Injury Prevention in "Non-Organised" Sport and Recreation

Complementing the study above was a literature review.

Aim:

- ~ To undertake a literature review to determine what is already known about preventing or reducing injury and injury risk in those who participate in "Non-Organised" Sport and Active Recreation, either socially or informally.

Project Team: Melissa Purnell, Bronwen McNoe, Pam Smartt, David Chalmers

Funding: Accident Compensation Corporation

Progress: The literature search was completed, papers procured and writing the review commenced.

PUBLICATIONS

Refereed Journals

RJ346 Smartt P, Chalmers D. A new look at horse-related sport and recreational injury in New Zealand. *Journal of Science and Medicine in Sport* (in press)

RJ347 Smartt P, Chalmers D. Obstructing the goal? Hospitalisation for netball injury in New Zealand 2000-2005. *New Zealand Medical Journal* (in press)



CHILD

In New Zealand children under five years of age carry a disproportionate burden of injury. Of children aged 0-14 years, nearly a quarter are under 5, but this age group contributes half the injury deaths and one in three of the injury hospitalisations for those under 15 years. The causes and risk factors for these injuries have been described, so IPRU's research is focused on how to develop and implement effective interventions for this vulnerable group. In addition, its child related research includes the biomechanical modelling of arm fractures from falls among older children and also of unintentional or intentional injury to children (see Biomechanics of Injury section) and work on indicators for child injury (see Surveillance section).

CHILD HOME INJURY RESEARCH PROJECT (CHIRP)

Home has been shown to be a place where young children are often injured and in New Zealand, over half the injury deaths and hospitalisations among the under 5s occur at home. Often the mechanism of injury and the risk factors for injury are known, but understanding the circumstances of the injury events, what affects parental decisions about safety and how to improve the management of risk, requires investigation.

Circumstances of Home Injury

The context and circumstances of an injury event to a child at home can provide clues as to how interventions could be developed or work more effectively for this complex environment that has both physical and social elements interacting. This study analysed the responses from 100 parents who were asked about what was happening when their child was injured.

Aim:

To describe the nature and circumstances of injury that occurred in the home to children under 5 years of age, who presented at an emergency department for treatment.

Project Team: Jean Simpson, Bianca Turnbull, Michael Ardagh, Sandra Richardson

Funding: Accident Compensation Corporation, University of Otago

Progress: A paper was submitted to a peer-reviewed journal.



Interventions for Child Safety

There are multiple causes of child injury, but relatively few interventions are known to reduce injury for children, especially in the home environment. The New Zealand Injury Prevention Strategy (NZIPS) Secretariat commissioned IPRU to prepare a background paper to help inform and direct New Zealand's efforts on child injury prevention.

Aim:

To inform current and future programmes addressing unintentional injury to children under 5 years by:

- ~ Presenting best practice available from research evidence, for reducing child injury in and around the home environment, particularly with reference to falls and poisoning; and
- ~ Identifying possible options for effective partnership between government agencies and community organisations that are working to prevent unintentional injury.

Project Team: Jean Simpson

Funding: Accident Compensation Corporation

Progress: The contract was completed.

Factors Affecting Parental Perception and Response to Risk

Current research on how parents practice safety and their response to the risk of injury among young children has much to offer the development of effective interventions. This study explores how factors identified in the literature fit the experience of New Zealand parents and identifies additional influences that may impact on how parents perceive and respond to injury risk.

Aims:

- ~ To identify from the literature factors that may influence parental perception of, and response to, risk of unintentional injury among preschool children in the home environment; and
- ~ To explore aspects of these factors in depth to obtain an understanding from parents of how they aid or hinder perceptions and responses to risk.

Project Team: Jean Simpson, Rob McGee, Geoff Fougere, Anne Bray, Nandika Currey

Funding: Accident Compensation Corporation, Hawke's Bay Medical Research Foundation, Hawkes Bay District Health Board, University of Otago

Progress: Analysis of the focus group and individual interviews was undertaken. A paper was prepared for submission to a peer-reviewed journal.



CHILD CAR RESTRAINTS

Child restraints help reduce injury to children in motor vehicle crashes. Surveys in New Zealand have been used to observe their use and their findings suggest that restraint use is relatively high. These surveys, however, have not been able to indicate whether the restraints are correctly installed or used. This study investigated misuse of, and barriers to, using child restraints. Methods used were reviewed with respect to their suitability for undertaking research within Māori and Pacific communities.

Aims:

- ~ To identify the rates of correct and incorrect use of infant and child restraint devices in the Wellington region;
- ~ To identify the barriers to the use of child restraint devices; and
- ~ To assess the suitability of various data collection methods for use in a national study.

Project Team: Jean Simpson, Gabrielle Davie, Nite Fuamatu

Funding: Health Research Council of New Zealand

Progress: A paper was submitted to a peer-reviewed journal.

CONFERENCES AND MEETINGS OF NOTE

9th World Conference, Injury and Safety Promotion, Merida, Mexico, March 15-18, 2008

Jean Simpson

Poster Presentation

“Influences on parenting in relation to child home safety: insights from Aotearoa/New Zealand”

Research Seminar, Center for Disease Control, Atlanta, USA, April 1, 2008

Jean Simpson

Presentation

“Child Injury in New Zealand”

Research Seminar, Johns Hopkins School of Public Health, Baltimore, USA, April 3, 2008

Jean Simpson

Presentation

“What happened? Circumstances of child home injuries in New Zealand and implications for intervention”

17th International Safe Communities Conference, Christchurch, October 20-23, 2008

Jean Simpson

Moderator Pre-Conference Workshop

“Safe Communities Safe Children: How well are children served by the Safe Communities model?”

Research Seminar, Department of Preventive and Social Medicine, University of Otago, November 25, 2008

Jean Simpson

Presentation

“A formative evaluation for an intervention to reduce unintentional injury to young children in the home environment”

INJURY SURVEILLANCE

The IPRU has two key surveillance goals. The first is to improve New Zealand's ability to determine readily the incidence, circumstances, severity, and outcome of injuries. The second is to ensure the Government, its agencies and other organisations with an interest in injury prevention receive evidence-based advice for improving injury surveillance and for informing public policy and practice in injury prevention and treatment.

The surveillance research has a methodological focus with an emphasis on research relevant to the development of robust indicators for measuring performance in reducing injury (see also Sport and Recreation section for other surveillance projects).

INDICATORS

The Development of Impairment-Related Injury Outcome Indicators

This project was instigated to investigate whether valid indicators of injury-related impairment could be developed based on lump sum payment data for impairment identified from the Accident Compensation Corporation claims database.

Aim:

To investigate and assess the feasibility of methods to develop valid impairment, and threat of impairment, indicators from New Zealand national administrative data sources.

Project Team: Colin Cryer, Pauline Gulliver, Dan Russell, Gabrielle Davie, John Langley

Funding: Accident Compensation Corporation

Findings: This project was completed and a report was published. A paper was prepared for submission to a peer-reviewed journal.

Alcohol-Related Injury Indicators

Alcohol is a significant risk factor for injury. This study examines current indicators as a part of the Hazardous Drinking project (see section on Alcohol-Related Harm).

Aims:

- ~ To critically appraise existing New Zealand indicators for monitoring alcohol-related injury;
- ~ To critically assess the face validity of the World Health Organization's (WHO) "International Guide for Monitoring Alcohol Consumption and Related Harm" (MACRH) solutions for deriving indicators, for the purposes of developing non-fatal alcohol-related injury indicators in New Zealand.

Project Team: John Langley, Kypros Kypri, Gabrielle Davie, Colin Cryer

Funding: Health Research Council of New Zealand, Alcohol Advisory Council of New Zealand

Findings: The absence of alcohol injury indicators is of concern given the mandate of various agencies and particularly with recent governments becoming increasingly focused on outcomes. Of the indicators identified, those of the Ministry of Transport satisfied most of the assessment criteria but variability in testing rates over time posed a significant threat to validity. Possible biases associated with this variability and thus for indicators based on alcohol testing results warrant further investigation. Most potential sources of data on alcohol-related harm are subject to extraneous influences that vary over time and space. While the attempt by WHO to offer solutions to this problem is laudable, the solutions do not adequately address the problem. The MACRH guidelines need to be revised to include criteria for valid outcome indicators.



Reporting Trends in Non-Fatal Self-Harm

Suicide Trends, a publication by the Ministry of Health, states that it is important to publish trends in suicide data “to inform prevention efforts” and, in particular, to provide baseline data for evaluating the New Zealand Suicide Prevention Strategy. The trend presented for self-harm may not, however, be providing an accurate picture.

Aim:

To demonstrate that the trends published in the New Zealand Government’s 2006 *Suicide Trends* document for hospitalised self-harm are misleading.

Project Team: John Langley, Colin Cryer, Gabrielle Davie

Funding: University of Otago

Findings: The significant increase in rates of self-harm hospitalisation from 1989 presented in *Suicide Trends* reflects, to a large extent, changes in recording practice rather than any change in self-harm in the community. More valid indicators were identified in this study and these suggest that since 2000 there has been little, if any, increase in the incidence of self-harm.

Serious Non-Fatal Injury Indicators / International Comparisons

The NZIPS serious non-fatal injury indicators are based on counts of incident cases discharged from hospital who have a serious injury as defined by an International Classification of Disease (ICD), based on the injury Severity Score (ICISS) threshold. The threshold was set to count only injuries with diagnoses that have a high probability of admission – so that the effects of any extraneous influences on the hospital data-based indicator trends would be removed (for example, changes in health service provision). What has not been tested empirically is the ability of this process to achieve this end, although on the face of it, it appears to do so. Studies to estimate the diagnosis-specific probabilities of admission are needed to increase our confidence in the NZIPS indicators. To achieve this, emergency department (ED) data are required that are accurately coded to ICD and are known to have resulted in subsequent admission to hospital. Such data were not thought to be available in New Zealand and international partners for this project were sought.

Aims:

- ~ To validate the existing serious non-fatal injury indicators;
- ~ To provide the opportunity to develop serious injury indicators which capture a greater number of serious injuries; and
- ~ To develop methods for international comparisons as well as a commitment from international partners.

Project Team: Colin Cryer, Pauline Gulliver, Brandon de Graaf, Gabrielle Davie, John Langley

Funding: Accident Compensation Corporation

Progress: Detailed methods and specifications for data extraction were circulated among the eight international collaborators.

Injury Indicators for Monitoring Global, Regional and Local Trends

The Department of Violence and Injury Prevention and Disability (VIP) of the World Health Organization (WHO) commissioned IPRU to prepare a background paper to help inform and direct WHO's efforts on injury data and estimates.

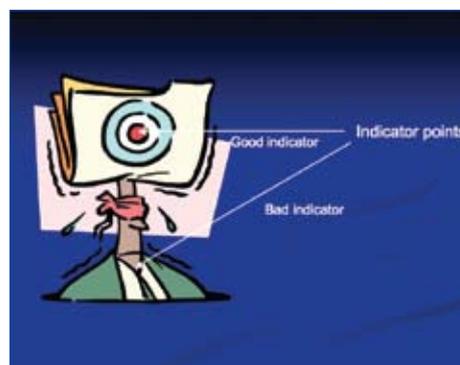
Aim:

To propose a set of valid headline indicators of injury incidence based on each of four sources of national data: mortality, hospital inpatient, emergency department and survey data.

Project Team: Colin Cryer, John Langley

Funding: World Health Organization

Progress: A draft of the paper was presented and discussed at a WHO Consultation Meeting. The final report was published.



QUALITY OF NATIONAL INJURY DATABASES

An essential criterion for an injury indicator is that it is based on data of high quality. The following projects are directed to assessing quality and indicating where problems may lie.

Estimating the Accuracy of Injury Coding for Hospital Inpatients

Overseas research, particularly from Australia, suggests there may be a substantial level of error in the coding of injury discharges as recorded in the National Minimum Data Set (NMDS). Diagnosis and external cause information is used extensively in the estimation of injury incidence, monitoring of trends and evaluation of interventions but, prior to this work, there was little information available on the reliability of the coding in New Zealand.

Aim:

To determine the level of coding error in the ICD-10-AM external cause and nature of injury codes in the NMDS.

Project Team: Gabrielle Davie, John Langley, Ari Samaranayaka, Mary-Ellen Weatherspoon

Funding: Health Research Council of New Zealand

Progress: This project was completed and a paper was published in a peer-reviewed journal.

Improving Validity of ICD-Based Injury Severity Scores (ICISS)

Research suggests that the indicators that most Government departments are currently using to monitor trends in non-fatal injury are potentially misleading because of their inability to remove the effects of service provision and access from the underlying trend data. Valid measurement of injury severity is critical to producing valid indicators and appropriate analyses of injury data that can inform policy and injury prevention practice.

Aim:

To use an integrated database to improve the measurement and classification of injury severity by:

- ~ Investigating whether the validity of ICISS can be improved by including non-hospitalised injury fatalities in the derivation of the scores; and
- ~ Investigating whether modifications of the ICISS severity measure that allow for co-morbidity (non-injury conditions the patient has) would improve ICISS.

Project Team: Gabrielle Davie, John Langley, Colin Cryer, Dan Russell

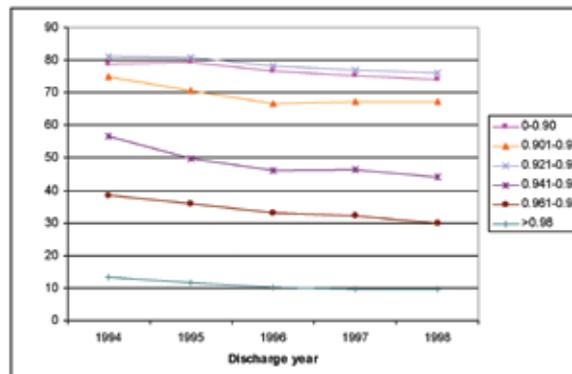
Funding: Official Statistics Research, Statistics New Zealand

Progress: This project was completed and a paper was published in a peer-reviewed journal.

Length of Stay in Hospital: A Proxy for Severity?

A number of agencies have used length of stay in hospital (LoS) as a proxy for severity in their national indicators. The question is whether LoS is a good proxy measure for severity. Work to date supports a hypothesis that it is not, but definitive proof is needed to confirm this.

IPRU examined the question by first identifying ICD diagnosis codes that denote injuries that are homogeneous in terms of severity (ICD-HS). If LoS is a good proxy for severity, then for admitted cases with particular ICD-HS diagnoses, it would be expected that the proportion that exceed a given LoS threshold will be constant over time. This expectation was tested.



Aims:

- ~ To identify ICD-HS diagnoses that exceed a severity threshold of interest; and
- ~ For particular ICD-HS diagnoses, to investigate trends over time in the proportion of admitted cases that exceed a number of selected LoS thresholds.

Project Team: Colin Cryer, Pauline Gulliver, Gabrielle Davie, John Langley

Funding: Accident Compensation Corporation

Progress: A report was submitted to the funding agency.

Findings: Almost without exception, there was a decline in the LoS statistics over time for all diagnoses, all injury diagnoses, for each body site of injury investigated, for severity strata, and for the ICD-HS diagnoses. If a LoS threshold had been used to identify serious injuries during 1989 to 1998, in the context of indicators of serious injury incidence, the indicators would have demonstrated misleading trends, i.e. reductions over time that were due to other factors such as changes in service delivery rather than reductions in the incidence of serious injury. A LoS threshold should not be used as a proxy for severity of injury if the goal is to monitor time trends.

NZIPS Indicators of Injury Death: Are We Counting the Right Cases?

Recent work to enhance the ICISS has exposed apparent contradictions in the diagnostic data: for many of the ‘injury’ cases that die in hospital, there is a mismatch between the hospital principal diagnosis given in the National Mortality Dataset (NMDS) and underlying cause of death recorded on the New Zealand Mortality Collection (NZMC). This project seeks to identify the sources of bias when estimating the size and nature of the burden of fatal injury and calculating the New Zealand injury indicators used for policy making and priority setting. A method of identifying cases of injury death that is more consistent with definitions used by injury epidemiologists will be proposed.

Aims:

- ~ To characterize the subgroups where there is a discrepancy between the NMDS primary diagnosis coded to injury and the Mortality Collection underlying cause of death coded to other than an external cause; and
- ~ To describe any lack of concordance between data captured in both the NZMC and the NMDS (e.g. age, gender) to highlight any potential concerns regarding the validity of the New Zealand Injury Prevention Strategy (NZIPS) fatal injury indicators.

Project Team: Colin Cryer, Pauline Gulliver, Ari Samaranayaka, Gabrielle Davie, John Langley

Funding: Accident Compensation Corporation

Progress: Detailed methods for the study were developed.

PUBLICATIONS

Refereed Journals

RJ332 Cryer C, Langley JD. Studies need to make explicit the theoretical and case definitions of injury. *Injury Prevention*, 2008: 14:74-77

RJ336 Davie G, Cryer C, Langley J. Improving the predictive ability of the ICD-based injury severity score (ICISS). *Injury Prevention*, 2008: 14:250-255

RJ337 Davie G, Langley J, Samaranayaka A, Wetherspoon M. Accuracy of injury coding under ICD-10-AM for New Zealand public hospital discharges. *Injury Prevention*, 2008: 14:319-323

Letter to the Editor

LE21 Langley J. WHO and CDC nomenclature. *Injury Prevention*, 2008: 14:342

CONFERENCES AND MEETINGS OF NOTE

ICE on Injury Statistics Meeting, Washington DC, USA, October 19-20, 2008

John Langley
Presentation
“Indicators: Panel 1”

Pauline Gulliver
Presentation
“The development of impairment related injury outcome indicators”

Colin Cryer
Attendance

Australasian Mortality Interest Group, Brisbane, Australia, November 24, 2008

Pauline Gulliver
Presentation
“The measurement of Māori ethnicity for serious injury outcome indicators”

OCCUPATIONAL

Occupational injury is of considerable concern to various government agencies particularly the Accident Compensation Corporation. Some occupations are more hazardous than others, and in 2008, IPRU maintained its focus on environments with a higher incidence of injury: in particular, farming.

FARM OCCUPATIONAL INJURY

The risk of fatal and non-fatal injury to those living and working on farms in New Zealand is very high, yet there has been little progress in reducing these risks. The following projects seek to develop an understanding of factors that contribute to farm-related injury and to evaluate the effectiveness of a farm safety intervention.

Evaluating a Farm Safety Intervention

The FarmSafe™ Programme was intended to reduce farm work-related injury through improvement in attitudes and practice regarding farm safety. This programme was developed and implemented by ACC, Federated Farmers New Zealand and the FarmSafe™ Consortium, which is made up of the Agriculture Industry Training Organisation, Telford Rural Polytechnic and Agriculture New Zealand. There are two phases. The first, the FarmSafe™ Awareness workshop (offered since October 2002), is a pre-requisite to the second. The second comprises the FarmSafe™ Plans workshop (for farm owners and managers) and FarmSafe™ Skills workshop (open to all farmers and farm workers), both of which began in late 2004. The IPRU conducted independent evaluations of the FarmSafe™ Programme that included a process, impact and outcome evaluation of the FarmSafe™ Awareness workshop.



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Process and Impact Evaluation of the FarmSafe™ Awareness Workshop Programme

This study draws together the process evaluation and baseline studies noted in previous annual reports with an impact evaluation of the FarmSafe™ Awareness workshop programme that assessed the immediate and medium term changes in attitudes and behaviour following the intervention.

Aim:

To assess the effectiveness of the FarmSafe™ Awareness programme in improving the attitude to farm safety and the behaviour regarding safe practice, and in reducing environmental hazards on the farm.

Project Team: Kate Morgaine, John Langley, Rob McGee

Funding: University of Otago

Progress: All follow-up data for the impact evaluation have been collected and analysed. Findings were reported to the stakeholder agencies.

Findings: Results have been reported in a previous annual report.

Injury Outcome Evaluation for the FarmSafe™ Programmes for Sheep, Beef and Dairy Farmers

Complementing the study described above, an injury outcome evaluation of FarmSafe™ Awareness and Plans Programmes was proposed. Prior to conducting this research, however, a 12-month pilot study was required to identify methods that would provide valid outcome measures applicable for the duration of the programmes.

Aim:

To identify methods for a valid outcome evaluation of the FarmSafe™ Awareness and Plans programmes.

Project Team: Colin Cryer, Ari Samaranayaka, Dan Russell, Dave Barson, Gabrielle Davie, John Langley, Kate Morgaine

Funding: Accident Compensation Corporation

Progress: Work was undertaken in 2008 to facilitate better interpretation of the results.

Findings: Methods were identified for conducting a valid outcome evaluation of the FarmSafe™ Awareness and Plans programmes. These included ways to reduce the problems of selection bias through matching, as well as statistical modelling to reduce the effects of confounding. Although the methods chosen were such that future results generated are likely to be least compromised, they could still be prone to information bias.

Farm Injury Risk Among Men (FIRM)¹

FIRM is an Australian project seeking a better understanding of the major risk factors for farm injuries among workers. For some years now, the IPRU has collaborated on this project that potentially will provide New Zealand with information on the effective use of resources to reduce the risk of injury in the farming environment.

The study base for this prospective case-control study is adult males (16 years and older) who are working on farms within the catchment areas of the major regional hospitals in Victoria, Australia and are undertaking paid or unpaid work related to the agricultural livelihood of themselves, their employer or a relative.

Aims:

- ~ To identify risk factors for serious farm work-related injury among adult males; and
- ~ To obtain estimates of hazard exposure among male farmers in Victoria.

Project Team: Lesley Day, Don Voaklander, Malcolm Sim, Rory Wolfe, John Langley, James Dosman, Louise Hagel, Joan Ozanne-Smith

Funding: National Health and Medical Research Council, Australia

Progress: A paper was accepted for publication in a peer-reviewed journal.

Findings: Moderate evidence was found that being an employee was associated with an increased odds of injury, which remained when adjusted for the seasonal nature of employment and attendance at farm training courses. Several health related factors were associated with decreased odds of injury. Strong evidence was found that some injury hazards and the absence of farm safety systems on the property was associated with an increased risk of injury.

¹ This is not managed by the IPRU, however IPRU staff are scientific collaborators on the project.

Effective Occupational Health Interventions in Agriculture

Occupational ill-health in agriculture is a serious problem and costs the country millions of dollars each year. Currently, there is insufficient knowledge of the best ways to prevent these problems. Previous research is limited. This study seeks to take stock and to generate new knowledge of the best way to address occupational ill-health in this sector.

Aim:

To provide an up-to-date knowledge base from which the ACC, Department of Labour and other stakeholders will be able to introduce or modify targeted interventions to reduce the rates of injury and other harm to members of the target population.

Project Team: Kirsten Lovelock, Colin Cryer, Stephan Milosavljevic, David McBride, Peter Davidson, Kate Morgaine, Gabrielle Davie

Funding: Health and Safety Joint Research Portfolio (Health Research Council of New Zealand, Accident Compensation Corporation, Department of Labour)

Progress: The research relating to all phases of the work was completed.



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Temporary Migrant Workers in Agriculture, Horticulture and Viticulture: Occupational Health Issues

The use of temporary migration to address labour shortages in agriculture is common to most industrial agricultural nations. Occupational health issues are significant amongst temporary migrant workers internationally, with workers in agriculture being particularly vulnerable to injury and disease. In April 2007 New Zealand introduced a new seasonal labour policy with the express purpose of addressing labour shortages in agriculture. The Recognised Seasonal Employer Policy targets temporary migrant workers from the Pacific, all of whom are destined to work in agriculture, horticulture and viticulture in New Zealand. This project explores this policy and practice in the New Zealand context and considers potential and emergent occupational health issues for these workers.

Aims:

- ~ To explore and identify occupational health issues amongst temporary migrant workers in agriculture, horticulture and viticulture internationally;
- ~ To review local literature and policy initiatives and canvas key stakeholder perspectives on the use of temporary migrant labour to address labour shortages in the New Zealand context.

Project Team: Kirsten Lovelock

Funding: University of Otago

Progress: The project was completed and papers prepared for publication in peer-reviewed journals.



Saskatchewan Farm Injury Study (SFIC)¹

Farming is one of the most hazardous occupations in Canada, accounting for an average of 114 injury-related deaths and some 1400 traumatic hospitalizations annually. Despite its burden to public health, the aetiology of farm injury remains poorly understood. In this project, a large cohort of Saskatchewan farmers, farm workers and their families will be followed longitudinally to study the determinants of farm injury. The study will investigate the importance of operational risk factors as potential causes of injury with a particular focus on vulnerable groups within the farm population (children, farm owner/operators, young workers, the elderly).

Aim:

To understand the individual operational risk factors and settings associated with agricultural injury, with the long-term goal of informing the development of interventions directed at the prevention of injury in both farm populations and agricultural production settings.

Project Team: William Pickett, James Dosman, Louise Hagel, Barbara Marlenga, Rob Brison, Trever Crowe, Lesley Day, Punam Pahwa, Jay Biem, Neils Koehncke, Don Voaklander, Murray Purcell, Rebecca Lilley

Funding: Canadian Institutes of Health Research

Progress: Over 5,000 people were recruited from 2,422 farms in Saskatchewan. Publications were prepared for submission to peer-reviewed journals on the cohort design and results of the baseline data.

NEW ZEALAND WORKING LIFE PROJECT

Recent reviews of the state of occupational health and safety surveillance in New Zealand by the National Occupational Health and Safety Advisory Committee have revealed a woeful state of occupational hazard surveillance. This project sought to develop and test a surveillance instrument aimed at creating a knowledge base on working conditions, work environments and their effect on the health, safety and well-being of New Zealand workers. This knowledge base will contribute to a broader understanding of the underlying causes of work-related injuries and disease and the possibilities for prevention.

Aim:

To determine patterns of exposure to suspected and known occupational health and safety risks in the New Zealand workforce.

Project Team: Rebecca Lilley, Hilda Firth, Charlotte Paul, Peter Herbison, Anne-Marie Feyer, Colin Cryer

Funding: ACC Post-doctoral Fellowship (Rebecca Lilley)

Progress: A PhD thesis was confirmed, a paper was published and two were prepared for submission to peer-reviewed journals.

¹ This is not managed by the IPRU, however IPRU staff are scientific collaborators on the project.

PUBLICATIONS

Refereed Journals

RJ352 Day L, Voaklander D, Sim M, Wolfe R, Langley J, Dosman J, Hagel L, Ozanne-Smith J. Risk factors for work-related injury among male farmers. Occupational Environment Medicine (in press)

CONFERENCES AND MEETINGS OF NOTE

9th World Conference, Injury Prevention and Safety Promotion, Merida, Mexico, March 15-18, 2008

Lesley Day

Presentation

“The Farm Injury Risk among Men (FIRM): identifying risk factors for serious farm work-related injury”

Population Health Congress, Brisbane, Australia, July 6-9, 2008

Rebecca Lilley

Presentation

“A systematic review of the effectiveness of interventions to prevent agricultural injury and disease”

National Occupational Injury Research Symposium, Pittsburgh, USA, October 21-23, 2008

Colin Cryer

Presentation

“The effectiveness of the New Zealand FarmSafe™ programmes: development and investigation of a method for outcome evaluation”

6th International Symposium on Public Health and the Agricultural Rural Ecosystem, Saskatoon, Canada, October 19-23, 2008

Rebecca Lilley

Presentation

“Prevention of agricultural injuries: the relationship between fatigue-related factors and injuries”

Lesley Day

Presentation

“Risk factors for farm work related injury among male farmers”

Research Seminar, Department of Preventive and Social Medicine, University of Otago, December 9, 2008

Kate Morgaine

Presentation

“Safety culture in farming in New Zealand”



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INTENTIONAL INJURY

Violence, self-harm, suicidal behaviours and assault remain important national priorities that are addressed in New Zealand's health and disability strategies. For example, with respect to suicide and self-harm prevention, there is now a formal action plan to complement the New Zealand Suicide Prevention Strategy released in 2006. This year also highlighted the growing problem of violence in schools and its adverse impact on both students and staff alike. A national campaign was launched to highlight the high rates of family violence in New Zealand and encourage early and appropriate help-seeking behaviours.

IPRU's research in intentional injury reflects these priorities. Much information these days on preventing intentional injury is conveyed through the internet and IPRU is also examining how effective the internet is in delivering appropriate information to facilitate better detection, management and prevention of intentional injury in our communities.

SELF-HARM



An Internet-Based Cognitive Behaviour Therapy Self-Help for Depression

Depression is a major risk factor for self-harm and the leading cause of disability. Online Cognitive Behaviour Therapy (CBT) has been demonstrated as being effective for overcoming depression. This study, known as Recovery via Internet from Depression (RID), is using a randomised controlled trial to evaluate two promising interventions.

Aims:

- ~ To adapt two existing internet-based, interactive and personalised CBT and depression literacy programmes for depression and related problems;
- ~ To explore the acceptability of the two programmes for the population as a whole and for Māori;
- ~ To conduct a randomised controlled trial to test the effectiveness of both interventions; and
- ~ To promote the results through a variety of fora.

Project Team: Shyamala Nada-Raja, Rob McGee, John Langley, Helen Christensen, Andrew Mackinnon, Dannette Marie, Karen Knightbridge, Megan Fidler, Tamara Dixon, Heather Yates

Funding: Health Research Council of New Zealand, Accident Compensation Corporation, Ministry of Health

Progress: The development phase of the trial was completed and the trial commenced mid-year after receiving ethical approval and completing testing of the automated procedures for implementing the trial. A literature review on online interventions for depression was completed. Preliminary analyses commenced on pilot data for the development phase of the trial. Over 1000 people across New Zealand responded to screening questions on the RID trial site and over 300 participants were enrolled and received access to the online programme and exercises. The first trial participants completed their six month follow-up mental health assessments.

Protective Factors for Self-Harm

There is a growing literature on what factors might protect against self-harm when a number of risk factors are present. This study examined a range of potential protective factors for self-harm between ages 26 and 32 years from the Dunedin Multidisciplinary Health and Development Study (DMHDS). The DMHDS is a longitudinal study of a birth cohort of 1037 people born in Dunedin between 1 April 1972 and 31 March 1973. The cohort members have been interviewed every two years from age 3 to 15 years, and again at ages 18, 21, 26 and recently at age 32 years.

Aims:

- ~ To examine patterns of self-harmful thoughts and behaviours from ages 26 to 32 years; and
- ~ To examine factors that may increase or mitigate risk of self-harmful thoughts and behaviours from ages 26 to 32 years.

Project Team: Shyamala Nada-Raja, Rob McGee, Keren Skegg, John Langley

Funding: Health Research Council of New Zealand

Progress: Analyses were conducted to examine patterns of self-harm in adulthood over a specified period of time. These included the links between increasing degrees of sexual orientation and subsequent self-harmful behaviours, out-of-control sexual behaviours and their associations with a broad range of other sexual behaviours, and indices of positive development. One paper was submitted and a second prepared for submission to peer-reviewed journals.

Non-Fatal Deliberate Self-Harm in the Community: Occurrence, Nature, and Risk Factors

Non-fatal self-harm is increasingly being recognised for its negative impact on health and its link with suicidal behaviour in many national and international studies, including the DMHDS. Self-harm comprises all behaviours defined as 'intentional self-harm' in the International Classification of Diseases, including traditional methods of suicide, self-battery and intoxication by substances.

Aims:

- ~ To determine the frequency and nature of self-harm (suicidal, non-suicidal in intent);
- ~ To explore whether suicidal and non-suicidal self-harm are associated or whether they largely occur in separate populations;
- ~ To identify individual, familial, and social risk factors for self-harm in adulthood from self- and parent-report data gathered at previous phases of the DMHDS;
- ~ To determine which behavioural, social and environmental factors triggered or averted incidents of self-harm; and
- ~ To identify sources of help reported by individuals who engage in self-harm, their satisfaction with treatment received for deliberate self-harm (DSH) and barriers to seeking help for DSH.

Project Team: Shyamala Nada-Raja, Keren Skegg, John Langley

Funding: Health Research Council of New Zealand, Community Trust of Otago

Progress: Data from this study were combined with the study above to examine risk and protective factors for self-harm.

Evaluation of the Usability of Depression Websites

The Web is an important source of information on health for many people these days. Recent statistics for New Zealand show that nearly two-thirds of all households have access to the internet. A usable website means that users are likely to spend longer accessing the site, are more likely to achieve their goals and will return to it. There is a growing body of literature that examines the reliability of web-based health-information sources and how such sites can be evaluated. However, there has not been any examination of the usability of such sites in a New Zealand context, which is recognized as an important component in e-therapy research for preventing mental health problems and related intentional injury.

Aims:

- ~ To develop a cost-effective methodology for measuring and improving the usability of three national depression literacy web sites;
- ~ To assess the usability of the National Online Depression Initiative (developed by the Ministry of Health) web sites and a depression literacy web site developed by the Mental Health Foundation with local samples; and
- ~ To make recommendations to modify or further develop the sites to suit New Zealand users, thus making them easier to use.

Project Team: Karen Knightbridge, Shyamala Nada-Raja, Rob Lawson

Funding: University of Otago

Progress: Ethics approval was obtained and recruitment of participants and data collection commenced.

GAMBLING

Gambling and Problem Gambling Behaviour and their Associations with Self-Harm

Gambling is a popular recreational activity in New Zealand, but can be an addictive behaviour for a significant proportion of the population with serious mental health and financial consequences. This project was designed to examine pathways to problem gambling in a representative sample of 32 year olds from the DMHDS.

Aims:

- ~ To determine childhood, adolescence, and early adulthood risk and protective factors for gambling, problem gambling and pathological gambling; and
- ~ To examine the associations between problem gambling and self-harmful thoughts and behaviours.

Project Team: Shyamala Nada-Raja, Alex Blaszczynski, Keren Skegg, Chikako van Koten

Funding: Problem Gambling Committee (PGC) through the Health Research Council of New Zealand and Ministry of Health

Progress: Analyses were undertaken on the risk factors in adolescence for problem gambling in adulthood.



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Lay Perceptions of Gambling Harm

It has been a year since the Ministry of Health's campaign commenced to raise awareness in the wider community of the potential harm from gambling. As there is minimal research on the impact of such campaigns and the lay public's perceptions of gambling behaviours and their consequences, a pilot investigation of the Otago lay public's ability to recognise and respond to gambling harm was considered useful.

Aims:

- ~ To conduct an evaluation of lay perceptions of gambling harm including problem and pathological gambling;
- ~ To gauge how well lay persons' understandings of gambling harm correspond to scientific understanding; and
- ~ To establish baseline information about lay perceptions of gambling harm that might lead to the development of suitable interventions on gambling harm.

Project Team: Brad Miles, Shyamala Nada-Raja, Dannette Marie

Progress: A paper was prepared for submission to a peer-reviewed journal.

ASSAULT

Physical Aggression and Associated Characteristics among High School Students in Otago

Reducing violence in interpersonal relationships, families, schools, and communities is one of the priority goals of the New Zealand Health Strategy. Physical fighting and aggressive behaviours in general were noted as serious problems in our schools. This study investigated the extent to which school and family factors could protect young people from aggression and violence in and out of the school setting.

Aims:

- ~ To investigate the meaning of physical aggression by year 11 high school students in Otago;
- ~ To identify associations between physical fighting and weapon carrying, and other risk behaviours and demographic characteristics (based on the DMHDS data);
- ~ To determine the prevalence of physical fighting and weapon carrying among year 11 high school students in Otago in 2005;
- ~ To identify associations between physical fighting and weapon carrying and other associated factors that may increase or decrease these behaviours; and
- ~ To identify students', teachers', school counsellors', and principals' views on preventive measures for reducing physical aggression among high school students.

Project Team: Louise Marsh, Rob McGee, Shyamala Nada-Raja

Funding: University of Otago PhD Scholarship (Louise Marsh)

Progress: This research culminated in a doctorate being awarded. A paper was accepted for publication in a peer-reviewed journal for publication and a second paper was submitted for publication. Further analyses were undertaken examining the school environment's impact on students' aggressive behaviours.



Courtesy of PPTA

I-MEDIC

INTERNET MEDICAL EDUCATION FOR DOCTORS REDUCING
INTIMATE PARTNER VIOLENCE THROUGH COLLABORATION



Internet Medical Education for Doctors Reducing Intimate Partner Violence through Collaboration: I-MEDIC Study

Primary health care professionals can play a major role in the prevention and management of intimate partner violence (IPV), however, the few tools available for this purpose remain to be tested rigorously in New Zealand. The Ministry of Health's Violence Intervention Programme expects all New Zealand doctors to screen women presenting to their practices or hospitals for IPV. The present feasibility study is designed to address issues related to screening and providing greater and easier access to programmes via the internet which may assist doctors and complement existing training programmes to respond effectively to IPV in the clinical setting.

Aims:

- ~ To examine Dunedin general practitioners' (GPs) and trainee interns' (TIs) responsiveness to detecting and managing IPV;
- ~ To test and adapt an online continuing medical education intervention programme to measure changes in GPs and TIs educational outcomes in managing IPV;
- ~ To discuss with GPs and TIs the barriers they perceive in detecting and managing IPV;
- ~ To make recommendations to modify or further develop the tools to suit New Zealand GP standards and practices and the medical education curriculum; and
- ~ To use findings from this study to conduct a larger scale randomized control trial to test the adapted programmes.

Project Team: Shyamala Nada-Raja, Nandika Currey, Rob McGee, John Langley

Funding: Dunedin School of Medicine Dean's Bequest Fund

Progress: A closed website to deliver the online assessments and educational intervention to doctors was developed and implemented. Consultation was initiated with relevant groups including coordinators of medical education at the Dunedin Medical School and collaboration continued with a wide range of relevant local community groups. International and national experts presented at a forum on partner violence organised with collaboration with local community agencies.

CONFERENCES AND MEETINGS OF NOTE

9th World Conference, Injury Prevention and Safety Promotion, Merida, Mexico, March 15-18, 2008.

John Langley

Presentation

“NZ Government’s trend analysis of hospitalized self-harm is misleading”

Prevention of Partner Violence: A Collaborative Approach to Managing Partner Violence in New Zealand, Dunedin, May 9-10, 2008

Shyamala Nada-Raja

Presentation

“An overview of the Injury Prevention Research Unit’s research on partner violence”

Nandika Currey

Presentation

“Internet medical education for doctors to reduce intimate partner violence”

Karen Knightbridge

Heather Yates

Attendance

Safe Communities Road Show, St Margaret’s College, University of Otago, October 17, 2008

Shyamala Nada-Raja

Presentation

“Overview of the Recovery via Internet from Depression (RID) trial”

“My Space, Your Space, Our Space” Australian and New Zealand Adolescent Health Conference, Melbourne, Australia, November 5-8, 2008

Louise Marsh

Presentation

“Text and traditional bullying among New Zealand secondary school students”

ALCOHOL-RELATED HARM

Hazardous consumption of alcohol is a leading contributor to New Zealand's injury burden. Per capita alcohol consumption has risen over the last decade, and the prevalence of hazardous drinking is increasing, particularly among young people. The IPRU's research on alcohol-related harm includes estimates of prevalence and the identification of risk factors for hazardous drinking in various population groups, clinical trials of interventions, quasi-experimental evaluations of policy changes, and studies of community alcohol problem regulation.

DRINKING PATTERNS AND CONSEQUENCES

Tertiary Student Health Project

Aims:

- ~ To estimate the prevalence of heavy episodic drinking and its consequences;
- ~ To examine the role of environments in which alcohol is purchased and consumed;
- ~ To study the association between alcohol outlet density and drinking;
- ~ To examine the relationship between student participation in community and organizations and alcohol use; and
- ~ To estimate the prevalence of herbal high use with alcohol.

Project Team: Kypros Kypri, John Langley, Joanne Baxter, Martine Cashell-Smith, Kimberly Cousins, Julia Wilson, Mallie Paschall

Funding: Health Research Council of New Zealand, Alcohol Advisory Council of New Zealand

Progress: Analyses were conducted, two papers were published and a third was accepted for publication in peer-reviewed journals. Two papers were presented at a national symposium and results were presented to stakeholders.

Findings: Of a national sample of 17-24 year-old university students, 81% drank in the previous four weeks, 37% reported one or more binge episodes in the last week, 14% of women and 15% of men reported 2+ binge episodes in the last week, and 68% scored in the hazardous range on the AUDIT-C screening test. Alcohol-related risk behaviours or harmful consequences were common, for example 33% had a blackout, 6% had unprotected sex, and 5% said they were physically aggressive toward someone, in the preceding four weeks. Risk factors for frequent binge drinking included: lower age, earlier age of drinking onset, monthly or more frequent binge drinking in high school, and living in a residential hall or a shared house (relative to living with parents).



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Gender, Drinking Patterns and Alcohol-Related Harm

Much of the burden of alcohol-related harm in interpersonal relationships is uncounted and poorly understood. In 2007, a nationally representative survey was conducted of 2000 adults using a postal questionnaire adapted from *Gender, Alcohol and Culture: An International Study (GENACIS)*. This project examines gender differences in alcohol consumption and patterns of alcohol-related behaviour in close relationships.

Aims:

- ~ To measure alcohol consumption, drinking patterns, and drinking environments in a representative sample of New Zealanders (aged 18-70 years), and to compare patterns in men and women;
- ~ To examine the association of hazardous drinking patterns with attitudes to drinking and the presence or absence of informal controls on drinking;
- ~ To estimate the prevalence of alcohol-related problems with sexual health and behaviour, and aggression in the general population; and
- ~ To contribute data to *Gender, Alcohol and Culture: An International Study (GENACIS)*.

Project team: Jennie Connor, Kypros Kypri

Funding: University of Otago Research Grant, Dunedin School of Medicine 'Start Up Award' and Bequest Funds, Alcohol Advisory Council of New Zealand.

Progress: Analyses of survey data were conducted.

Evaluation of Changes in New Zealand Minimum Purchase Age: Effects of Lowering the Purchase Age

In December 1999, the minimum age for purchasing alcohol in New Zealand was reduced from 20 to 18 years. Research published in 2006 by IPRU revealed deleterious traffic injury effects of the reduced law change. The effects on non-traffic health outcomes are unknown. In addition, little is known about the nature of submissions on parliamentary bills pertaining to alcohol policy.

Aims:

- ~ To evaluate the non-traffic health effects of the reduction in the minimum purchase age;
- ~ To determine the degree of support in submissions for increasing the minimum purchase age; and
- ~ To characterise arguments used for and against the law change according to who made them.

Project Team: Kypros Kypri, Bob Voas, John Langley, Dorothy Begg, Gabrielle Davie, Luke Wolfenden

Funding: National Institute for Alcohol Abuse and Alcoholism, USA

Progress: A paper was published and a second prepared for submission to peer-reviewed journals.

Findings: Analyses of hospitalised alcohol poisoning and assault cases showed that there were too few actual events to support valid statistical inferences concerning the effects of the law change. It was concluded that governments should treat the enactment of health legislation as an opportunity to build the evidence-base for future policy, by ensuring that evaluation studies are initiated in advance of law changes.

COMMUNITY ALCOHOL PROBLEM REGULATION

Laws governing access to, and promotion of, alcohol have been relaxed over the past 20 years in New Zealand and there has been devolution of power to regulate the sale of alcohol to local government. The effects of these changes have relevance to New Zealand and other countries. There is little evidence, at present, to guide the development of healthy policy at the institutional level, for example at universities.

Characterising Alcohol Policy and the Drinking Environment on and around Tertiary Education Campuses

Previous studies have shown a particularly high prevalence of hazardous drinking among New Zealand university students. This study investigated the nature of university and community policies and practices related to the prevention of hazardous drinking among students.



Aims:

- ~ To characterise the environments surrounding tertiary campuses in relation to alcohol availability and promotion; and
- ~ To identify policies and practices used to deter hazardous drinking among university students generally and Māori students in particular.

Project Team: Kypros Kypri, Joanne Baxter, Kimberly Cousins, Julia Wilson

Funding: Health Research Council of New Zealand, Alcohol Advisory Council of New Zealand

Progress: A report was published, two papers were published and one prepared for submission in peer-review journals.

Findings: Alcohol advertising in the university press was pervasive at most universities. The proximity of alcohol outlets to students' residences was associated with heavier drinking and a higher prevalence of alcohol-related problems. Senior administrators agreed to varying degrees that alcohol was a significant part of their university's student culture. No universities had a comprehensive alcohol policy, though all had policies that addressed alcohol at on-campus functions. Māori service providers on campus indicated that alcohol had negative impacts on some students and all reported that their services sought to discourage excessive drinking.

Local Government Alcohol Policy

Since 1989, local governments in New Zealand have been responsible for administering and enforcing aspects of legislation concerning the sale of alcohol. The rationale behind this devolution of responsibility from central government was that it would facilitate greater community control over the sale of alcohol. More recently, local governments were given the power to adopt bylaws to control alcohol in public places, protect the public from nuisance, and protect and promote public health. These statutory responsibilities and legislative powers provide local governments with the opportunity to adopt policies to restrict the availability of alcohol in their communities. These can complement other local strategies aimed at reducing alcohol-related harm.

Aims:

- ~ To measure public sentiment towards alcohol issues in a diverse set of New Zealand communities;
- ~ To compare the policies and practices of New Zealand local authorities with public sentiment towards alcohol issues in each community; and
- ~ To investigate local authority responses to alcohol issues in selected communities and the process by which alcohol policies and strategies are developed and adopted.

Project Team: Brett Maclennan, Kypros Kypri, John Langley, Robin Room

Funding: Accident Compensation Corporation PhD scholarship (Brett Maclennan)

Progress: Preliminary findings were presented at a symposium and an international conference.

Geospatial Aspects of Alcohol-Related Harm

This project is intended to provide evidence to inform policy and practice aimed at modifying the environment to reduce alcohol-related harm.

Aims:

- ~ To investigate the quality of administrative data needed to examine the association between alcohol outlet locations and the incidence of assault; and
- ~ To examine the association between area deprivation and alcohol outlet density.

Project Team: John Langley, Kypros Kypri, Peter Whigham, Geoff Hay

Funding: Distinguished Researcher Fund, Dunedin School of Medicine

Progress: The project was completed and a report published. A paper was accepted, and a second submitted, for publication in peer-reviewed journals and a presentation was made at an international conference.

Evaluation of *Campus Watch*

Campus Watch, a community-based initiative implemented by the University of Otago was started in 2007 to improve the safety of the North Dunedin area by reducing alcohol-related harm and social disorder. This evaluation, which includes process, impact and outcome measures, compares the programme implementation area (North Dunedin) with similar high-risk communities across the country (other university campus areas), as well as with a non-student area (South Dunedin).

Aim:

To determine:

- ~ How the initiative has been implemented;
- ~ What the mechanisms are by which the initiative has affected the behaviour of individuals and the safety of the community as a whole; and
- ~ What impact the initiative has had on specific outcome variables of alcohol-related harm and social disorder.

Project Team: Kimberly Cousins, Jennie Connor, Kypros Kypri

Funding: Accident Compensation Corporation PhD scholarship (Kimberley Cousins); National Drug Policy Discretionary Fund, Interagency Committee on Drug Policy; Alcohol Advisory Council of New Zealand

Progress: A survey of businesses was conducted in North Dunedin and surveys of residents were conducted in North and South Dunedin. A questionnaire was developed and ethical approval was obtained for a survey of multiple university campuses in 2009.



SCREENING AND BRIEF INTERVENTION IN PRIMARY HEALTHCARE

The Early Intervention Project commenced in 1999 and culminated with a large, four-arm randomised controlled trial (RCT) of electronic screening and brief intervention (e-SBI) in 2003-04 at a university student health service.

Aim:

To report on the efficacy of e-SBI at 6 and 12 months post-intervention.

Investigators: Kypros Kypri, John Langley, John Saunders, Martine Cashell-Smith, Peter Herbison

Funding: Health Research Council of New Zealand, Alcohol Advisory Council of New Zealand

Progress: The project was completed. A paper was published in a peer-reviewed journal and presentations were given at national and international conferences.

ALCOHOL INDUSTRY SPONSORSHIP OF SPORTSPEOPLE¹

There is a high prevalence of hazardous drinking among New Zealand sportspeople at elite, national, provincial and club levels.

Aims:

- ~ To investigate the extent of sponsorship from alcohol-related industries of sportspeople at elite and non-elite levels in New Zealand; and
- ~ To determine whether those who receive alcohol sponsorship drink more hazardously than those who do not receive alcohol sponsorship, controlling for a range of potential confounders.

Project Team: Kerry O'Brien, Kypros Kypri

Funding: Maurice and Phyllis Paykel Trust

Progress: The study was completed and a paper was published in a peer-reviewed journal.

PUBLICATIONS

Refereed Journals

RJ330 Cousins K, Kypri K. Alcohol advertising in the New Zealand university student press. *Drug & Alcohol Review*, 2008, 27(5):566-9

RJ333 Kypri K, Davie G, Langley J, Voas R, Begg D. Utility of routinely collected data in evaluating important policy changes: the New Zealand alcohol purchasing age example. *American Journal of Public Health* (in press)

RJ334 Kypri, K., Bell, M., Hay, G. and Baxter, J. Alcohol outlet density and university student drinking: a national study. *Addiction* 2008, 103(7):1131-8

RJ342 Hallet J, Maycock B, Kypri K, Howat P, McManus A. Development of a web-based alcohol intervention for university students: processes and challenges. *Drug & Alcohol Review* (in press)

RJ349 O'Brien K, Kypri K. Alcohol industry sponsorship and hazardous drinking among sportspeople. *Addiction* 2008, 103(12):1961-66

RJ350 Hay G, Kypri K, Langley J, Whigham P. Potential biases due to geocoding error in spatial analyses of official data. *Health & Place* (in press)

¹ This is not managed by the IPRU, however IPRU staff are scientific collaborators on the project.

RJ351 Kypri K, Paschall MJ, Langley JD, Baxter J, Cashell-Smith M and Bordeaux B. Drinking and alcohol-related harm among New Zealand university students: findings from a national web-based survey. *Alcoholism: Clinical & Experimental Research* (in press)

Occasional Report

OR071 Cousins K, Wilson J, Kypri K, Baxter. Alcohol-related harm among New Zealand university students: institutional policies, liquor law enforcement, and healthcare. Injury Prevention Research Unit, Occasional Report: Dunedin, 2008

CONFERENCES AND MEETINGS OF NOTE

Australasian Society for Behavioural Health and Medicine Conference, Sydney, January 31 to February 2, 2008

Kypros Kypri

Presentation

“Universal web-based alcohol screening and brief intervention for university students: a randomised controlled trial”

Tertiary Student Hazardous Drinking Research Symposium, University College, University of Otago, Dunedin, April 8, 2008

Joanne Baxter

Presentation

“Māori student drinking”

Jennie Connor

Presentation

“Alcohol and sexual risk behaviour”

Kimberly Cousins and Julia Wilson

Presentation

“Alcohol-related harm among New Zealand university students: institutional policies, liquor law enforcement, and healthcare”

Kypros Kypri

Presentation

“Web-based screening and brief intervention (e-SBI) for hazardous drinking: results of three randomised controlled trials”

Brett Maclennan

Presentation

“Local government alcohol policy in campus areas”

John Langley

Attendance

34th Annual Alcohol Epidemiology Symposium of the Kettil Bruun Society, Victoria, Canada, June 2-6, 2008

Brett Maclennan

Presentation

“Community sentiment towards alcohol-related problems in six New Zealand local government areas”

Jennie Connor

Presentation

“Drinking history, current drinking and problematic sexual experiences among university students”

John Langley

Presentation

“Assessing the validity and utility of potential alcohol-related non-fatal injury indicators”

Kypros Kypri

Presentation

“Routinely collected data may not suffice in the evaluation of important policy changes: the New Zealand alcohol purchase age example”

Population Health Congress, Brisbane, Australia, July 7-9, 2008

Jennie Connor

Presentation

“Past drinking, current drinking and unwanted sexual experiences among university students”

Kypros Kypri

Presentation

“Neighbourhood deprivation and access to alcohol outlets: a national study”

Public Health Seminar, Department of Preventive and Social Medicine in association with the Public Health Association Otago/Southland, University of Otago, August 7, 2008

Jennie Connor

Presentation

“Alcohol and public health in New Zealand: it’s how we’re drinking”

Safe Communities Road Show, St Margaret’s College, University of Otago, October 17, 2008

Jennie Connor

Presentation

“Evaluation of a community-based initiative to reduce alcohol related harm and social disorder (Campus Watch)”

Australasian Professional Society on Alcohol and Other Drugs Conference, Sydney, Australia, November 22-26, 2008

Kypros Kypri

Presentations

“Universal web-based alcohol screening and brief intervention for university students: a randomised controlled trial”

“Alcohol industry sponsorship and hazardous drinking among sportspeople”

Australasian Society for Psychiatric Research Conference, Newcastle, Australia, December 2-5, 2008

Kypros Kypri

Presentation

“Universal web-based alcohol screening and brief intervention for university students: a randomised controlled trial”

“Enhancing Student Success” University of Newcastle, NSW, Australia, December 12, 2008

Kypros Kypri

Presentation

“Web-based screening and brief intervention (e-SBI) for tertiary student hazardous drinking”

BIOMECHANICS OF INJURY

All mechanical injury arises from the body's incapacity to handle forces and motion imposed on tissues. Biomechanics, the study of forces and motion in the human body, allows us to understand the injury process and can lead to alternative means of assessing risk factors and developing new injury prevention strategies. At the IPRU, this approach contributes to several areas of research, including child and adolescent injury, sport and recreational injury and occupational injury.

BIOMECHANICAL MODELLING OF INTENTIONAL INJURY IN CHILDREN

Child abuse is a major concern in New Zealand. Physically abused children are mainly injured by blunt force trauma, but it is often difficult to differentiate abusive from unintentional causes of injury. This is largely due to the lack of a rigorous scientific basis for relating the severity of an injury to the level and type of force that would have been required to produce it. The application of biomechanical modelling approaches can contribute to this by providing estimates of the forces and loading rates required for a particular injury in this population, and the probability that an injury was inflicted intentionally.

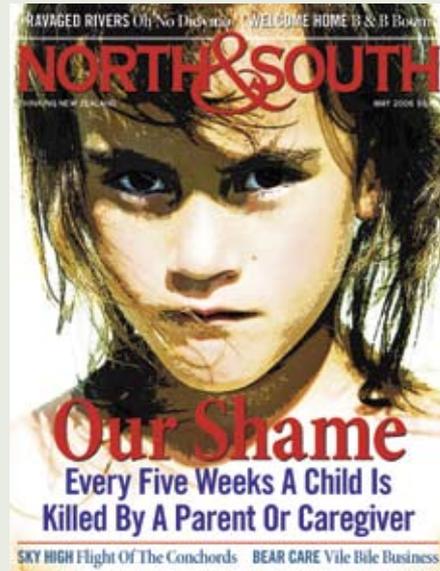
Aim:

To explore innovative approaches to investigate and model blunt force injuries in cases of suspected child abuse, and differentiate between abusive and unintentional causes of injury.

Project Team: Peter Davidson, Jules Kieser, Suzanne Wilson

Funding: Dunedin School of Medicine Bequest Fund, Otago School of Dentistry, Department of Preventive and Social Medicine PBRF Fund

Progress: Preliminary work on this project has included a review of the literature on blunt force trauma. Steps required to create a computational model with the potential for discerning mechanism and intent of injury were devised. A review paper was prepared for submission to a peer-reviewed journal.



Courtesy of North & South

BIOMECHANICAL ANALYSIS OF ARM FRACTURE AND PLAYGROUND SURFACES

Fractures of the distal forearm are the leading type of paediatric fracture and the most common playground injury. Despite efforts to reduce their incidence, including the introduction of playground surface standards requiring surfaces to meet a Head Injury Criterion (HIC) score, the occurrence of such arm fractures is increasing. The current research programme utilises a computer simulation model to enhance understanding of the mechanisms of fall injuries. This approach is expected to lead to more effective methods for controlling the risk of arm fracture.

Aim:

To improve the effectiveness of risk control methods, such as playground surfaces, with a view to reducing the arm fracture risk for children falling from playground equipment.

Project Team: Peter Davidson, Suzanne Wilson, David Chalmers, Barry Wilson, Andrew McIntosh

Funding: Health Research Council of New Zealand, New Zealand Lottery Grants Board, University of Otago

Progress: An energy approach to assessing playground surfaces has been developed. Data from gymnasts performing hand-landing exercises and from gymnastic and *in situ* playground surfaces impacted by a headform have been put into a biomechanical model to estimate energy flows in the wrist and in the surfaces on impact. Ideally, the kinetic energy of the falling child should be absorbed by the surface on impact rather than by the wrist, and then be dissipated away from the child rather than returned as rebound as this will influence injury risk. For the energy approach to be of widespread use, a simple measure, and method of obtaining it, is required. A new impact tester is currently being developed that can directly estimate relative energy flows in the wrist and surface without using the computer model. One paper has been accepted for publication in a peer-reviewed journal and three more submitted, and a presentation made to an international conference.

Findings: The energy approach identified quite large differences in energy flow properties between some surfaces with only minor differences in impact forces or HIC ratings, and thus provided information on the characteristics of these surfaces and the impact process.

NEW ZEALAND DEFENCE FORCE LOWER LIMB INJURY PREVENTION PROJECT

Concerns about the apparently high incidence of lower limb injuries occurring during military training led to the New Zealand Defence Force approaching the IPRU to devise a strategy for reducing these injuries.

Aim:

To describe the incidence and circumstances of lower limb injuries within the New Zealand Defence Force, and to devise and evaluate a strategy to reduce these injuries.

Investigators: Peter Davidson, Suzanne Wilson, David Chalmers, Barry Wilson, David McBride, Gabrielle Davie

Funding: New Zealand Defence Force

Progress: One paper was published in a peer-reviewed journal and a second submitted.

Findings: The study findings have been reported in previous annual reports.

PUBLICATIONS

Refereed Journals

RJ331 Davidson P, Chalmers D, Wilson B, McBride D. Lower limb injuries in New Zealand Defence Force personnel: descriptive epidemiology. Australian NZ Journal of Public Health, 2008, 32:167-73

RJ348 Davidson P, Wilson S, Chalmers D. Estimating subject-specific body segment parameters using a 3-dimensional modeller program. Journal of Biomechanics (in press)

CONFERENCES AND MEETINGS OF NOTE

17th International Safe Communities Conference, Christchurch, October 20–23, 2008

Peter Davidson

Presentation

“Developing a new test method for playground surfaces to reduce injury risk”

DISABILITY AND REHABILITATION

The burden of injury in terms of deaths and disability is considerable with the World Health Organization (WHO) attributing 9% of deaths and 12% of the 'burden of disease' to injury. Unintentional injury has been found to cause 13-18% of all disabilities world-wide. Much research has focused on accurate description of the causes of injury, identification and evaluation of strategies for reducing injury and improving survival. Increasingly researchers, and the communities supporting their research, are interested in evaluating and understanding the physical, psychosocial and environmental consequences, and personal and health service costs, of injury for injured survivors and their families. This approach reflects the IPRU research focus for disability and rehabilitation.

PROSPECTIVE OUTCOMES OF INJURY STUDY (POIS)

This study is seeking to recruit 2500 New Zealanders soon after they have been injured. Interviewers use repeat computer-assisted telephone interviews to collect information to determine the factors predicting disability outcomes after injury. Recruitment is through the Accident Compensation Corporation (ACC) entitlement claimant register. To ensure inclusion of people with a range of ethnic, socioeconomic and rural characteristics, participants are being recruited from five regions: Auckland City, Manukau City, Gisborne, Otago and Southland.

Aims:

- ~ To quantitatively determine the injury, rehabilitation, personal, social and economic factors leading to disability outcomes following injury in New Zealand; and
- ~ To qualitatively explore peoples' "lived experiences" and perceptions of injury-related disability outcomes.

Project Team: Sarah Derrett, John Langley, Brendan Hokowhitu, Shanthi Ameratunga, Paul Hansen, Gabrielle Davie, Emma Wyeth, Rebecca Lilley, Sarah Colhoun

Funding: Health Research Council of New Zealand, Accident Compensation Corporation, Eru Pomare Post-doctoral Research Fellowship (Emma Wyeth), Accident Compensation Corporation Post-doctoral Scholarship (Rebecca Lilley)

Progress: More than 2000 people were recruited to the quantitative component of POIS and follow-up commenced during 2008. Recruitment was nearly completed for the two qualitative studies: of injured Māori living in the Ngai Tahu region and of other injured New Zealanders living in the regions being included in POIS.



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LONGITUDINAL STUDY OF THE LIFE HISTORIES OF PEOPLE WITH SPINAL CORD IMPAIRMENT¹

About 70-80 New Zealanders a year suffer spinal cord impairment (SCI): two in every three due to injury, and one in three due to disease. This study is prospectively investigating the life histories of people who have such impairment. All New Zealand residents/citizens aged 16-64 years admitted to either Burwood or Auckland Spinal Unit on or after 1 August 2007 are eligible to participate in this study, where the cause of SCI was either injury or a disease process (for example, embolism or cancer).

Aims:

- ~ To explore the interrelationship(s) of body, self and society for people with SCI and how these interrelationships shape their life chances, life choices and subjectivity; and
- ~ To investigate how entitlement to rehabilitation and compensation through ACC (where injury was the cause of SCI) affects socioeconomic and health outcomes compared to outcomes for people not covered by the ACC (e.g. where disease/illness was the cause of SCI).



Project Team: Martin Sullivan, Charlotte Paul, Sarah Derrett, Peter Herbison, Peina Tamou, Maureen Crawford, Karla Cooper, Karen Marshall, Carolyn Beaver, Pamela Fergusson

Funding: Health Research Council of New Zealand

Progress: One year after recruitment commenced, 54 eligible potential participants have been identified and the first structured interviews were completed with 25 people.

INTERNATIONAL SURVEY OF MUSCULOSKELETAL DISORDERS AND RELATED DISABILITY¹

Musculoskeletal disorders (MSDs), including back, neck and arm pain, are the most frequently occurring occupational diseases in New Zealand. This project comprises the New Zealand arm of an international study.

Aims (for the New Zealand study):

- ~ To identify the prevalence of MSDs in three occupational groups (nurses, postal and office workers) in New Zealand, and to examine the association with risk factors;
- ~ To identify factors associated with both ongoing disability, and new MSDs, over the course of one year.

Project Team: David McBride, Sarah Derrett, Helen Harcombe, Peter Herbison, Sarah Dean, David Coggon

Funding: Health Research Council of New Zealand

Progress: Analysis commenced on the baseline and follow up survey data collected on MSDs that included demographic, physical and psychosocial factors among randomly selected nurses, postal workers and office workers.

¹ This is not managed by the IPRU, however IPRU staff are scientific collaborators on the project.

EQ-5D GENERAL HEALTH STATUS MEASURE

The EQ-5D is widely-used, nationally and internationally, as a measure of general health status. It is one of the measures internationally recommended for use in studies of injury outcome, and is used in all studies of injury outcome mentioned in this Disability and Rehabilitation section of the report.



EQ-5D Translation into *Te Reo Māori*

Because the Prospective Outcomes of Injury Study (POIS) intended questionnaires to be available for administration in *Te Reo Māori* (the Māori language), formal translation of the EQ-5D, within the POIS questionnaires, was required by the EuroQol Group Translation Committee.

Project Team: Sarah Derrett, Craig Hall, Wahineata Smith, Maruia Jensen, Maia Wikaira

Aims:

- ~ To develop a *Te Reo Māori* version of the EQ-5D
- ~ To have this version approved as an official translation by the EuroQol Translation and Executive Committees

Funding: University of Otago

Progress: Developing an official translation is a complex and detailed process that includes forwards and backwards translations, reconciliation meetings, formal reports, and lay testing with people fluent in Te Reo before approval can be given. The translation produced by this project has received provisional EuroQol Committee approval as the official Māori language version of EQ-5D.

The EQ-5D and Injury Study

More information is required about injury survivors' pathways to recovery and outcomes experienced given the burden of injury identified internationally. Recommendation has been made that general measures of health status, such as the EQ-5D, should be included in studies of injury outcome.

Aims:

First study

- ~ To systematically search for studies of outcome following injury which have used the EQ-5D;
- ~ To describe administration and analysis of the EQ-5D in these studies, including reports of EQ-5D reliability and validity.

Second study

- ~ To invite researchers who have used the EQ-5D in studies of injury outcome to join an "EQ-5D and Injury Outcome Collaborators Group" and share anonymous individual person EQ-5D data; and
- ~ To undertake a meta-analysis of EQ-5D and injury outcomes using individual person EQ-5D data.

Project Team: First study: Sarah Derrett, Peter Herbison, James Black

Second study: James Black, Sarah Derrett, Peter Herbison, Ronan Lyons and Suzanne Polinder

Funding: EuroQol Executive Committee, EuroQol Foundation

Progress: The systematic literature search was completed.

Findings: The review revealed considerable heterogeneity within, and between, published injury outcome data sets which meant a meta-analysis, based on the published EQ-5D injury outcome data, was not useful in understanding the EQ-5D and injury outcome. As a result, the second study was instigated. This meta-analysis is based on anonymous individual-person data to provide descriptive data sets of injury outcome EQ-5D norms for injured populations and specific injury-type sub-groups. Responses to the invitation to collaborate have been very positive.

MOTORCYCLE INJURY OUTCOME STUDY (MINOS)

There is a clear indication that both rates and costs of motorcycle injury have increased significantly in recent years. This developmental study aims to recruit more than 300 New Zealanders from a random sample of 1000 motorcyclists around the country, who were injured in a motorcycle crash during 2007. Recruitment will be from the ACC entitlement claimant register for motor vehicle crashes.

Aims:

- ~ To increase understanding of the outcomes of motorcycle injury and the impact that this has on participation in paid employment and other valued activities;
- ~ To understand factors influencing riding and return to riding after a motorcycle crash; and
- ~ To develop new questions for inclusion in subsequent surveys of injured motorcyclists.

Project Team: Mary Butler, Sarah Derrett, Dorothy Begg

Funding: Accident Compensation Corporation Post-doctoral research fellowship (Mary Butler).

Progress: Project planning was undertaken during the year.



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CONFERENCES AND MEETINGS OF NOTE

Research Seminar, Donald Beasley Institute, Dunedin, July 18, 2008

Mary Butler

Presentation

“Care as a positive practice”

Neurological Special Interest Group, Dunedin, August 26, 2008

Mary Butler

Presentation

“The context of care”

Australian and New Zealand Spinal Cord Society Annual Scientific Meeting, Christchurch, November 28, 2008

Sarah Derrett

Presentation

“Establishing partnership and building research capacity: the subtext to the plot”

EuroQoL Group Scientific Meeting, Baveno on Lake Maggiore, Italy, September 11-12, 2008

Sarah Derrett

Presentation

“Use of the EQ-5D in studies of outcome following injury”

“Connecting for the Future”, Rehabilitation and Disability Colloquium, Dunedin, December 4-5, 2008

Sarah Colhoun

Presentation

“The realities of running a prospective cohort study”

Mary Butler

Presentation

“A framework for care ethics”

James Black

Presentation

“Outcome following injury: a systematic literature search of studies using the EQ-5D”

Traumatic Brain Injury Functional Rehabilitation Conference, Queenstown, August 1, 2008

Mary Butler

Presentation

“The practice of care: a case presentation”

PROMOTING INJURY PREVENTION

IPRU's research involves dissemination of results specific to each of the project areas and this is described elsewhere in this report. Some of its work, however, is more generic. It involves meeting the needs of the public health community for reliable information on injury, contributing to the dialogue on injury prevention in relation to other health issues and working internationally on injury prevention as a whole. IPRU staff also undertake work outside the boundaries of their funded projects. This includes both organizing and presenting seminars and lectures, serving on boards and advisory panels both at a national and international level, and collaborating in research that does not relate directly to injury *per se*.

PUBLIC INFORMATION, ADVICE AND SUPPORT

IPRU Website: www.otago.ac.nz/ipru

The IPRU website provides access for New Zealand practitioners, researchers, and policy makers to current research being undertaken at the IPRU. It also provides access to Health Information Service injury data. Links to other sites both national and international that are relevant to injury prevention are also available on-line.

NIQS (National Injury Query System)

NIQS, IPRU's National Injury Query System provides accessible search facilities for consistent injury data for New Zealand from the New Zealand Health Information Service. Visitors to the site can select attributes about which they want information regarding New Zealand injury statistics for minor research, policy and programme development. There are a number of limitations in using the injury data available and IPRU has been pleased to be able to offer its years of experience in working with this dataset through this contract with the Ministry of Health.

Personal Assistance

A few of the queries that practitioners, policy makers, students and members of the public have, cannot be answered directly from NIQS. Basic statistical requests can be addressed by emailing StatsEnquiry@ipru.otago.ac.nz for personalised assistance.

Project Team: Jean Simpson, Brandon de Graaf, Dave Barson, Pauline Gulliver, Gabrielle Davie

Funding: Ministry of Health

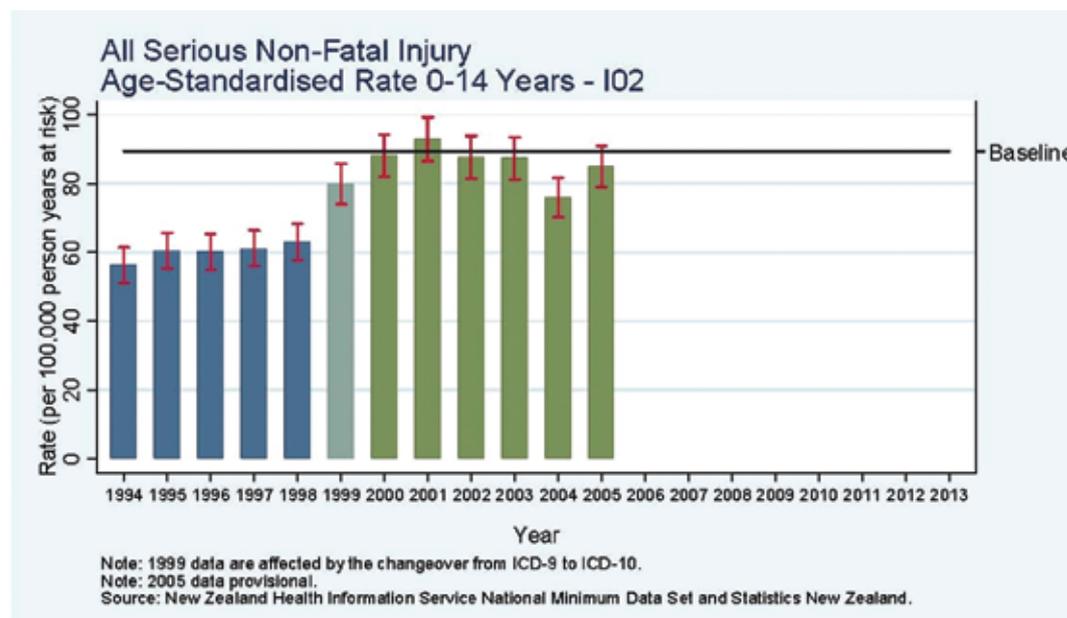
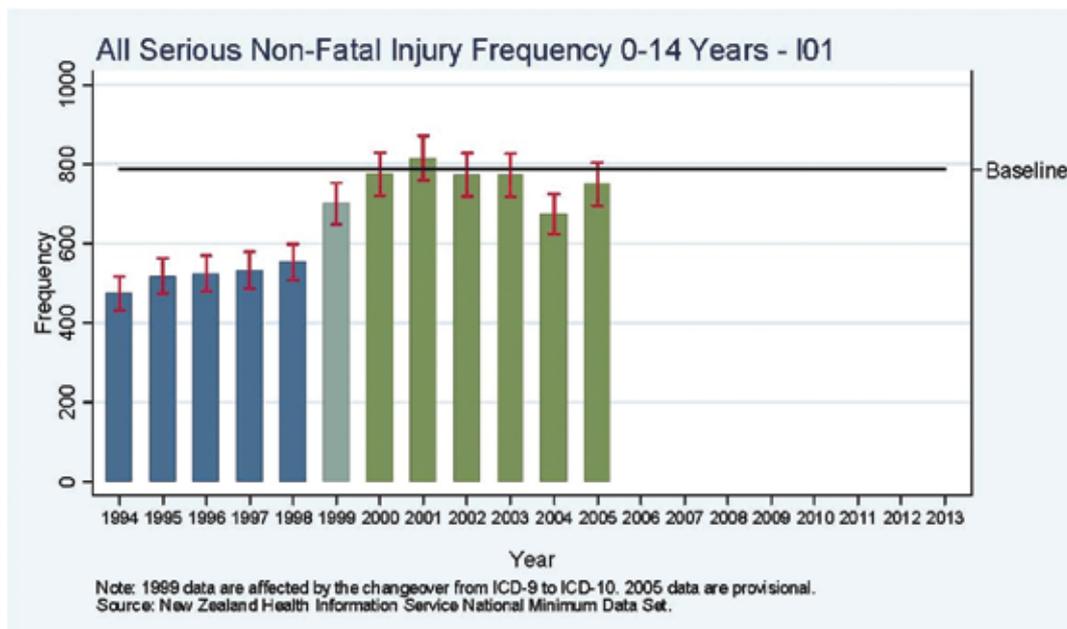


NZIPS CHARTBOOKS OF SERIOUS INJURY OUTCOME INDICATORS 1994 – 2007

The New Zealand Injury Prevention Strategy (NZIPS) Secretariat commissioned IPRU to produce chartbooks that would provide trends for fatal injury, and indicators for serious non-fatal injury in New Zealand, on an annual basis. The all-population chartbook was first produced and published in January 2006. Subsequently, chartbooks for children and for Māori were produced. The current work is aimed at producing annual chartbooks for the whole population, for children and for Māori.

Project Team: Colin Cryer, Pauline Gulliver, Gabrielle Davie

Funding: Accident Compensation Corporation



PUBLICATIONS

Refereed Journals

RJ321 Cryer C, Knox A, Stevenson E. Factors associated with hip protector adherence amongst older people in residential care. *Injury Prevention*, 2008; 14:24-29

Occasional Report

OR074 Gulliver P, Cryer C, Davie G. A Chartbook of the New Zealand Injury Prevention Strategy Serious Injury Outcome Indicators for Children: 1994-2007. New Zealand Injury Prevention Strategy, Accident Compensation Corporation. November 2008

LECTURES

Dorothy Begg

Health Studies: Health Promotion (HEAL 202)

“Injury prevention: driving”

July 30, 2008

Epidemiology of Major Health Problems (HEAL 211)

“Unintentional injury: young drivers”

March 13, 2008

David Chalmers

Health Studies: Health Promotion (HEAL 202)

“Injury prevention: rugby”

July 30, 2008

Shyamala Nada-Raja

Epidemiology of Major Health Problems (HEAL 211)

“The epidemiology of suicide and self-harm”

April 3, 2008

Foundations of Epidemiology (HEAL 192)

“Epidemiology of suicide and self-harm”

October 8, 2008

Suicidal Behaviours, Research and Prevention (PSMX 429)

“Gambling and suicidal behaviour”

“Sexual orientation and suicidal behaviour”

“Internet-based approaches to suicide prevention and depression treatment with special emphasis on the RID programme”

October 15, 2008

Jean Simpson

Community Child Health (CHHX 701)

“Unintentional injury”

February 27 and September 10, 2008

Public Health: Health Promotion (PUBH 705)

“Designing a child injury prevention intervention”

May 15, 2008

EXTERNAL REPRESENTATION

John Langley

Member of the Injury Surveillance Ministerial Advisory Panel (ISMAP)
Member of the NZIPS Interagency Injury Indicators Group
Member of the National Occupational Health and Safety Advisory Committee

Dorothy Begg

Member of the Editorial Board: Journal of Safety Research
Member of the Editorial Advisory Board: Accident Analysis and Prevention
National Executive Member of the Australasian College of Road Safety – New Zealand Chapter

Colin Cryer

Member of the Statistics New Zealand Working Group on Monitoring Injury Outcomes
Member of the Statistics New Zealand Working Group on Documenting Core Injury Information Datasets
Member of the International Collaborative Effort on Injury Statistics (ICE) Steering Committee
Associate Editor of the Injury Prevention journal

Peter Davidson

Member of the Editorial Board: Journal of Science and Medicine in Sport
Member of the Editorial Board: Open Biomedical Engineering Journal
Research Associate of the Institute of Sport and Recreation Research New Zealand, AUT
Honorary Advisor of the Royal Society of Prevention of Accidents, Playsafe, United Kingdom

Sarah Derrett

Member of the Ministry of Health Lower South Regional Ethics Committee
Member of the Editorial Board: International Journal of Health Planning and Management
Member of the Scientific Committee for the EuroQol Group
Member of the University of Otago Rehabilitation and Disability Research Theme: Management Committee

Kypros Kypri

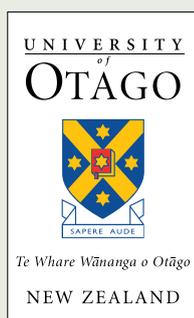
Member of the Editorial Executive Board: Drug and Alcohol Review journal
Member of the National Advisory Group on Tertiary Student Drinking (NZ)
Member of the Australian Network for Accessible Psychological Intervention

Shyamala Nada-Raja

Member of Advisory Group: Suicide Prevention Information New Zealand (SPINZ)
Member of Advisory Group for Otago District Health Board Suicide Prevention Action Plan Project
Member of Advisory Group: Australian National Epidemiological Study of Self Injury

Jean Simpson

Board Member of the International Society for Child and Adolescent Injury Prevention (ISCAIP)
Member of the Editorial Board: Childrenz Issues
Member of the Otago Child and Youth Mortality Group



FOR FURTHER INFORMATION CONTACT
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