# TABLE OF CONTENTS

1. Chair of the Board of Management’s Report  
2. Directors’ Report  
3. Background and Objectives of the Centre  
4. Management Structure and Meeting Attendance Register  
5. Research Project Summaries  
   Data Systems and Injury Surveillance  
   Work-related Injury  
   Motor Vehicle Injury  
   Water Safety  
   Sports Injury  
6. IRMRC Data Analysis and Advice Services  
7. Short Course  
8. IRMRC Postgraduate Students  
9. Staff members  
10. Publications  
11. Conference Presentations  
12. Media Activities  
13. Committee Membership  
14. Other Activities  
15. Financial Statement  
   
Appendix 1 - Summary of Research Projects  
Appendix 2 - Summary of Data Analysis and Advice Services
1. Chair of the Board of Management’s Report

2003 was a most enjoyable year for me to act as the Chair of the Management Committee. The Board was pleased to watch the changes in the Centre as a result of the Review process being implemented after the new five-year contract with NSW Health, the Motor Accidents Authority of NSW and the Roads and Traffic Authority was signed in May 2003. It was a great pleasure to see the arrival of the new Executive Director, Professor Caroline Finch, from Monash University. Caroline commenced in August 2003 and has made many changes and introduced new activities to expand the research at the Centre. She has been implementing the Strategic Plan and is working with the Board and the staff to develop a Business Plan and Research Plan to guide the Centre’s activities in the next five years.

The Centre moved into excellent accommodation in the Applied Science Building at the time of Caroline’s arrival and has already outgrown this.

Caroline brought some of her team with her from Monash and has appointed additional staff. Ann Williamson was promoted to Associate Professor and is now able to devote more of her time to research activities. Other new staff have been appointed, particularly at the postdoctoral level, and several new PhD students have joined the Centre. The number of grant applications has increased and we look forward to the success of these.

There remains the matter of identifying an independent Chair for the Board of Management as I have always indicated that my role is a temporary one. One of the tasks of the new Chair will be to work with UNSW to identify a more visible location for the Centre to improve knowledge of its existence in the wider community.

In 2003, the Centre has had an excellent year and a great future in the years to come. I wish all the staff great success in the year to come.

Elspeth McLachlan  
Pro-Vice-Chancellor (Research), UNSW  
Chair of the Management Committee  
NSW Injury Risk Management Research Centre, UNSW
2. Directors’ Reports

The 2003 year has been a landmark year for the NSW Injury Risk Management Research Centre (The Centre). We obtained a further five years of funding from our funding partners at a slightly increased level. This additional funding provides an important foundation for the Centre’s basic research and allows us to undertake projects that might otherwise not be funded through the conventional forms of external grants. This includes projects such as the NSW Injury Profile, which has provided an up-to-date overview of the patterns and causes of injury in NSW, and the Cost of Injury Report on the financial burden of injury in NSW. These studies provide information that is novel for NSW, and provide a basis for development of policy and programmes to reduce injury in this State. A data linkage project that will match hospital separation data with road traffic crash data was also commenced. It will enhance understanding of how road traffic crashes contribute to the overall health burden in NSW and will identify which types of crashes lead to the most serious injury.

A second highlight in the year was the Centre’s move to new premises in the Applied Science Building, doubling its floor space and including a meeting room and laboratory facilities that will allow the growth of the Centre.

An important and exciting development was the recruitment, after an international search, the Centre’s newly established Chair of Injury Risk Management. Professor Caroline Finch took up the position and Executive Directorship of the Centre in August 2003. We were extremely fortunate to attract a person of Caroline’s calibre to this position.

2003 saw the Centre continue to grow its research output. The Centre was successful in obtaining considerable additional funding for research from the Australian Research Council and other competitive granting bodies and its research publications and research reports also showed continued healthy growth. The Centre’s research has covered a diverse range of areas relevant to injury, including workplace safety, child safety, road safety and water safety and including issues such as the effects of electric shocks in mining and the effects of fatigue on drivers.

The progress of the Centre in 2003 would not have been possible without the hard work and commitment of the Centre’s staff, who form an enthusiastic and loyal team. As outgoing Executive Director, I am grateful to all staff members for their assistance and support throughout the past three years. I am grateful to the Board and its two Chairs, Ms Robyn Kruk and Professor Elspeth McLachlan for their wise guidance during the period of establishment of the Centre. Finally, I have great pleasure in handing over the Centre leadership to Professor Finch and I am delighted to continue to play a role in ensuring that the Centre continues to progress and to prosper.

Ann Williamson
Director (January 2003-August 2003)
NSW Injury Risk Management Research Centre, UNSW
Whilst my move from Melbourne to Sydney to take up the role of Director was not without personal challenges, the staff of the Centre have wholeheartedly welcomed me to their team. It is a pleasure to work with such a dedicated and enthusiastic team of researchers. The Board has been very supportive and I would particularly like to thank our Chair, Elspeth McLachlan, for her continued advice. I would also like to give special thanks to A/Prof Aldo Bagnara who, during his role as Acting Dean of Science, helped to pave some administrative pathways with his Faculty and to Dr Ann Williamson for sharing her wealth of experience and knowledge of the history of the Centre.

In the latter half of 2003, we completed our Strategic Planning process and commenced work on our Business Planning and setting of Key Performance Indicators. Work was also begun on developing a research strategy for the Centre, with plans to establish a Research Advisory Committee in 2004.

The future of the Centre will depend on its links with other academics across the University of New South Wales, its relationships with its funding partners and its relevance to the broader injury control network across the states. I am investing considerable time and effort in establishing these from the outset of my appointment. Crucial to this will be our ability to respond to broader research and policy needs as they arise in the future. I expect to make a number of senior research appointments to the Centre staff in 2004 to help with this.

On my own research front, I have brought my established program of sports injury prevention research with me to the Centre. With strategic staff appointments and collaborations across UNSW, this will be developed further into a broader program of research relating to managing risks in recreational settings. My award of an NHMRC Principal Research Fellowship in late 2003 is a clear mandate for this research focus to continue and to become a particular strength of the IRMRC in the future.

2004 promises to be an exciting year for the IRMRC - full of new research directions, consolidation of our strengths, additional funding opportunities, new strategic and collaborative partnerships and enhancements to our staff capacities.

Caroline Finch
Director
NSW Injury Risk Management Research Centre, UNSW
3. **Background and Objectives of the Centre**

The NSW Injury Risk Management Research Centre (The Centre/IRMRC) was conceived and initiated by the NSW Health Department (NSW Health), in partnership with the Roads and Traffic Authority of NSW (RTA) and the Motor Accidents Authority (MAA).

The IRMRC was developed to contribute to a “whole of government” approach to examining injury risk in the community and to provide research services to a range of agencies concerned with injury risk management.

The Centre was established as an independent unit within the University of New South Wales. It combines the benefits of academic excellence of a respected institution with the ability to provide flexible services to clients.

Pursuant to the Deed of Agreement dated 2nd May 2003 entered into by the Health Administration Corporation (“HAC”) (representing NSW Health), RTA and MAA, the parties agreed to provide continuous funding of $440,000 per annum to IRMRC for the period from 2003 to 2007.

Other State Government agencies and other bodies are being actively encouraged to commission injury research projects to IRMRC.

Ultimately it is expected that the IRMRC will be funded through grants and research projects and other activities funded by government and private sectors, as well as its core funding.

**The Role of the Centre**

The main roles of the Centre are:

- To conduct quality research into injury risk management. The Centre’s staff profile includes internationally recognised researchers in the fields of behavioural science, epidemiology, human factors, public health and statistics.
- To identify and coordinate relevant expertise from outside the Centre in order to provide solutions to injury risk management problems identified by the IRMRC’s own research, its sponsoring agencies or by other external agencies. Links with the faculties in the University enable us to draw upon a wealth of expertise in the fields of medicine, engineering and science. The Centre also has extensive links with other groups working in injury risk management outside the University.
- To collate and disseminate scientific information on injury risk and its management.
Business Objectives

- Initiate, develop and implement a research programme
- Devise a business plan
- Develop the evidence base for improved responses to injury risk
- Disseminate results of research through publication in a variety of forms with an emphasis on refereed journals
- Ensure quality control of the Centre’s products, including both research and consultancy activities
- Establish a university wide network of researchers to enhance research outcomes
- Establish links with other injury risk management researchers and injury research centres nationally and internationally
- Achieve a balance between commercial success and academic excellence
- Establish a work force training programme
- Develop research training programmes
- Foster involvement of government bodies and relevant industries in the IRMRC’s work
- Advocate for improved responses to injury risk emerging from the Centre’s research.
4. Management Structure and Meeting Attendance Register

Board of Management

The Board of Management consists of:

- One independent Chair person (non-voting): Prof Elspeth McLachlan (Pro Vice Chancellor Research, UNSW)
- Members:
  - Representative from NSW Health: Mr Bill Bellew (Meeting 12-14), Ms Erica Gray (Meeting 15)
  - Representative from RTA: Mr John Brewer
  - Representative from MAA: Mr David Bowen
  - Representative from Faculty of Science, UNSW: Prof Dennis Lincoln (Meeting 12 and 13), A/Prof Aldo Bagnara (Meeting 14 and 15)
  - Representative from Faculty of Medicine, UNSW: Prof Anthony Zwi
  - Representative from Faculty of Engineering, UNSW: Prof Brendon Parker
- Executive Director of IRMRC (non-voting): Prof Caroline Finch
- Additional representative from NSW Health (non-voting): Ms Pam Albany
- Observer (non-voting); Prof Jean Cross (School of Safety Science, UNSW)

The Centre’s Board of Management met quarterly during 2003 on the following dates:

**Meeting 12**  
3rd February 2003

Prof Elspeth McLachlan (Chair, Pro Vice Chancellor Research, UNSW)
Ms Pam Albany (NSW Health)
Mr David Bowen (MAA)
Mr John Brewer (NSW RTA)
Prof Dennis Lincoln (Dean Science, UNSW)
Prof Brendon Parker (Dean Engineering, UNSW)
Dr Ann Williamson (Director, IRMRC)
Prof Anthony Zwi (Faculty of Medicine, UNSW)

**Meeting 13**  
5th May 2003

Prof Elspeth McLachlan (Chair, Pro Vice Chancellor Research, UNSW)
Ms Pam Albany (NSW Health)
Mr David Bowen (MAA)
Mr John Brewer (NSW RTA)
Prof Dennis Lincoln (Dean Science, UNSW)
Prof Brendon Parker (Dean Engineering, UNSW)
Dr Ann Williamson (Director, IRMRC)
Prof Anthony Zwi (Faculty of Medicine, UNSW)
Meeting 14  4th August 2003

Prof Elspeth McLachlan (Chair, Pro Vice Chancellor Research, UNSW)
Ms Pam Albany (NSW Health)
Mr John Brewer (NSW RTA)
A/Prof Aldo Bagnara (A/Dean Science, UNSW)
Ms Maureen Elliott (RTA)
Prof Brendon Parker (Dean Engineering, UNSW)
Dr Ann Williamson (Director, IRMRC)
Prof Anthony Zwi (Faculty of Medicine, UNSW)

Meeting 15  2nd November 2003

Prof Elspeth McLachlan (Chair, Pro Vice Chancellor Research, UNSW)
A/Prof Aldo Bagnara (A/Dean Science, UNSW)
Mr David Bowen (MAA)
Prof Caroline Finch (Executive Director, IRMRC)
Ms Erica Gray (NSW Health)
Mr Justin McGuire (RTA)
Ms Rebecca Mitchell (NSW Health)
Prof Brendon Parker (Dean Engineering, UNSW)
Prof Anthony Zwi (Faculty of Medicine, UNSW)

Quarterly Review Committee

Under the funding contract, the Centre was required to establish a Quarterly Review Committee to oversee issues relating to the use of injury data sources provided by the core funding partners.

The Committee was formed by: Director of IRMRC, Data Manager IRMRC, Kwame Atsu (MAA), Rebecca Mitchell (NSW Health), Robert Ramsay (RTA). The Quarterly Review Committee met three times during 2003 on the following dates:

Meeting 1  16th May 2003

Mr Kwame Atsu (MAA)
Mr Soufiane Boufous (Data Manager, IRMRC)
Ms Rebecca Mitchell (NSW Health)
Mr Robert Ramsay (RTA)
Dr Ann Williamson (Director, IRMRC)
Meeting 2  
19th August 2003

Mr Kwame Atsu (MAA)
Mr Soufiane Boufous (Data Manager, IRMRC)
Prof Caroline Finch (Executive Director, IRMRC)
Ms Rebecca Mitchell (NSW Health)
Mr Robert Ramsay (RTA)
Dr Ann Williamson (Deputy Director, IRMRC)

Meeting 3  
5th December 2003

Prof Caroline Finch (Chair, Executive Director, IRMRC)
Mr Soufiane Boufous (Data Manager, IRMRC)
Mr Thuong Dao (representing Mr Kwame Atsu, MAA)
Ms Rebecca Mitchell (NSW Health)
Mr Robert Ramsay (RTA)
5. Research Project Summaries

DATABASE AND INJURY SURVEILLANCE:

A major resource of the Centre is its access to the various injury databases provided by the core funding partners. The Centre has conducted a range of projects using this data including describing epidemiological trends and examining methodological aspects of injury data systems.

1. A profile of injury deaths in NSW

Aims:
To provide an up to date epidemiological profile of injury deaths in NSW for the period 1997-2002.

Investigators:
Marcia Schmertmann and Caroline Finch

Funding:
Core funding

Length of Project:
On-going

Project Summary:
Data analysis has begun on this project. Data have been obtained from the Australian Bureau of Statistics (ABS) for all E-coded death record. All death cases for the major injury mechanisms have been described using epidemiological methods. Age and gender-specific death frequencies and rates are being calculated for all major injury mechanism cases from 1998 to 2002 using standard five-years age groups. Age-adjusted rates for each injury mechanism are also being calculated annually from 1986 to 2002 for deaths. A report released date in July 2004 is anticipated.

Dissemination of Findings:
A report is expected to be released in mid 2004.
2. Data Linkage Trial

**Aims:**
To assess the feasibility of linking police crash records with compulsory third party insurance claim.

**Investigators:**
Soufiane Boufous and Marcia Schmertmann

**Funding:**
Core funding

**Length of Project:**
On-going

**Project Summary:**
A trial linkage exercise was conducted using accident records obtained from both the RTA Traffic Accident Data System (TADS) and the Motor Accidents Compulsory Third Party (CTP) for 1997. Each data set contains several files concerning information about the accident, the road users involved and the type of vehicle involved. Of these files, only the file containing information about the accident itself was used because it was the easiest way to link related records in the two datasets. These two datasets were matched using a series of incremented deterministic linkage queries in Microsoft Access. The following fields were used in the linkage queries: date accident; date and time of accident; date, time and street location of accident; street and date of accident. This exercise matched roughly one out of every three CTP records to a TADS record. It was concluded that in order to increase the proportion of records matched, a probabilistic matching procedure should be used.

**Dissemination of Findings:**
None
3. Methodological Issues in the Reporting of Injury

**Aims:**
To explore some of the problems with widely used criteria for defining injury in population datasets

**Investigators:**
Ann Williamson and Soufiane Boufous

**Funding:**
Core funding

**Length of Project:**
On-going

**Project Summary:**
Data from the New South Wales Inpatient Statistics Collection was analysed. Data was elected for the period from the 1st July 1999 to 30th June 2000, including an internal record linkage of the same dataset using probabilistic data linkage techniques. Approximately 28% of records with a non-injury primary diagnosis include a nature of injury diagnosis in a subsequent diagnostic field. This figure increased to more than half (53%) of discharges for medical injuries. The internal linkage showed that 7% of discharges were repeat admissions for the same ICD-10 injury code and that 14% were repeat admissions for any ICD-10 injury code. The proportions of repeat admissions varied according to the type and the mechanism of injury.

**Dissemination of Findings:**
WORK-RELATED INJURY

Injury in the workplace is a significant problem. The Centre continues to work in this area, with a particular focus on developing better databases on work-related injury and developing better ways of understanding the risk associated with workplace injury.

4. Profile of Work-Related Injury in NSW

Aims:
To describe work-related injury for NSW for the period 1999/2000 using the Inpatient Statistical Collection and WorkCover data.

Investigators:
Soufiane Boufous and Ann Williamson

Funding:
Core funding

Length of Project:
On-going

Methodology:
Work-related injury is a major public health problem in Australia with the National health survey indicating that over one third of (37%) of reported injury or injury-related condition were work-related. Workers compensation scheme (WCS) data is currently the most widely used source of information to report on work related injuries in Australia. The data however is more likely to underestimate the magnitude of the problem because it does not include less severe injuries and the self employed who make up 15-20% of the paid workforce. In addition, evidence showed that not all workers who are eligible to make a compensation claim would do so. During 1999-2000, an activity code was introduced as part the NSW Inpatient Statistics Collection (ISC) which allowed the identification of work-related injuries in the collection. This study involves a comparative analysis of both Inpatient Statistics and WorkCover datasets for the 1999-2000 financial year in an attempt to ascertain the potential benefit of the introduced activity code in the surveillance and monitoring of work related injuries in New South Wales. The majority of hospital separations for work-related injury were males (85%) with contact with various objects, including machinery and tools, representing the most common mechanisms of injury and open wounds and fractures of the upper and lower limbs as the most common injury nature/location. Injuries reported in the WCSS were also dominated by males (70%) with muscular stress while handling objects as the most common mechanism of injury and sprain and strain of lower back as the leading nature/location of injury. The proportion of those aged 15-19 years in the WCSS (1.2%) was over five times lower than the proportion of the same age group recorded in the ISC.

Dissemination of Findings:
5. The Effects of Precarious Work on Occupational Health and Safety

Aims:
To examine the effects of precarious working arrangements (e.g. casual work, payment by results) on occupational health and safety in the transport, hospitality and call centre industries.

Investigators:
Phillip Bohle, Michael Quinlan (School of Industrial Relations and Organisational Behaviour, UNSW), Ann Williamson

Funding:
ARC Discovery grant ($35,020)

Length of Project:
2003-2004

Project Summary:
This study is using survey methodology to evaluate current work practices and health and safety outcomes in the three industry sectors; transport, hospitality and call centres. For the trucking industry component of the project, a survey instrument was designed based on previous surveys of the long distance trucking industry as well as the literature review. The survey covered the nature of employment, including the hours of work, payment, work-home relationships and a range of aspects relating to occupational health and safety. Just over 200 questionnaires were completed by casual and full-time employees in a range of companies based in New South Wales. The call centre and hospitality industry stage of the project involved several convergent interviewing processes. The in-depth interviews were aimed at establishing the main occupational health and safety issues perceived by workers in each industry sector and identifying links to the work environment, work organisation, working hours and work-life conflict. Thirty-nine interviews were conducted in hotels and 35 in call centres. In both hotels and call centres, casual and full-time employees were sampled to allow differences and similarities in the OHS issues they faced to be identified. The findings from the convergent interviews were used to develop industry-specific items for the survey questionnaires used in those industries. Survey questionnaires have been completed by 200 call centre employees and around 50 hotel employees so far. Initial analyses on survey responses are now being conducted.

Dissemination of Findings:
Analysis of the data is underway and the findings are expected to be reported in 2004.
6. **Injury Prevention and Control (Australia) Ltd Partnership Project**

**Aims:**
To provide an overview of injury information on the mining industry in Australia.

**Investigators:**
Tony Parker (QUT), Ann Williamson

**Funding:**
Injury Prevention and Control (Australia) Limited ($50,763)

**Length of Project:**
2002-2003

**Project Summary:**
This project is part of a larger partnership project being overseen by Injury Prevention and Control Australia (IPCA) at University of Queensland. This project involves the work-related injury section of the research programme for IPCA. A consultant, Dr Tim Driscoll, was employed to review the availability of injury information on the mining industry in Australia.

**Dissemination of Findings:**
A draft final report has been produced and being considered by the IRMRC and IPCA for provision to strategic authorities in the mining industry.
7. Analysis of the Causes of Electrical Shock Incidents in NSW Mining Industry

Aims: The aims of this project were to describe the causes of electrical safety incidents in NSW mines and to use this information to develop better approaches to preventing this type of incident.

Investigators: Ann Williamson and Usha Garg

Funding: The NSW Department of Mineral Resources ($6,530)

Length of Project: 2002-2003

Project Summary: This study involved an in-depth analysis of 110 electric shock incidents reported to the NSW Department of Mineral Resources COMET database. Most of the cases were reported as Notifiable incidents and did not result in serious injury or lost time. Most occurred underground and around two-thirds came from the coal sector. All cases were coded using a classification and coding system developed to look at the causes of occupational fatalities. Evaluation of the reliability of the coding showed good reliability. The identified data patterns highlighted directions for prevention of electric shocks in mining. Most obviously, they show that almost all of the incidents could have been prevented by audits, reviews and maintenance of mining equipment. The results show strongly that an on-going safety review system would be the single, most effective intervention to prevent electric shock incidents. The results also point out to the need to reinforce among mine employees and contractors the importance of fundamental electrical safety procedures including isolating and checking electrical equipment. This is important both because it is good safety practice, but also because, as the results of this study show, mine employees and contractors cannot be sure that the equipment they are using is safe. Overall, this project has shown the value of in-depth analysis for identifying the causes of safety-related incidents and the strategies most likely to be successful in preventing them.

Dissemination of Findings: A final report was presented to the DMR at the end of 2002. Four conference presentations were made to the Mine Safety Conferences.


8. **Analysis of Safety Performance Measures in the NSW Mining Industry**

**Aims:**
To undertake an analysis of safety performance measures collected by the NSW Department of Mineral Resources (DMR)

**Investigators:**
Ann Williamson and Usha Garg

**Funding:**
The NSW Department of Mineral Resources ($19,205)

**Length of Project:**
3 months (July 2003-October 2003)

**Project Summary:**
An analysis and interpretation of incident and injury data collection by the Department of Mineral Resources in the COMET system was undertaken to study all reportable events for all mining sectors (coal and non-coal). This included: identification of trends in incidents and injuries; degree of movement and reason for movement; a breakdown of incidents by different classifications and subsequent cross tabulations to identify causes; examination of numbers, factors and circumstances for fatalities and non-fatal injuries. Overall, around 2,000 incidents have been reported to the COMET system between 1999 and 2003. Over that time there has been a slightly downward trend in all incidents events reported, but there may be a number of non-safety related reasons for this. Certainly there were fewer fatalities reported and fewer Serious Bodily Injury and Serious Injury-related incidents reported which is clearly a very encouraging result. In contrast, the number of dangerous incidents in the non-coal sector has increased and dangerous occurrences in the coal sector have remained fairly constant. This pattern of decreasing fatal and serious injuries but increasing or static numbers of dangerous occurrences and incidents may reflect an important shift to reporting and acting earlier before a major incident occurs. The analysis also showed important differences between different mine industry sectors and different types of mine operation and revealed some directions for further action to reduce safety incidents in NSW mining.

**Dissemination of Findings:**
An annual report was produced for the Department of Mineral Resources for use by the Mine Safety Council, Advisory Bodies and other stakeholders in the mining industry and government. The material was also presented to the Performance Measures Taskgroup for the NSW Mineral Safety Advisory Council.
MOTOR VEHICLE INJURY

Road traffic injury is the most common cause of unintentional injury in NSW for all ages between 1 and 45 years. The Centre has a very active programme of research on road traffic. Currently, the particular focus is on the issues of driver fatigue, heavy vehicle safety and young driver safety.

9. Study of Fatigue in Motorcycle Day Rides

Aims:
To provide preliminary information on the effect of a recreational day ride on subjective fatigue and performance in motorcyclists.

Investigators:
Ann Williamson, Rena Friswell and Therese Ma

Funding:
Institute of Public Works Engineering Australia/Wollongong City Council ($5,000)

Length of Project:
1 month (May 2003-June 2003)

Project Summary:
Twenty volunteer motorcyclists recruited through the Motorcycle Council of NSW undertook a supervised 274km ride from Sydney to the town of Robertson and back. The trip averaged approximately 6 hours and included 3 mandatory breaks totalling 1:10. Before and after the trip, measures of subjective fatigue, reaction speed and sustained attention were taken, and riders assessed their fatigue at intervals throughout the trip. At the end of the day, the perceived workload of the day’s activities was assessed as was physical fatigue. On a second Control day, a week before or after the ride, participants provided the same measures at equivalent times of day as on the ride day, but spent the day engaged in sedentary activities. Background questionnaires confirmed that lifestyle factors with the potential to affect fatigue on the study days (e.g. sleep patterns) were similar prior to the ride and the Control days. The days differed in terms of perceived workload, with the ride day entailing higher workload, particularly in terms of mental demand, physical demand and effort. Riders also reported higher levels of physical fatigue after the ride. During the latter part of the ride, subjective fatigue appeared to be increasing, but was not statistically different from levels at the end of the Control day. Similarly, there was some evidence that the stability of reaction speed was more affected by the ride than Control day activities. The results appear to reflect the early stages of fatigue development, but replication on a longer ride would be needed to confirm this. The results do suggest that, in rested riders, a day ride of approximately 4.75 hours broken by spaced brakes of 1 hour 10 minutes, does not compromise safe performance more than a day of sedentary activity.

Dissemination of Findings:
The final report was accepted by the funding bodies (IPWEA/Wollongong Council) in November. Ongoing discussion are underway about extending the study.
Ma T, Williamson AM, Friswell R. A pilot study of fatigue on motorcycle day trips. For Wollongong City Council and IPWEA. Final Report.
10. Fatigue Management Programmes: Impact on Sleep, Fatigue and Performance

Aims:  
To evaluate non-regulatory, alternative approaches to work-rest scheduling for long distance road transport drivers.

Investigators:  
Ann Williamson, Samantha Sadural, Rena Friswell (NSW IRMRC), Anne-Marie Feyer (PricewaterhouseCoopers/NEOH, University of Otago)

Funding:  
The Department of Transport and Regional Services, the Commonwealth of Australia ($135,363)

Length of Project:  
2000-2003

Project Summary:  
Two groups of drivers working in different sections of the company were studied. The first group (long distance drivers) was measured across a normal working week under regulated working hours and then, 6 months later, under their company’s fatigue management plan (FMP). Drivers reaction time and sustained attention were tested at the start and end of the week, and they were asked to self-administer tests at the start and end of each break containing sleep during the week. Drivers also completed a diary, reporting on their subjective fatigue, work, and sleep, and wore ambulatory motion monitors for the duration of their participation. The second group of drivers carried sugar cane from local farms to the cane mill, with many short round-trips made per shift. This work occurred around the clock, so that the drivers worked rotating rosters. The impact of variations among and within rosters was examined. Drivers participated for a complete cycle of their roster. Like the long distance drivers, cane drivers were asked to complete reaction speed and attention tasks at the start and end of each work shift, to complete diary records of their work, sleep, and subjective fatigue, and to wear a motion monitor. The major modification introduced by the FMP for long distance drivers allowed the splitting of the mandatory six hour daily rest period into two shorter breaks totalling eight hours. Results showed little impact of FMP introduction on rest-taking practices but working hours increased slightly. Subjective fatigue increased and performance deteriorated over the work week before and after FMP introduction, however there was some evidence that the longer working hours under the FMP were associated with lightly poorer performance. The results for cane drivers showed clear adverse effects of night work compared to day work. Subjective fatigue and performance deteriorated across 8 and 12 hour night shifts and 8 hour afternoon shifts, but improved over day shifts. Shift length had little impact on fatigue and performance in these rosters.

Dissemination of Findings:  
The final draft report was submitted to the NRTC in July 2003.

11. Evaluating Differences in Heavy Vehicle Driver Fatigue Levels for Day and Night Driving

**Aims:**
To understand the relative impact of night driving on heavy vehicle driver fatigue and performance compared to similar hours of driving during the day and to determine whether the level of fatigue for drivers involved in regular night shifts is a road safety problem.

**Investigators:**
Ann Williamson, Rena Friswell (IRMRC), Anne-Marie Feyer (Price WaterhouseCoopers/NEOH, University of Otago), Philippa Gander (Sleep/Wake Research Centre, University of Otago)

**Funding:**
National Road Transport Commission, Victoria ($95,699)

**Length of Project:**
2001-2003

**Project Summary:**
Truck drivers working continuous day shifts, continuous night shifts or rotating day and night shifts were recruited from a number of transport companies operating out of Sydney and Melbourne. The drivers participated in the study for a two week period. During this time they were tested for reaction speed and sustained attention at the start of their first week and at the end of the first and second weeks of participation. They were also asked to self administer these tests and record their work hours, and subjective fatigue at the start and end of each shift and in the middle of each shift during the two weeks of participation. Drivers wore an ambulatory motion monitor for the duration of the study to provide objective information about their sleep, to be used in conjunction with self-reports of sleep. Both subjective fatigue and performance deteriorated across the working week, but only subjective fatigue showed greater effects of night shift than day shift, and did so regardless of whether the night work was on a permanent or rotating basis. The study indicates that consecutive night driving shift in a regular work-rest schedule clearly make drivers more tired than day driving shifts, but they do not produce significantly poorer or unacceptable levels of performance decrement. It may be misleading, however, to extend these results to other work-rest schedules, especially where the schedule is irregular, or where work, break and sleep times differ from those experienced by the drivers in this study.

**Dissemination of Findings:**
The final draft report has been submitted to the NRTC in June 2003.

12. **New South Wales Young Drivers’ Cohort Study**

**Aims:**
To examine the risk factors that promote crashes in the young driver group.

**Investigators:**
Robyn Norton (GIIH), Mark Stevenson (GIIH), Mark Woodward (GIIH), Ann Williamson, Maurice Eisenbruch (UNSW), Don C Carseldine (RTA)

**Funding:**
The NSW Roads and Traffic Authority

**Length of Project:**
2000-2003

**Project Summary:**
This prospective cohort study will collect information about potential risk factors for crashes and injuries sought from 20,000 young people aged 17-24 years, at the time they receive their provisional drivers licence at the NSW Roads and Traffic Authority licensing centre. Information being collected on road risk perceptions and road risk taking behaviours, pre-licensing driving experience and training/education. This information will then be linked prospectively to information about motor vehicle crash and injury involvement, prior to the age of 30 years, collected and recorded routinely in databases maintained by the RTA and the NSW coroners. Recruitment into the DRIVE study is proceeding well. To date, over 15,300 participants have joined the study and completed the baseline questionnaire, 95% of these online. Mail-outs to eligible drivers for the DRIVE study began in June 2003. Letters were sent on geographical basis to all eligible drivers in NSW (those holding red p plates, aged 17-24 years, n=104,122) by November 2003. The population of young drivers had proved somewhat difficult to recruit and response rates have varied from 18% in Northern Sydney to 8% in the Western Plains area. The best response rates have been obtained in areas where the study gained broad media coverage and so press releases have been issued to local media every time a regional mail-outs occurs. The overall response rate to date has been 13%. Information about the study has been re-sent to non-responders in several areas only due to the high cost and relatively low response rate (3-5%). Analysis of the first 12,000 participants showed that 57% of respondents were female, 54% from rural areas and 1.1% identity as indigenous.

**Dissemination of Findings:**

**Aims:**
The aim of this study is to examine the major patterns of crashes involving heavy trucks in NSW over the period 1996 to 2000.

**Investigators:**
Ann Williamson, Penny Irvine, Rena Friswell

**Funding:**
The NSW Roads and Traffic Authority ($17,939)

**Length of Project:**
2001-2003

**Project Summary:**
This analysis used the RTA’s Traffic Accident Database System (TADS) to produce a description of the character of heavy truck crashes in NSW. For this analysis, heavy trucks were defined as having a tare weight greater than 4.5 tonnes. Analysis included rigid, articulated, Bdoubles/roadtrains. The analysis showed that heavy trucks had higher crash rates than seen for all crashes when expressed as rates per registered vehicle, but rates per kilometre travelled which is probably a better measure of road exposure did not show great differences between heavy truck crashes and all crashes. Fatal crashes rates per registered heavy trucks were around five times higher than the fatal crash rates for all registered vehicles and injury and on casualty crash rates for registered heavy trucks were two to three times higher than those for all vehicles. On the other hand crash rates per million kilometres travelled were slightly higher only for fatal heavy truck crashes compared to fatal all vehicle crashes, and injury and non casualty crashes per kilometres travelled were similar between heavy truck and all vehicle crashes. The analysis also looked in depth at the characteristics of heavy truck crashes including the timing, involvement of behavioural and other casual factors as well as the specific causes of single-vehicle heavy truck crashes and the characteristics of speeding crashes involving heavy vehicles.

**Dissemination of Findings:**
A final report was presented to the RTA.


14. **Coronial Study of Fatalities from Road Traffic Accidents which Identified Driver Fatigue as a Factor.**

**Aims:**
To evaluate the specificity of the current criteria for determining fatigue-relatedness in road traffic crashes.

**Investigators:**
Ann Williamson, Jane Weaver

**Funding:**
The NSW Roads and Traffic Authority ($18,181.82)

**Length of Project:**
2002-2003

**Project Summary:**
The study examined Coronial reports of crashes that had been identified as fatigue-related based on the indirect criteria currently employed by the NSW Road and Traffic Authority and by a number of other road safety organisations around Australia. A set of 116 road crash fatalities occurring in NSW in 2000 which had been identified by the RTA as involving fatigue were investigated. All cases were read and coded by two coders to ensure accuracy of coding. Information was collected on the type of information available about the involvement of fatigue. This included whether information was available on the time of day, time since waking, reported fatigue in the period leading up to the crash, the amount of sleep in the period leading to the crash and recent work-rest period. Cases were coded according to the degree of evidence that fatigue was involved. Analysis of the characteristics of these crashes showed that the criteria used to define fatigue-related crashes is only partly successful. A significant proportion of crashes judged to be fatigue-related on current RTA criteria did not actually involve fatigue. Just less than two-third of cases (64.1%) were found, on investigation, to involve fatigue. Around one-quarter of cases were judged to definitely not involve fatigue and for a small minority there was too little information to make a judgement. Cases that were judged to not involve fatigue involved medical factors, other drugs or alcohol. In many cases some of the critical information needed to make judgements about fatigue-relatedness were not available in the Coroner’s record. Around 60 percent of these cases were judged as certainly or probably involving fatigue, but more than one-third of cases were judged as only possible involving fatigue. Analysis of the types of information used to distinguish fatigue-relatedness showed that most cases were judged as involving fatigue due to the nature of the crash, but the same characteristics of the crash occurred in the non-fatigue related crashes. The fatigue-related crashes were, however, distinguished by other fatigue-related factors particularly the time of day and time since waking, but also reported fatigue in the period leading to the crash, the length of the last sleep period and the hours worked. This suggests that these factors will distinguish fatigue-related crashes, but that this information is not collected for all cases. To improve the detection of fatigue-related crashes efforts should be made to collect this information for all fatal road traffic crashes. This analysis has demonstrated that the criteria for fatigue-related crashes need to be revisited. The result suggests that the information collected about the circumstances of crashes needs to be broadened.
Dissemination of Findings:
A final report was submitted to the RTA.

**Aims:**
To evaluate the potential impact of proposed changes to the working hours regulation for long distance truck drivers using data collected as part of the national survey of drivers that were conducted in 1998/1999.

**Investigators:**
Ann Williamson, Rena Friswell (IRMRC), Anne-Marie Feyer (PricewaterhouseCoopers/NEOH, University of Otago)

**Funding:**
Department of Transport and Regional Services, Commonwealth of Australia ($9,600)

**Length of Project:**
2002-2003

**Project Summary:**
In 1998, a national survey of long distance truck drivers was conducted for the National Road Transport Commission and Australian Transport Safety Bureau. In this survey, drivers were asked to report their working hours for the previous week. These data were re-examined to determine what percentage of drivers and drivers' shifts would not meet the proposed new regulations with regard to the length of daily rest breaks, the number of consecutive overnight sleep breaks, the number of night shifts worked in a row and the work hours in shifts ending at night. The data suggested that many of the proposed changes would impact only a very small percentage of drivers or driver shifts. However, changing the length of daily breaks and limiting the length of shifts ending at night might impact a sizeable minority of drivers.

**Dissemination of findings:**
A paper on this project was presented at the Fatigue and Transportation Conference in Perth in March 2003.

16. *Fatigue in the light trucking sector*

_Aims:_
To examine the effects of fatigue on safety and performance in the light trucking sector.

_Investigators:_
Ann Williamson, Rena Friswell (IRMRC), Anne-Marie Feyer (PricewaterhouseCoopers)

_Funding:_
ARC Linkage Grant (jointly funded by the ARC, MAA, NRTC, ATSB and NOHSC) ($72,821)

_Length of Project:_
2003-2005

_Project Summary:_
The study will be conducted in two phases. In phase 1, exploratory surveys of 1000 drivers and 200 company representatives from the light and short haul trucking sector in NSW will be conducted. The survey will focus on participant's experiences of fatigue and other OHS issues relevant for the industry. Surveys will be constructed in consultation with industry to ensure relevance. In phase two, important finding identified by the survey reports will be validated in field studies. Contracts were signed by all parties at the end of December 2003 and the project is expected to begin in January 2004. It is anticipated that focus groups will be held and preliminary discussion with drivers and managers from a range of business types within the sector have been conducted.

_Dissemination of Findings:_
N/A
WATER SAFETY

The risk of drowning and water safety in general is almost certainly underestimated in Australia. Drowning is especially a problem for the youngest member of our community, children under four years old. The Centre’s current research programme includes research projects that are attempting to understand how drowning occurs for young children and to develop better ways of collecting information about water safety on beaches.

17. Coroner study in drowning involving children under six years old in NSW

Aims:
To describe the characteristics of unintentional drowning involving children aged five years and under. This study aims to identify factors associated with, and causes of unintentional drowning in swimming pools, baths and other bodies of water. It also aims to identify common factors across cases that amenable to intervention, in order to prevent future similar incidents.

Investigators:
Ann Williamson

Funding:
The NSW Health ($11,717)

Length of Project:
10 months (January 2003-October 2003)

Project Summary:
This study involved collection of information on child drowning from the NSW Coroner. The information available for each case were coded and classified using a systematic framework. The patterns of causation were then examined. A total of 82 children aged five years or under died as a result of accidental drowning based on this study of Coroners records in NSW over a six years period. Around 40% of these children drowned in pools, a further 20% in bathtubs, and around 15% each in dams and lakes/rivers. Overall, two-year olds were the most vulnerable age group, accounting for approximately one-third of these cases, followed by one-year-old toddlers. Males were more likely than females to be involved in drowning, accounting for around two-thirds of all cases. Babies less than 12 months old most commonly drowned in the bath, whereas all other age groups most often drowned in swimming pools. For one-year-old toddlers, baths were the most common location, whereas for those aged two years and older, bodies of natural water, such as dams, lakes and rivers were the second most common location. Around 60% of drowning occurred within the child’s own home, and over two-thirds occurred in suburban or metropolitan regions. Drowning in metropolitan/suburban areas occurred most commonly in pools, then baths, whereas drownings in rural areas occurred most commonly in other bodies of natural water, especially dams. Further analysis looked at the specific causes for different locations of drowning, including swimming pools, bathtubs and other outdoor bodies of water (dams, lakes, rivers).
Disseminations of Findings:
A final report has been produced on this project and is available from the Department of Sport and Recreation in printed form and on their website. A paper was presented at the Injury Prevention conference in Perth on this project.

18. Feasibility trial of the Minimum Dataset for Water Safety

**Aims:**
To collect comprehensive and systematic data on rescues on NSW beaches.

**Investigators:**
Ann Williamson

**Funding:**
The NSW Health ($10,615)

**Length of Project:**
2002-2003

**Project Summary:**
This project is the second phase of an initial trial of a minimum water safety dataset that employed lifeguards and lifesavers to collect water safety information on beaches. It was decided to undertake a second trial data collection using trained dedicated data collectors. It was decided to conduct the trial only at Surf beaches and during the busy summer and Easter periods and to use the trial to clarify the definitions of rescue. A total of 14 research assistants were recruited and trained for the summer data collection and six of the same research assistants worked on the Easter data collection. All data collectors participated in training sessions of two to three hours in length where the data collection methodology was explained and potential problems discussed. The result of this trial indicated that dedicated data collectors would be an effective method for collecting water safety relevant information as they were able to collect information about a range of types of incidents occurring on beaches. Analysis of best estimate data indicates that the data collectors felt able to make estimates for some variables like age group and attendance numbers. This type of information will be useful in the long term for assessing the likelihood of incidents occurring at different beach locations, under different conditions and at different times. In general, however, the variables that were shown in the first trial to be difficult for lifeguards and lifesavers to collect were also difficult for dedicated data collectors. The rescue and preventive actions definitions were usable and would be very useful additions to the Minimum Water Safety dataset. The results also demonstrated that the information collected is clearly of value for water safety. The results of this trial, combined with those of the first trial involving data collection by water safety professions, suggest that dedicated data collectors may not be cost-effective for all beaches and all times throughout the summer. A combination of collections by dedicated collectors on very busy or more dangerous beaches and collections by lifeguards/lifesavers at less busy times would be the most cost effective.

**Dissemination of Findings:**
A final report has been produced on the data collection and submitted to the NSW Water Safety Taskforce in December. A presentation was made on the November meeting of the taskforce.

SPORTS INJURY

Sports injury projects focussed on understanding the nature of injury risk in the popular sport of cricket

19. Cricket Fast Bowling Workload, Injury and Performance Project

**Aims:**
To identify risk and other factors related to the outcomes of injury and performance in cricket fast bowlers.

**Investigators:**
Rebecca Dennis and Caroline Finch, Bruce Elliott (UWA), Andrew McIntosh (UNSW)

**Funding:**
Cricket Australia ($40,144.50)

**Length of Project:**
2003-2004

**Project Summary:**
This prospective cohort study monitored 100 male fast bowlers aged 12 years and over, who had been selected in the NSW and Queensland high performance squads, for the duration of the 2003/04 cricket season. In September 2003 and April 2004, all participants undertook comprehensive physiotherapy musculoskeletal screenings, fitness testing and two-dimensional analysis of bowling technique. Participants also completed a weekly bowling diary throughout the course of the cricket season, which recorded the number of deliveries they bowled as well as a self-reported rating of their match bowling performance. This data regarding bowling technique, physical characteristics and workload will then be analysed for its relationship with overuse-type injury and bowling performance.

**Dissemination of Findings:**
Results of pilot work conducted for this project were presented at the following conferences:

- 2nd World Congress of Science and Medicine in Cricket – Cape Town, South Africa, February 2003.
  - Oral presentation – Australian Cricket Board National Fast Bowling Workload and Injury Study 2000-2002

  - Oral presentation - National Fast Bowling Workload and Injury Study 2000-2003 (Awarded an Australian Injury Prevention Network Student Bursary for attendance at the conference to present this paper).

- 3rd National Sports Injury Prevention Conference – Canberra, October 2003
A summary of the research projects conducted during 2003 is given in Appendix 1.
6. IRMRC Data Analysis and Advice Service

Under the funding agreement, the IRMRC provides a free “data analysis and advice” service to its funding partners and their approved agencies. This service is also available to other agencies on a fee for service basis.

In 2003, just under 300 hours worth of free time work were undertaken for the Centre’s funding partners (NSW Health, MAA and RTA) and their affiliated agencies. Approximately 65% of this time was spent responding to various data analysis requests, while the remainder consisted of providing research and data quality advice, as well as reviewing various documents and undertaking literature reviews.

Data analysis tasks, carried out in response to various requests, used datasets provided to the Centre under the initial funding agreement and included NSW hospitalisation, mortality data, NSW Health Survey and the Road and Traffic Authority road crashes database.

Data requests covered a wide range of issues including different mechanisms of injury (road traffic crashes, falls, violence), various population groups (children, older people and those from non-English backgrounds) and different locations of occurrence (on the road, at home and in the workplace). Agencies also requested data exploring the impact of risk-taking behaviours on injury including the role of smoking in dwelling fires and the level of alcohol intake in relation to a number of injuries resulting from road traffic crashes, drowning, interpersonal violence and burns.

For most agencies, data requests carried out by the Centre were used for priority setting purposes and to inform various prevention programmes at either the state or local levels (i.e. Area Health Services or Local Government Areas).

A summary of the work undertaken as part of these data analysis and advice services is given in Appendix 2.
7. Short Course

SESC9241  Introduction to Injury Risk Management, Short Course, 2003

The first *Introduction to Injury Risk Management* course was conducted in short course mode during the winter session (21 to 25 July inclusive). Eleven students were enrolled in the course and ten completed the full week. One student withdrew before the course began and one attended the full week but did not complete all of the assessments. Participants included two Master of Technology Management students, one Master of Science and Technology (OHS) student, one Master of Public Health student, two students doing the Graduate Diploma in Safety Science, two external students (Industrial Safety and public safety interests) and one international student.

The course involved a range of different teaching modes including lectures, discussions, a hands-on computer laboratory and a progressive learning exercise. The course involved seven lecturers in total from the IRMRC, and the UNSW School of Safety Science and Public Health and Community Medicine.

The assessments involved an in-class exercise (15%), a take home exam (35%) and a critical essay (50%). The standard of the completed assessments was varied, but overall quite good. The final grades were: one High Distinction, three Distinctions, three Credits and two Pass. A review of student assessments demonstrated that students judged the course very favourably. The course will be conducted in the same mode in 2004.
8. **IRMRC Postgraduate Students**

<table>
<thead>
<tr>
<th>Name</th>
<th>Year Started</th>
<th>Degree enrolled</th>
<th>Supervisor</th>
<th>Topic</th>
<th>Publication</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troy Baker</td>
<td>1999 (part-time)</td>
<td>Doctor of Philosophy</td>
<td>• Dr Ann Williamson</td>
<td>Skill-based Errors in Golf.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Rebecca Dennis</td>
<td>2003</td>
<td>Doctor of Philosophy</td>
<td>• Prof Caroline Finch • Dr Andrew McIntosh (School of Safety Science, UNSW) • Prof Bruce Elliott (UWA)</td>
<td>Cricket Fast Bowling Workload, Injury and Performance Project. (This project was funded by a research grant from Cricket Australia).</td>
<td>N/A</td>
<td>In late 2003, Rebecca was awarded an NHMRC PhD Scholarship to continue her study in 2004</td>
</tr>
<tr>
<td>Basema Saddik</td>
<td>1999</td>
<td>Doctor of Philosophy</td>
<td>• A/Prof Deborah Black (School of Public Health and Community Medicine)</td>
<td>The Effect of Solvent Exposure in Working Children in Lebanon.</td>
<td>Peer Review Journal Papers Saddik B, Nuwayhid I, Williamson A, Black D. Evidence of neurotoxicity in working children in Lebanon. NeuroToxicology. 2003; 24:4-5, 733-740</td>
<td>N/A</td>
</tr>
<tr>
<td>Marcia Schmertmann</td>
<td>2002</td>
<td>Doctor of Philosophy</td>
<td>• Dr Ann Williamson • A/Prof Deborah Black (School of Public Health and Community Medicine)</td>
<td>Predictive Value of Identified Environmental, Sociodemographic and Behavioural Risk Factors for Accidental Poisonings in Young Children.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
9. Staff members

Prof Caroline Finch  Executive Director (since 18 August 2003)
Dr Ann Williamson  Acting Director (since 1 January 2002)

Research Staff
Soufiane Boufous  Data Manager (since 30 November 2002)
Rebecca Dennis  Research Assistant (since 4 December 2003)
Rena Friswell  Senior Research Assistant (since 1 July 2003)
Usha Garg  Research Assistant (1 October 2003 to 28 November 2003)
Mary Potter-Forbes  Research Assistant (8 November 2002 to 30 November 2003)
Marcia Schmertmann  Research Assistant (since 14 January 2000)

Helen Gardiner  Casual Research Assistant
Emma Grove  Casual Research Assistant
Peter Hardy  Casual Research Assistant
Penelope Irvine  Casual Research Assistant
Therese Ma  Casual Research Assistant
Kristin Rogers  Casual Research Assistant
Phillipa Rokkas  Casual Research Assistant
Basema Saddik  Research Assistant
Alex Symonds  Casual Research Assistant

Administrative Staff
Gina Lam  Business Manager (since 19 November 2003)
Henny Oentojo  Executive Assistant (since 8 December 2003)
Susanna Smith  Information Officer (1 January 2002 to 2 September 2003)
Patricia Villaroel  Administrative Assistant (since 14 January 2002)
Yasmin van Kasteren  Administration Manager (28 November 2002 to 3 October 2003)

For contact details of existing staff, please contact our Administrative Assistant on (02) 9385 4207.
10. Publications

**Peer Review Journal Papers**


**Peer Reviewed Conference Papers**


Conference Abstracts


Research Reports


7. Williamson AM. Response to proposed standard hours and limited flexibility options of the heavy driver fatigue draft policy proposal. Report for the National Transport Commission.
11. Conference Presentations

*Keynote addresses*


*Invited Conference talks*


7. Williamson A. Evaluating the potential impact of changes to working hours regulations. Fifth International Conference on Fatigue and Transportation, Fremantle, 9-14th March 2003.

*Other invited addresses*


10. Potter-Forbes M. A methodology to value the years of healthy life lost and an estimate of the cost to NSW based on 1998-1999 data. NSW Injury Risk Management Research Centre and NSW Health Department, October 2003.


**Proffered conference presentations**


Invited to give evidence

12. Media Activities

Advocacy and Education activities

- The Centre was a co-sponsor of the Violence and Health-Australian Responses, which was held jointly with the School of Public Health and Community Medicine, UNSW, Department of Health and the Centre for Health Promotion, UNSW.

Interviews

- Williamson A. Interview with journalist from Australian Doctor on fatigue. 21st May 2003.
- Williamson A. Interview and talkback with ABC Wodonga on driver distractions. 18th February 2003.
- Williamson A. Interview with ABC South Coast on driver distractions. 18th February 2003.
- Williamson A. Interview with ABC Regional News on driver distractions. 17th February 2003.
- Williamson A. Interview with journalist from Sunday Telegraph on driver distractions. 16th February 2003.

Newspaper Articles

- Williamson A. Article on young drivers in Sydney Morning Herald, 18th April 2003.
13. Committee Membership

Prof Caroline Finch
- Invited member, Victorian Health Promotion Foundation’s Partnership for Health Panel (2001-2003)
- Invited member, Steering Committee, Victorian Smartplay Program (a joint initiative of Sport and Recreation Victoria, Department of Human Services and VicHealth) (2001-present)

Dr Ann Williamson
- Chair of Human Ethic Advisory Panel (Health and Social), UNSW

Ms Rebecca Dennis
- Student representative on Executive Committee, Australian Injury Prevention Network (2003-present)

Scientific Conference Committee

Prof Caroline Finch
- Co-Chair, Scientific Program Committee, Sport and leisure Safety, 7th World Conference on Injury Prevention and Safety Promotion. To be held in Vienna, June 2004.
- 7th Australian Injury Prevention Conference and the 2nd Pacific Rim Safe Communities Conference. The Conference will be held in Mackay from 15th-17th September 2004.

Dr Ann Williamson
- International Scientific Advisory Committee, the 9th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. The Conference will be held in Gyeongju, Korea from 26th-29th September 2005.
14. Other Activities

Awards

Prof Caroline Finch


- Winner, Safety Initiatives Award. 2003 Victorian Sport and Recreation Industry Award/Project awarded – Protective eyewear promotion for squash. Eime R, Finch C, Vear P.

Conference Session Chair


- Finch C. Symposium on the cost of falls. NSW Injury Risk Management Research Centre and the NSW Health Department, October 2003.


Editorial and Editorial Board membership

Prof Caroline Finch

- Journal of Science and Medicine in Sport (2002-present)
- British Journal of Sports Medicine (2001-present)
Dr Ann Williamson
- Journal of Safety Research (1999-present)

Reviewer of research grants and submitted papers

Prof Caroline Finch

Dr Ann Williamson
- Reviewer of grants applications for: Australian Research Council.
15. Financial Statement

Statement of Financial Performance
for the Year Ended 31 December 2003

<table>
<thead>
<tr>
<th>Notes</th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>$</td>
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</tbody>
</table>

**Income**

<table>
<thead>
<tr>
<th>Item</th>
<th>Notes</th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Funds</td>
<td>1</td>
<td>368,678</td>
<td>209,144</td>
</tr>
<tr>
<td>Partners Contribution</td>
<td>2</td>
<td>220,000</td>
<td>400,000</td>
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<tr>
<td>UNSW Contribution</td>
<td>3</td>
<td>70,000</td>
<td>-</td>
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<tr>
<td><strong>Total Income</strong></td>
<td>4</td>
<td>658,678</td>
<td>609,144</td>
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</table>

**Expenses**

<table>
<thead>
<tr>
<th>Item</th>
<th>Notes</th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payroll</td>
<td></td>
<td>566,862</td>
<td>486,592</td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td>29,353</td>
<td>59</td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td>133,525</td>
<td>249,769</td>
</tr>
<tr>
<td>Travel</td>
<td></td>
<td>28,118</td>
<td>24,213</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>5</td>
<td>757,858</td>
<td>760,633</td>
</tr>
</tbody>
</table>

**Operating Results**

|                      |       | - 99,181| - 151,489|

**Surplus brought forward**

|                      |       | 155,538 | 307,027  |

**Correction of Prior Year Accumulated Fund**

<table>
<thead>
<tr>
<th></th>
<th>Notes</th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>22,196</td>
<td>-</td>
</tr>
</tbody>
</table>

**Adjusted Balance brought forward**

|                      |       | 177,734| -      |

**Accumulated Fund Surplus**

<table>
<thead>
<tr>
<th></th>
<th>Notes</th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>78,553</td>
<td>155,538</td>
</tr>
</tbody>
</table>
Notes to the Statement of Financial Performance:

1 This represents external revenue generated and received from research projects and consultancy activities of IRMRC. Out of the $368,678 external revenue, $183,917 was related to research/consultancy activities occurred in 2002.

2 This represents funding received from NSW Health, RTA and MAA during the year.

3 This represents the funding from The Chancellor to support the appointment of a postdoctoral research fellow at IRMRC in 2004.

4 At the year end of 2003, outstanding invoices owed to IRMRC amounted to $773.

5 Breakdown of expenses allocated to Centre Fund (funding from NSW Health, RTA and MAA) and other research projects/consultancy activities:

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Subtotal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payroll</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centre Fund</td>
<td>378,480</td>
<td>566,862</td>
</tr>
<tr>
<td>Projects</td>
<td>188,382</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centre Fund</td>
<td>28,689</td>
<td>29,353</td>
</tr>
<tr>
<td>Projects</td>
<td>664</td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centre Fund</td>
<td>86,703</td>
<td>133,525</td>
</tr>
<tr>
<td>Projects</td>
<td>46,822</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td></td>
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</tr>
<tr>
<td>Centre Fund</td>
<td>27,746</td>
<td>28,118</td>
</tr>
<tr>
<td>Projects</td>
<td>372</td>
<td></td>
</tr>
</tbody>
</table>

Total expenses 757,858

6 Closing balance of 2002 was incorrect. Opening balance brought forward for 2003 was adjusted from $155,538 to $177,734.

7 Closing balance to carry forward to 2004.
Appendix 1

Research Project Summary

<table>
<thead>
<tr>
<th>No</th>
<th>Project Name</th>
<th>Source of Grant</th>
<th>Duration</th>
<th>Amount</th>
<th>Grant No</th>
<th>Investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A profile of injury deaths in NSW</td>
<td>Core Funding</td>
<td>On-going</td>
<td>N/A</td>
<td>N/A</td>
<td>Marcia Schmertmann Caroline Finch</td>
</tr>
<tr>
<td>2</td>
<td>Data Linkage Trial</td>
<td>Core Funding</td>
<td>On-going</td>
<td>N/A</td>
<td>N/A</td>
<td>Soufiane Boufous Marcia Schmertmann</td>
</tr>
<tr>
<td>3</td>
<td>Methodological Issues in the Reporting of Injury</td>
<td>Core Funding</td>
<td>On-going</td>
<td>N/A</td>
<td>N/A</td>
<td>Ann Williamson Soufiane Boufous</td>
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<td>4</td>
<td>Profile of Work-Related Injury in NSW</td>
<td>Core Funding</td>
<td>On-going</td>
<td>N/A</td>
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<td>Soufiane Boufous Ann Williamson</td>
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<td>6</td>
<td>Fatigue in the light trucking sector</td>
<td>ARC Linkage Grant (jointly funded by the ARC, MAA, NRTC, ATSB and NOHSC)</td>
<td>2003-2005</td>
<td>$72,821</td>
<td>LP0349325</td>
<td>Ann Williamson Rena Friswell Anne-Marie Feyer</td>
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<td>7</td>
<td>Cricket Fast Bowling Workload, Injury and Performance Project</td>
<td>Cricket Australia</td>
<td>2003-2004</td>
<td>$40,144.50</td>
<td>N/A</td>
<td>Rebecca Dennis Caroline Finch Bruce Elliott Andrew McIntosh</td>
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<tr>
<td>No</td>
<td>Project Name</td>
<td>Source of Grant</td>
<td>Duration</td>
<td>Amount</td>
<td>Grant No</td>
<td>Investigators</td>
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<td>10</td>
<td>Injury Prevention and Control (Australia) Ltd Partnership Project</td>
<td>Injury Prevention and Control (Australia) Limited grant</td>
<td>2002-2003</td>
<td>$50,763</td>
<td>N/A</td>
<td>Tony Parker, Ann Williamson</td>
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<td>11</td>
<td>Study Fatigue in Motorcycle Day Rides</td>
<td>Institute of Public Works Engineering/Wollongong City Council</td>
<td>May-June 2003</td>
<td>$5,000</td>
<td>N/A</td>
<td>Ann Williamson, Rena Friswell, Therese Ma</td>
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<tr>
<td>13</td>
<td>Analysis of the Causes of Electrical Shock Incidents in NSW Mining Industry</td>
<td>The NSW Department of Mineral Resources</td>
<td>2002-2003</td>
<td>$6,530</td>
<td>N/A</td>
<td>Ann Williamson, Usha Garg</td>
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<tr>
<td>No</td>
<td>Project Name</td>
<td>Source of Grant</td>
<td>Duration</td>
<td>Amount</td>
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<td>14</td>
<td>Analysis of Safety Performance Measures in the NSW Mining Industry</td>
<td>The NSW Department of Mineral Resources</td>
<td>July-October 2003</td>
<td>$19,205</td>
<td>N/A</td>
<td>Ann Williamson, Usha Garg</td>
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<tr>
<td>15</td>
<td>Coroner Study in Drowning Involving Children Under Six Years Old in NSW</td>
<td>The NSW Health</td>
<td>January-October 2003</td>
<td>$11,717</td>
<td>N/A</td>
<td>Ann Williamson</td>
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<td>16</td>
<td>Feasibility Trial of Minimum Dataset for Water Safety</td>
<td>The NSW Health</td>
<td>2002-2003</td>
<td>$10,615</td>
<td>N/A</td>
<td>Ann Williamson</td>
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<tr>
<td>18</td>
<td>Coronial Study of Fatalities from Road Traffic Accidents which Identified Driver Fatigue as a Factor</td>
<td>The NSW Roads and Traffic Authority</td>
<td>2002-2003</td>
<td>$18,181.82</td>
<td>N/A</td>
<td>Ann Williamson, Jane Weaver</td>
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<td>19</td>
<td>New South Wales Young Drivers’ Cohort Study</td>
<td>The NSW Roads and Traffic Authority</td>
<td>2000-2003</td>
<td>-</td>
<td>N/A</td>
<td>Robyn Norton, Mark Stevenson, Mark Woodward, Ann Williamson, Maurice Eisenbruch, Don Carseldine</td>
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Appendix 2

RECORD OF DATA ANALYSIS AND ADVICE SERVICES FOR 2003

<table>
<thead>
<tr>
<th>Month</th>
<th>Description</th>
<th>Hours</th>
<th>Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>Data request, interpersonal violence by local government area (both area of residence and location of hospital), 1995-2000</td>
<td>10</td>
<td>NSW Bureau of Crime Statistics and Research</td>
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<tr>
<td>January</td>
<td>Data request, place occurrence and country of birth (Asia in particular) in hospitalised injuries for children aged 5 years and less</td>
<td>3</td>
<td>KIDS HEALTH (Westmead)</td>
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<tr>
<td>February</td>
<td>Discussion with consultant on usability of HOIST</td>
<td>1</td>
<td>NSW Health</td>
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<tr>
<td>February</td>
<td>Driveways Steering Committee meeting</td>
<td>1.5</td>
<td>MAA</td>
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<tr>
<td>March</td>
<td>Meeting with Jardines and Local government representatives</td>
<td>2</td>
<td>NSW Health</td>
</tr>
<tr>
<td>March</td>
<td>Data request, Death and Hospitalisations for those aged 1-4</td>
<td>5</td>
<td>SWSAHS</td>
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<tr>
<td>March</td>
<td>Data request, Alcohol-related injuries in the hospital data. Particularly in older people</td>
<td>7</td>
<td>SWSAHS</td>
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<tr>
<td>March</td>
<td>Meeting with Central Area Health Service regarding bicycle safety stats</td>
<td>1.5</td>
<td>NSW Health</td>
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<tr>
<td>April</td>
<td>Data request, hospitalised injuries for those aged less than 12 years old during school holidays compared to the rest of the year</td>
<td>4</td>
<td>KIDS HEALTH (Westmead)</td>
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<tr>
<td>April</td>
<td>Meeting with Central Area Health Service regarding bicycle safety stats</td>
<td>1.5</td>
<td>NSW Health</td>
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<tr>
<td>May</td>
<td>Meeting with NSW Health regarding the Chief Health Officers report</td>
<td>3.5</td>
<td>NSW Health</td>
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<td>May</td>
<td>Meeting at MAA regarding performance indicators for road safety</td>
<td>2</td>
<td>MAA</td>
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<tr>
<td>May</td>
<td>Paper on Performance indicators for road safety. What is useful for MAA?</td>
<td>16</td>
<td>MAA</td>
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<tr>
<td>May</td>
<td>Meeting with Ann Deans of Youthsafe regarding their activities</td>
<td>2.5</td>
<td>Youthsafe</td>
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<tr>
<td>May</td>
<td>Meeting with Australia Ski Association in Albury</td>
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<td>NSW Health</td>
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<tr>
<td>Month</td>
<td>Description</td>
<td>Hours</td>
<td>Client</td>
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<tr>
<td>May</td>
<td>Why do young drivers crash? Update the Literature Review 2000-2003</td>
<td>24</td>
<td>MAA</td>
</tr>
<tr>
<td>May</td>
<td>Meeting with NSW Health and Representatives from NOHSC</td>
<td>2.5</td>
<td>NSW Health</td>
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<tr>
<td>June</td>
<td>Meeting with representatives of NSW Fire Brigade on potential data collections</td>
<td>1.5</td>
<td>NSW Fire Brigade</td>
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<tr>
<td>June</td>
<td>Meeting to discuss available data sources and future requests</td>
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<td>Youthsafe</td>
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<tr>
<td>June</td>
<td>Data request: hospitalisations for sports injury in NSAHS by SLA</td>
<td>5</td>
<td>NSAHS</td>
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<tr>
<td>June</td>
<td>Data request: smoking prevalence and death and hospitalisation rates due to dwellings fire</td>
<td>6</td>
<td>NSW Health</td>
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<tr>
<td>July</td>
<td>Data request: Number and rates of alcohol related injury admissions (NSW, 2000-2001) using attributable risk fraction</td>
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<td>NSW Health</td>
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<tr>
<td>July</td>
<td>Data request: Number and rates of alcohol related admissions for assault by age group and year (NSW, 1995-2000) using attributable risk fraction. Hospital costs associated with these cases</td>
<td>15</td>
<td>NSW Health</td>
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<tr>
<td>July</td>
<td>Data request: Number and rates (CIs) of injury by mechanism and local Government Area for children aged 0-5 years. North Sydney 2000-2001</td>
<td>15</td>
<td>NSAHS</td>
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<tr>
<td>August</td>
<td>Data request-MV data for hospital and dths-yrs 1999 and 2000 – done by road user class and 5 yr age grpns. Analysis bu sex added after initial request-done for hospital data only.</td>
<td>6</td>
<td>SWSAHS</td>
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<tr>
<td>August</td>
<td>Data request: Motor vehicles deaths, SWSAHS</td>
<td>6</td>
<td>SWSAHS Health Promotion</td>
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<tr>
<td>September</td>
<td>Data request: Motor vehicles hospitalisation, SWSAHS</td>
<td>6</td>
<td>SWSAHS Health Promotion</td>
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<td>September</td>
<td>Data request: Work related injuries in SWSAHS</td>
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<td>SWSAHS Health Promotion</td>
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<tr>
<td>October</td>
<td>Review of grant for MAA and written report</td>
<td>8</td>
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<tr>
<td>October</td>
<td>Review of grant for MAA and written report</td>
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<td>MAA</td>
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<tr>
<td>October</td>
<td>Data request: Road traffic injuries in school children</td>
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<td>CSAHS Health Promotion</td>
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<tr>
<td>Month</td>
<td>Description</td>
<td>Hours</td>
<td>Client</td>
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<tr>
<td>October</td>
<td>Data request: Top 10 hospitalisations and death related injuries in children</td>
<td>20</td>
<td>Kidsafe NSW</td>
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<tr>
<td>October</td>
<td>Data request: Overview of injuries in Northern Sydney Area Health Service by LGA, Gender and Age</td>
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<td>NSAHS Health Promotion</td>
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<td>October</td>
<td>Data request: Bicycle injuries by age, gender, AHS and LGA</td>
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<td>NSAHS Health Promotion</td>
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<tr>
<td>October</td>
<td>Data request: Hospitalised and death related injuries for people aged 15-25 by mechanism and activity</td>
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<td>Youthsafe</td>
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<td>November</td>
<td>Data request: Farm related injuries in Macquarie AHS by age, mechanism of injury and LGA</td>
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<tr>
<td>November</td>
<td>Data request: Alcohol related injuries for New England AHS by mechanism and LGA</td>
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<td>New England AHS, Health Promotion Unit</td>
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<tr>
<td>November</td>
<td>Data request: Alcohol related injuries for NSAHS by mechanism and LGA</td>
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<td>NSAHS Health Promotion</td>
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<td>November</td>
<td>Data request: Farm and sport related injuries in GM AHS by age, mechanism and LGA</td>
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<td>Greater Murray AHS</td>
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<td>December</td>
<td>Data request: Farm related injuries in NSW by age, mechanism of injury and LGA</td>
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<td>Southern AHS</td>
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<td>December</td>
<td>Data request: Hospitalised assault-related injuries by Aboriginality, age and TSIC region</td>
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<td>NSW Bureau of Crime Statistics</td>
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<td>December</td>
<td>Data request: Hospitalisation for injury among ATSIC people by sex, age and AHS</td>
<td>10</td>
<td>NSW Health</td>
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<td>December</td>
<td>Preparation of paper for Australian College of Road Safety Year Book</td>
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<td>MAA</td>
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