12th Australasian Injury Prevention and Safety Promotion Conference
25-27 November 2015 | The University of Sydney

Conference Abstract Book

Impact and Innovation
Preventing Injury in a Changing World

An initiative of

AIPN
Australian Injury Prevention Network

Hosted by

The George Institute
For Global Health

Follow @_AIPN @georgeinstitute Event hashtag is #AIPN15
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<tr>
<th>Time</th>
<th>Venue</th>
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| 8.30am - 10.30am | New Law School Lecture Theatre 101 | Opening Plenary: Children and Young People's Injury Prevention  
Sponsored by NSW Kids and Families |
| 10.30am - 11.00am | Morning Tea & Exhibition | Welcome Address: Associate Professor Kerianne Watt, President, Australian Injury Prevention Network  
Welcome to Country: Professor Rebecca Ivers, Director, Injury Division, George Institute for Global Health  
Welcome from NSW Kids and Families: Professor Les White, NSW Chief Paediatrician |
| 11.00am - 12.30pm | New Law School Lecture Theatre 101 | Keynote Address: Justice Reinvestment and its Impact on Injury: Mr. Mick Gooda, Aboriginal and Torres Strait Islander Social Justice Commissioner  
Keynote Address: Socioeconomic Differences in Childhood Injuries: Epidemiology and Prevention: Professor Lucia Laffamme, Professor of Injury Epidemiology and Prevention, Karolinska Institutet (KI), Sweden  
Keynote Address: From Evidence to Population Impact: Implementing a sports safety program in community sport: Professor Caroline Finch, NHMRC Principal Research Fellow, Director of the Australian Centre for Research into Injury in Sport and its Prevention (ACRISP)  
Opening Address: The Hon. Jillian Skinner MP, NSW Minister for Health |
| 11.00am - 12.30pm | New Law School Lecture Theatre 104 | Child Health and Safety  
Safer Restraint of Kids with Medical Conditions and Disabilities in Motor Vehicles: Susan Teerds, Kidsafe Queensland  
Networking without Borders: The implementation of the peer-exchange network, a model for sector wide engagement: Vanessa Wells, Injury Control Council of WA  
The AH&MRC Aboriginal Child Seat Restraint Project: Kaylee Harrison, The Aboriginal Health and Medical Research Council of NSW  
It's safer to wait until you're 148cm Child Car Restraint Laws in New Zealand and How We Are Progressing Towards International Best Practice: Heather Robertson, Safekids Aotearoa |
| 11.00am - 12.30pm | New Law School Lecture Theatre 106 | Translating Research in Practice and Policy: NRMA Insurance  
Social Marketing to Reduce Preventable Injuries in BC, Canada: Ian Pike, University of British Columbia  
Understanding Burn Injuries in Aboriginal and Torres Strait Islander Children: Treatment, Access to Services and Outcomes: Kate Hunter, The George Institute for Global Health  
Know Injury Knowledge Hub: The development of a knowledge exchange portal to support evidence informed practice in WA: Rachel Meade, Injury Control Council of WA  
Persisting Inequalities in Unintentional Injury Hospitalisation Between Aboriginal and Non-Aboriginal Children in NSW: Holger Moeller, Centre for Big Data Research in Health, University of NSW  
Fast Five Poster: Is Running Associated with the Development and/or Progression of Knee Osteoarthritis? Richard Leech, Arthritis Research UK Centre for Sport, Exercise and Osteoarthritis, University of Nottingham  
Screening and Reducing the Burden of Injury in Children and Young People: How much do we still need to do? Kayleigh Harrison, The Aboriginal Health and Medical Research Council of NSW |
| 11.00am - 12.30pm | New Law School Lecture Theatre 024 | Aboriginal and Torres Strait Islander Communities  
PA Safety Model: Chris Webber, Rotorua Lakes Council  
The Effects of an Injury Prevention Program on Incidence Rates in Junior Male Soccer Players: Ahmed Farhan, University of Teknologi, Malaysia  
Understanding Burn Injuries in Aboriginal and Torres Strait Islander Children: Treatment, Access to Services and Outcomes: Kate Hunter, The George Institute for Global Health  
What’s Next for Aboriginal and Torres Strait Islander Children after a Burn Injury? Julleann Coombs, The George Institute for Global Health  
The Online Concussion Awareness Training Tool (CATT): Shelin Brown Babul, BC Injury Research Prevention Unit  
Assessing the Validity of Traffic Casualties: Mike Burnbom, University of NSW  
The ComPARE Study: Determining the impact of policy on recovery following work-related injury: Alex Collins, Monash University  
Managing Musculoskeletal Disorders in NSW: Angela Bateman, SafeWork NSW |
| 11.00am - 12.30pm | New Law School Lecture Theatre 026 | Sports Injury Prevention Sponsored by: ACRISP  
Extent of Injury Severity and Patterns of Recovery Among Vulnerable Road Users in Nakuru County, Kenya: Enos Ngungu Muguku, Nemned Clinic  
The Implementation of the peer-exchange network, a model for sector wide engagement: Vanessa Wells, Injury Control Council of WA  
An ICD-10 HARM Matrix for Estimating the Human Costs of Seriously Injured Road Crash Casualties: Mike Barnbach, University of NSW  
Assessing the Validity of Traffic Casualties: Mike Burnbom, University of NSW  
Healthy Workplaces are Safer Workplaces – a NSW Government Update: Ismail Ibrahim, SafeWork NSW |
| 11.00am - 12.30pm | New Law School Lecture Theatre 020 | Road and Transport Safety Sponsored by: State Insurance Regulatory Authority  
Work Related Musculoskeletal Disorders in the Australian Prosthetics and Orthotics Professions: Sarah Anderson, La Trobe University  
The ComPARE Study: Determining the impact of policy on recovery following work-related injury: Alex Collins, Monash University  
Healthy Workplaces are Safer Workplaces – a NSW Government Update: Ismail Ibrahim, SafeWork NSW |
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<tr>
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<td>Lunch, Exhibition &amp; Poster Viewing Session #1</td>
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| 1.30pm - 3.00pm | **New Law School Lecture**  
|               | Theatre 101                                                          |
|               | **Child Health and Safety**                                           |
|               | **Wheeled Device Safety for Children - 'No Helmet, No Ride’**         |
|               | Primary School Competition                                             |
|               | Jason Chambers, Kidsafe Victoria                                       |
|               | **Syposium: Keeping Consumers Safe in a Global and Virtual Marketplace** |
|               | **Aboriginal and Torres Strait Islander Communities**                 |
|               | **Fatal Burden of Injury in Australia and in the Aboriginal and Torres Strait Islander Population** |
|               | **An Analysis of Safety Promotion and Injury Prevention Resources for Sport Settings from Stakeholder Organisations in Australia** |
|               | **Use of Syndromic Surveillance System to Describe the Trend in Cycling Related Presentations to Emergency Departments in Sydney** |
|               | **Burns Prevention and Treatment**                                    |
|               | **Primary Burns Prevention and First Aid Education - Does it work?** |
|               | **Bethany Farley, Julian Burton Burns Trust**                         |
| 1.30pm - 3.00pm | **New Law School Lecture**  
|               | Theatre 104                                                          |
|               | **Communities Driving Change: A formative Evaluation of a Multi-site Community Driver Licensing Program for Aboriginal People** |
|               | **Preventing Injury v. Improving Performance: We can have our cake and eat it to Scott Talpey, Federation University** |
|               | **Recent Trends in Cyclist Fatalities in Australia**                  |
|               | **Learn to Stop Burns and Scalds in the Kitchen (0-5)**                |
|               | **Erin Simmonds, The Children’s Hospital Westmead**                   |
| 1.30pm - 3.00pm | **New Law School Lecture**  
<p>|               | Theatre 106                                                          |
|               | <strong>Keeping Your Mob Safe: A guide to making roads safer in your community</strong> |
|               | <strong>Concussion Injury Causation in Community Australian Football</strong>      |
|               | <strong>Systematic Review and Meta-analysis of Bicycle Helmet Efficacy to Mitigate Head, Face and Neck Injuries</strong> |
|               | <strong>Fast Five Poster</strong>                                                  |
|               | <strong>Behaviour and Perception of Youth as a Road Users</strong>                 |
|               | <strong>Pallavi Sarji Uthkarsh, Shree Siddharta Medical College</strong>           |</p>
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<td>New Law School Lecture Theatre 101</td>
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<td>The Child Safety Good Practice Guide – An interactive session</td>
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<td>Introduction to the Guide</td>
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<td>Developing an Australian version – input from delegates</td>
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<td>Buckle Up Safely Case Study</td>
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<td>Session Wrap-up</td>
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<tr>
<th>Theatre 101</th>
<th>Fast Five Poster Hold My Hand Initiative</th>
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<td>Theatre 104</td>
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| Theatre 024  | The Child Safety Good Practice Guide – An interactive session           |
| Theatre 026  | Introduction to the Guide                                               |
| Theatre 020  | Developing an Australian version – input from delegates                 |
| Theatre 026  | The use of case studies to illustrate good practice                     |
| Theatre 020  | Gathering Australian case studies - input from delegates               |
| Theatre 026  | Buckle Up Safely Case Study                                              |
| Theatre 101  | Session Wrap-up                                                         |

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<tr>
<th>New Law School Lecture Theatre 101</th>
<th>Translating Research in Practice and Policy Sponsored by: Australian Safe Communities Foundation</th>
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<tr>
<td>New Law School Lecture Theatre 106</td>
<td>Rural and Remote Injury Prevention</td>
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<td>New Law School Lecture Theatre 024</td>
<td>Symposium: The relationship between family violence and injury: Are we doing enough in Australia?</td>
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<td>Road and Transport Safety Sponsored by: State Insurance Regulatory Authority</td>
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<tr>
<td>New Law School Lecture Theatre 020</td>
<td>Student Workshop: The next wave of injury prevention research and practice</td>
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| Theatre 104  | New Law School Lecture                                                  |
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<td>12.30pm - 1.30pm</td>
<td>Lunch, Exhibition &amp; Poster Viewing Session #2</td>
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<tr>
<td>1.30pm - 3.00pm</td>
<td>New Law School Lecture Theatre 101</td>
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<td>Plenary Workshop - The Role of Media and Advocacy in Injury Prevention</td>
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<td>Keynote Address: The Accidental Journalist and the Nanny State</td>
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<td>Wendy Carlisle, Journalist, ABC</td>
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<td>Panel Discussion:</td>
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<td>Wendy Carlisle, Journalist, ABC</td>
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<td>Melissa Sweet, Independent Health Journalist, Crikey.com.au</td>
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<td>Julie Lewis, Letters Editor, Sydney Morning Herald</td>
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<td>Jeremy Henderson, Media Relations Manager, Foundation Alcohol Research and Education</td>
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<td>3.00pm - 3.30pm</td>
<td>Afternoon Tea &amp; Exhibition</td>
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<td>3.30pm - 5.00pm</td>
<td>New Law School Lecture Theatres 101, 104, 106</td>
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<td>Child Health and Safety</td>
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<td>Development of Tools to Stage Developmental Attributes of Children Related to the Task of Riding Powered Off-road Vehicles Julie Brown, NeuRA</td>
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<td>Approach to Implementation of Vitamin D Supplements in Australian Residential Aged Care Facilities Pippy Barnett &amp; Amanda Miller Amberber, University of Sydney</td>
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<td>Lifejackets and Pacific Fishing: An empowered community approach Nata Tucke, Auckland Council &amp; Amanda Kelly, WaterSafe Auckland</td>
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<td>A Multidisciplinary Intervention to Reduce Subsequent Falls and Health Services Use in Older People who are not Conveyed to Hospital Following Fall-related Ambulance Care Stefanie Mikolaizak, NeuRA</td>
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<td>Applications of Geospatial Methods in Injury and Trauma Data Analysis: a systematic review Himalaya Singh, Federation University</td>
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<td>Reducing River Drowning Deaths: A systematic review of the literature and analysis of unintentional fatal drownings data from Australia Amy Pedem, Royal Life Saving Society</td>
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<td>Dementia and Poisoning in Older People: a 10 year review of hospitalisation records in NSW Rebecca Mitchell, Macquarie University</td>
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<td>Trends in Hospitalised Toddler Poisonings by Pharmaceutical and Prescription Type Drugs Sophie Pointer, Research Centre for Injury Studies</td>
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<td>An Evidence Synthesis Framework for Injury Prevention Practice Sarah Richmond, York University and Hospital for Sick Children</td>
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<td>The Total Service Plan: Case studies highlight how evidence is used to shape policy and inform intervention strategies Barbara Brighton, Surf Life Saving Australia</td>
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<td>Trends in Hospitalised Poisonings by Pharmaceutical and Prescription Type Drugs Among Older Australians Amanda Tovell, Research Centre for Injury Studies</td>
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<td>Falls in Children Under 1 Year of Age</td>
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<td>Embracing Complexity to Enhance Design and Decision-making in Injury Compensation and Rehabilitation Systems Jason Thompson, Monash University Institute for Safety, Compensation and Rehabilitation Research</td>
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<td>Tsunami: The Ultimate Guide - a collaborative approach to online community education and disaster resilience Sarah Anderson, Surf Life Saving Australia</td>
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<td>Driving Behaviours near Elementary Schools and Child Pedestrian-motor Vehicle Collisions in Toronto, Canada Linda Rothman, York University</td>
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<td>Effectiveness of On-road Motorcycle Rider Coaching Program: a randomised controlled trial Rebecca Ivers, The George Institute for Global Health</td>
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<td>A Systematic Review of Back Protection for Motorcyclists Pooia Sarrami Foroushani, University of NSW</td>
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### DAY THREE: FRIDAY, 27 NOVEMBER 2015

#### 8.30am - 10.30am
**New Law School Lecture Theatre 101**

**Plenary Three: Policy, Advocacy and Regulation**

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<th>Welcome &amp; Recap</th>
<th>Welcome from SafeWork NSW Peter Dunphy, Executive Director SafeWork NSW</th>
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<tr>
<td><strong>Keynote Address: Successful Pediatric Injury Prevention Legislation in Massachusetts: Lessons Learned</strong></td>
<td>Steven Baddour, Former Massachusetts State Senator and Former Assistant Attorney General, Commonwealth of Massachusetts &amp; Dr Peter Masiakos, Director Paediatric Trauma Services, Trauma Injury Prevention and Outcomes Program, Massachusetts General Hospital</td>
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<tr>
<td><strong>Keynote Address: Drowning Prevention Research, Policy and Practice– impacts from Sydney, Dhaka and Geneva</strong></td>
<td>Mr Justin Scarr, Chief Executive Officer, Royal Life Saving Society - Australia, Convenor, Australian Water Safety Council</td>
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#### 10.00am - 10.30am
**Morning Tea & Exhibition**

#### 10.30am - 12.00pm

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<td><strong>Child and Family Safety</strong></td>
<td><strong>Water Safety</strong></td>
<td><strong>Quad Bike Symposium</strong></td>
<td><strong>Falls Prevention and Ageing</strong></td>
<td><strong>Child Road and Transport Safety</strong></td>
<td><strong>Injury in Vulnerable Populations</strong></td>
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<td><strong>Sponsored by: NSW Kids and Families</strong></td>
<td><strong>Sponsored by: D&amp;D Technologies</strong></td>
<td><strong>Sponsored by: SafeWork NSW</strong></td>
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<td><strong>Sponsored by: Centre for Road Safety – Transport for NSW</strong></td>
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<tr>
<td><strong>The Impact of Baby Walker Injury Prevention Strategies over Time</strong></td>
<td><strong>International Tourists and Drowning in Australia: a review of coronial data to identify risk factors and propose strategies for prevention</strong></td>
<td><strong>Fatalities Related to Quad-bike Use in Australia</strong></td>
<td><strong>Functional Outcomes of Hip Fracture Patients in an Orthopaedic Trauma Registry</strong></td>
<td><strong>Occupant Protection for Low Birth Weight Babies</strong></td>
<td><strong>Child Poisoning Prevention in Bangladesh Rural Communities</strong></td>
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<tr>
<td>Christopher Mulligan, NeuRA</td>
<td>Amy Peden, Royal Life Saving Society</td>
<td>Tony Lower, University of Sydney</td>
<td>Christina Ekegren, Monash University</td>
<td>Julie Brown, Neuroscience Research Australia</td>
<td>Meegan Brotherton, Australian Safe Communities Foundation</td>
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<tr>
<td><strong>Paediatric Trauma from Indoor Trampoline Centres</strong></td>
<td><strong>Playground Equipment and Surfacing: What you need to know</strong></td>
<td><strong>Quad-related Fatal Injuries 2007-2012: a comparison between Australia and NZ</strong></td>
<td><strong>Fast Five Poster Validation of a Virtual Driver Assessment Tool for Older Drivers</strong></td>
<td><strong>Paediatric Road Traffic Injury Rates by Mode of Travel: Using exposure-based methods to quantify differences</strong></td>
<td><strong>The Use of Period of Birth in Assessment of Long-term Suicide Trends in Australia</strong></td>
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<td>Christopher Mulligan, NeuRA</td>
<td>Angela Marton, Kidsafe NSW</td>
<td>Rebecca Lilley, University of Otago</td>
<td>Sidhant Chopra, Australian National University</td>
<td>Hsiu-Ping Fan, Taipei Medical University</td>
<td>Geoff Henley, Research Centre for Injury Studies</td>
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**Fast Five Poster**

- **Looking Upstream to Prevent Drowning**
- **Eight Weeks Remote Monitoring Using a Freely Worn Device Reveals Unstable Gait Patterns in Older Failers**
- **Validation of a Virtual Driver Assessment Tool for Older Drivers**
- **Functional Outcomes of Hip Fracture Patients in an Orthopaedic Trauma Registry**
- **Occupant Protection for Low Birth Weight Babies**
- **The Costs and Consequences of Fail-related Injury Hospitalisations in People with Dementia**

**Symposium Introduction**

- **Quad Bikes**

**Study**

- **A Rapid Risk-analysis Method for Group-level Factors Causing Injury**
- **Functional Outcomes of Hip Fracture Patients in an Orthopaedic Trauma Registry**
- **Occupant Protection for Low Birth Weight Babies**
- **The Costs and Consequences of Fail-related Injury Hospitalisations in People with Dementia**

**Conference Dinner**

6.30pm - 10.30pm **Great Hall, University of Sydney**

Dress: Smart Business
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<th>Time</th>
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<td>The Importance of Implementing the P.A.R.T.Y Program Throughout Regional/Remote NSW</td>
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SCIENTIFIC REVIEW AND ORGANISING COMMITTEE INFORMATION

For the purpose of this conference, all submitted abstracts were double-blind peer reviewed by an independent Scientific Review Committee.

Full papers were not required to be submitted by accepted abstract authors.

SCIENTIFIC REVIEW COMMITTEE

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Associate Professor Lisa Keay, George Institute for Global Health, the University of Sydney

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Dr Julie Brown, Neuroscience Research Australia
Eric Chalmers, Kidsafe ACT
Deb Costello, Injury Control Council of WA
Erica Davidson, Department of Health WA
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Dr Scott Talpey, Federation University Australia
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Associate Professor Kerrianne Watt, James Cook University
Professor Ann Williamson, TARS, University of NSW
Dr Darren Wishart, CARRS-Q, Queensland University of Technology
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Christine Erskine, Kidsafe NSW

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Treasurer: Dr Lara Harvey, NeuRA

Committee members
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Dr Sophie Pointer, Research Centre for Injury Studies, Flinders University
Associate Professor Tim Driscoll, Sydney School of Public Health
Associate Professor Kirsten Vallmuur, CARRS-Q, Queensland University of Technology
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Dr Bridie Scott-Parker, University of the Sunshine Coast
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Friday 27 November 2015, 1.30pm – 3pm

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Injury Prevention Campaigns for Children, by Children: The Safekids NZ Creative Quest Competition

Ingestion of Disc Batteries - a Silent Killer - on the Increase

Grow Me Safely – Promoting safe and creative gardening with children

Water Safety Sponsored by: D&D Technologies

Long-term Effects on the on the Development of Children Who Experience a Near-drowning Episode

The NSW Study of Drowning and Near Drowning in Children (0-16)

Closing the Gate on Backyard Pool Drowning

SLSA Personal Protective Equipment (PPE) Project – Development of the Level 25 Lifejacket

Quad Bike Symposium Sponsored by: SafeWork NSW

Perceptions of Safety and Occupational Use of Quad Bikes in North West Outback Queensland

The Australian Quad Bike Performance Project

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Analysis of Quad-bike Loss-of Control Events Triggered by Bump-like Obstacles on Slopped Terrain

Development of Dynamic Handling Assessments for Quad Bikes and Side-by-Side Vehicles

Falls Prevention and Ageing

Ageing Safely and Maintaining Independence with the 4 E’s

Sensorimotor, Psychological, Cognitive, and Health Correlates of Daily Walking Patterns in Older People

Evaluation of a Home Exercise Program for Chinese Speakers

While we Waited: Falls risk in older Australians with cataract during the surgery waiting period

Are Older Australians with Bilateral Cataract on Our Roads? An investigation of patients on public hospital waiting lists for cataract surgery
Youth and Substance Related Injury Sponsored by: NSW Kids and Families

The Importance of Implementing the P.A.R.T.Y. Program Throughout Regional/Remote NSW

Using Administrative National Data to Estimate Injury-related Effects of Lowering the Alcohol Minimum Purchase Age in NZ

Web-based Alcohol Screening and Brief Intervention for Hospital Outpatients: Randomised Trial

The Scourge of Ice

Injury in a Global Perspective Sponsored by: Safe Communities Foundation New Zealand

The Journey of the Pan Pacific Safe Communities Network

A Model for Promoting Collaboration Between Community Organisations in New Zealand Working Toward Injury Prevention and Safety Promotion

Function, Health Related Quality of Life and Cost After Injury in a City of North India

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A Public Policy Framework: Complimentary to the public health approach to fatal injury prevention in resource constrained settings
INVITED KEYNOTE SPEAKERS

MR MICK GOODA, ABORIGINAL AND TORRES STRAIT ISLANDER SOCIAL JUSTICE COMMISSIONER

*Justice Reinvestment and its Impact on Injury*

There are strong links between the causes and impacts of injury and the types of conduct that bring Aboriginal and Torres Strait Islander people into contact with the criminal justice system. Complex historical, intergenerational economic and social factors contribute to this conduct.

A justice reinvestment approach addresses the underlying causes of crime and invests into local communities. It also emphasizes community control which we know is the only approach that provides sustainable results.

*Mick Gooda* is the Aboriginal and Torres Strait Islander Social Justice Commissioner. Mick commenced his term in February 2010. He is a descendent of the Gangulu people of central Queensland. As Social Justice Commissioner, he advocates for the recognition of the rights of Aboriginal and Torres Strait Islander peoples in Australia and seeks to promote respect and understanding of these rights among the broader Australian community. Mick has been actively involved in advocacy in Aboriginal and Torres Strait Islander affairs throughout Australia for over 25 years and has delivered strategic and sustainable results in remote, rural and urban environments.
Injuries are one of the major causes of both death and social inequalities in health in children. The presentation offers first an overview of the state of knowledge on socioeconomic inequalities in injuries in childhood, considering area and individual-based studies on the five main causes of childhood unintentional injuries (i.e. traffic, drowning, poisoning, burns, falls). Although studies on this matter are many, important knowledge gaps remain as the literature is dominated by a few number of countries, not all injury causes have been considered to the same extent, broad age categories of age have been considered in the main, and the mechanisms at stake remain poorly highlighted. The pathways between low socioeconomic status and lower levels of safety among children are therefore not straightforward.

In the second part of the presentation, a number of preventive strategies are discussed in light of their potential for the reduction socioeconomic inequalities in child safety. It is emphasized that the prevention of inequities in child safety requires not only that proximal risk factors of injuries be tackled but also remote and fundamental ones inherent to poverty.

Professor Lucie Laflamme has a doctoral degree in Industrial Relations from Laval University (Canada) and is professor of injury epidemiology and prevention at the Karolinska Institutet (KI) where she has been working since 1995. She is honorary Professor at the University of South Africa (UNISA), in South Africa. She currently is the head of the Department of Public Health Sciences at KI. She has a vast experience in injury studies and has extensively published on the topic of social inequalities in injuries, in particular among children. She is the leader of the research group called ISAC (Injury Social Aetiology and Consequences). She has been a temporary advisor to the WHO at several occasions, among others for the World report on child and adolescent injuries (WHO and UNICEF; reviewer of the full report; January 2008), and as a lead author of a policy briefing on the reduction of social inequality in injuries (2010).
Injury prevention measures need to have a strong evidence-base demonstrating that they will prevent targeted injuries. It is equally important that they can be readily implemented and adopted by the intended end-users. Understanding why evidence-based interventions are and are not implemented has been recognised as an international challenge for injury prevention researchers. Over recent years, there has been growing interest in the evaluation of safety interventions in the real-world context of community sport to understand their public health impact, even when they are based on strong scientific evidence. However, most sports safety efforts to date have been limited by the lack of research into understanding implementation contexts and processes, including barriers and facilitators to intervention uptake and long-term maintenance of any behaviour change. Specifically, the success of sports injury prevention programs depends upon their adoption, implementation and maintenance by the people who deliver sport, such as coaches, sports conditioning personnel, sports administrators and allied health professionals associated with teams. Since 2011, the National Guidance for Australian Football Partnerships and Safety (NoGAPS) project has identified the factors that influence the translation of research evidence into sports injury prevention practice, using community Australian Football as the example. This talk will describe the rationale behind the NoGAPS project and provide the rationale for its evaluation design as a three-arm controlled ecological implementation trial over 2-years, based on the RE-AIM framework. The evaluation has now compared the real-world uptake and sustainability of two intervention delivery modes (the FootyFirst program with fully-supported or limited-support implementation delivery) compared to usual implementation practice as a control. The importance of understanding and measuring the process of program implementation and behaviour change, as well as intervention effectiveness, will be demonstrated.

Professor Caroline Finch is an NHMRC Principal Research Fellow and holds a Robert HT Smith Personal Chair at Federation University Australia. She is Director of the Australian Centre for Research into Injury in Sport and its Prevention (ACRISP) which is one of only 9 centres worldwide to be recognised by the International Olympic Committee (IOC) as a Research Centre for the Prevention of Injury and Protection of Athlete Health. Caroline has been ranked as one of the 10 most highly published injury researchers of all time and in the top three most influential sports medicine researchers internationally. Her research has been funded by the NHMRC, ARC, VicHealth, IOC, the US and Canadian National Institutes of Health, Australian/State government departments for health and sport and from peak sports bodies including the International Rugby Board, Fédération Internationale de Football Association (FIFA), Australian Football League and Cricket Australia, to name a few. She contributes to the editorial boards of the British Journal of Sports Medicine, Injury Prevention, Journal of Science & Medicine in Sport, Injury Epidemiology, International Journal of Injury Control & Safety Promotion and Sports Medicine. Caroline is strongly committed towards ensuring that her injury prevention research has a very real impact on the policy and practice setting in which she works. Her research has been adopted and directly used to inform safety policy by Government Departments of Sport and Health, health promotion and injury prevention agencies, and peak sports bodies.
PROFESSOR MOHIT BHANDARI, CANADA RESEARCH CHAIR IN EVIDENCE-BASED ORTHOPAEDICS, MCMASTER UNIVERSITY, CANADA

Using Large Collaborative Studies to Transform Fracture Care Worldwide

Approximately 1.3 million people die each year on the world’s roads and between 20 and 50 million sustain non-fatal injuries. Eighty percent of road traffic deaths occur in LMICs, which account for the majority of the world’s population. Musculoskeletal injuries such as fractures and dislocations are very common manifestations of trauma, especially road traffic trauma, occurring in almost 2 of 3 victims. While the importance preventing road traffic accident fatalities with simple measures like enforcement of seatbelts and motorcycle helmets is paramount, less is known about the millions of victims who survive the initial injuries but subsequently suffer major complications, such as a major infection, a re-operation, or death. The types of orthopaedic injuries, mechanisms of trauma, timing and types of medical care provided, and post-care musculoskeletal outcomes remain unknown in many LMICs. Given the degree of human suffering and societal costs associated with musculoskeletal trauma, we have focused our program of research to identify factors influencing outcomes and therapies to optimize outcomes following musculoskeletal injuries worldwide. Our approach has included a vision of collaborative, globally focused large studies. This presentation will provide an overview of a recent large trial (FLOW Randomized Trial, 2500 patients) in patients with severe extremity fractures as well as a large observational study exploring the factors associated with major outcomes following fracture treatment in low-middle income countries (INORMUS 40,000 patient cohort).

Dr Bhandari’s clinical interests include the care of patients with musculoskeletal injuries. His research broadly focuses upon clinical trials, meta-analyses, methodological aspects of surgery trials and the translation of evidence into surgical practice. Specific areas of interest include identifying optimal management strategies to improve patient-important outcomes in patients with multiple injuries, lower extremity fractures and severe soft tissue injuries. Dr Bhandari is currently coordinating trials of tibial fracture management and various wound irrigation techniques in open fractures, and oversees many research projects aimed at increasing awareness and screening for Intimate Partner Violence (IPV). Dr Bhandari leads the international hip fracture research collaborative, a global consortium of surgeons focusing upon the design and development of large, definitive surgical randomized trials in patients with hip fractures. Professor
The impact of injury - who bears the brunt?

There are over 5 million deaths per year from injury, accounting for around 9.2% of global mortality, with 90% of deaths occurring in low- and middle-income countries (LMIC). Across all settings, both high and low income, injury impacts most on the poor and vulnerable; in Australia, there are substantial inequalities in injury evident for Aboriginal and Torres Strait Islander people. Globally, injury is the leading cause of death for young people but the economic impact of serious injury and death in young people is particularly acute in LMIC. Without access to comprehensive health care and universal health coverage, injuries can generate a significant financial burden for families. A high proportion of households experience catastrophic expenditure following injury, especially those with the lowest incomes, and more severe injuries. There is therefore an important need for programmes to prevent injuries, in particular road traffic and fall-related injuries where there is evidence of a rising burden in LMIC. However, while injury prevention efforts need greater investment, there is also a need to reform health care insurance mechanisms to minimise impact of out of pocket costs and their devastating impact. With the Sustainable Development Goal 3 which Aims to ensure healthy lives and promote well-being for all at all ages now incorporating a target to halve the number of global deaths and injuries from road traffic crashes, and achieve universal health coverage, including financial risk protection, and access to quality essential health-care services, there is now a global mandate for action.

Professor Rebecca Ivers is the Director of the Injury Division at the George Institute for Global Health, Professor of Public Health at the University of Sydney, Kidsafe NSW Council member, board member of the global Road Traffic Injury Research Network, and represents the George Institute at the United Nations Road Safety Collaboration. She is trained in epidemiology and public health and directs a research program with a strong focus on injury prevention and trauma care across the fields of road injury, fall injury and injury in Aboriginal and Torres Strait Islander people. Professor Ivers is leading the conduct of a large trial of a community based Aboriginal driver licensing support program, a NHMRC funded study examining burns in Aboriginal and Torres Strait Islander children, and research on falls in older Aboriginal people. She is also an investigator on several injury outcome studies in both high and low income countries, a series of trials in trauma care in India as part of the Australia-India Trauma Systems Collaboration, and principal investigator of a large NHMRC funded fracture outcome study in low and middle income settings globally.
Long Term Outcomes After Injury – What Do We Know?

While the global burden continues to rise, injury-related mortality rates have declined in many high-income countries. A key contributor to reduced mortality has been implementation of trauma systems with improved care of injured patients substantially enhancing the likelihood of surviving serious injury. The focus has now shifted to improving the quality of survival and reducing the burden of non-fatal injury. However, there is limited understanding of how well patients recover, how long this takes, and the proportion of the injured population who go on to experience lifelong disability. Similarly, there has been limited to research to date describing the patient’s journey through acute care, rehabilitation and community reintegration. Insight into patient experiences and pathways, healthcare and disability service needs, and factors that facilitate and impede recovery are needed to improve trauma system design and better meet the needs of injured patients. This presentation will use quantitative and qualitative data to describe the long term patient outcomes and experiences in a mature trauma system, including suggestions for improved coordination of care and service delivery.

Professor Gabbe is the Head of the Pre-hospital, Emergency and Trauma Research Unit in the Department of Epidemiology and Preventive Medicine at Monash University. She is a National Health and Medical Research Council (NHMRC) of Australia Career Development Fellow and holds an honorary appointment at The George Institute for Global Health and a Professorial Chair appointment in the College of Medicine at Swansea University in the UK. Belinda’s research focuses on evaluating trauma care, trauma systems research, and improving understanding of the burden of injury. She is a Chief Investigator of the population-based Victorian State Trauma Registry (VSTR), the Victorian Orthopaedic Trauma Outcomes Registry (VOTOR) and the Burns Registry of Australia and New Zealand (BRANZ). These three registries generate a large, multidisciplinary program of research related to quality of care, long term outcomes and recovery. She is currently leading the NHMRC funded Injury-VIBES and RESTORE projects.
WENDY CARLISLE, JOURNALIST, AUSTRALIAN BROADCASTING COMMISSION, AUSTRALIA

The Accidental Journalist and the Nanny State

This journalist has discovered a rich seam of stories in that place occupied between injury and malfeasance.

Often the subject heading of her obsessions might broadly be described as sport, aging, pharmaceuticals, crime and food.

The investigating journalist is interested in exposing abuses of power in its many forms. We pick over the activities of corporations, government, community groups to uncover how “accidents” happen, why people get hurt and whether someone knew, or ought to have reasonably known that injury and harm occurred.

And these are always stories about people. People whose lives have been impaired or ended and the stories of those close to them, or working on their behalf to establish the facts and extract some justice.

Ultimately these stories are about what kind of society we inhabit, and what we as a society are prepared to do to mitigate this harm. In recent years we have witnessed a public discourse labelling any public health measure as the “nanny state” at work. Wendy Carlisle will argue that journalists doing their job well assists the public in understanding whether “nanny state” rhetoric is fact, fiction or ideology.

Wendy Carlisle will discuss this in the context of a number of stories including “The Surf Club” about the deaths of three teens at the National Surf Life Saving Championships (Four Corners and ABC RN’s Background Briefing) ; navigating ideology and cherry picking “facts” in the “Bicycle helmet laws” Background Briefing”; to uncovering how the AFL plays fast and dirty with concussion “The Concussion Games” (Background Briefing), a story which was nominated for a Walkley award in 2014

Wendy Carlisle is an investigative journalist with the Australian Broadcasting Corporation. She has reported for a wide variety of programs including Australia’s leading television investigative program Four Corners on ABC1 and Background Briefing an investigative radio documentary show on ABC Radio National. Much of her journalism deals with the public health issues around junk versus evidence based science. Her recent investigations include the controversial deaths of three young lifesavers at the Australian Surf Life Saving Championships; the furore around bicycle helmet safety; the high cost of end stage cancer treatments; the public impact of the Hazelwood Coal Mine fire; and climate change.

Climate sceptic Lord Monckton described her as "that appalling woman" for her report profiling him, and controversial broadcaster Alan Jones called her a "star" for her reporting on Coal Seam Gas.

Last year she was nominated for a prestigious Walkley journalism award for her investigation exposing the AFL’s trenchant opposition to the emerging science linking concussion with brain injury. Wendy has also twice been a finalist in the Eureka Journalism Awards, and won a Gold Medal at the New York Radio Festivals Awards for her part in a series of documentaries broadcast on The Science Show called “Science in a Suitcase”.

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MRS EMILY CASON, FIGHT FOR SAM

Fight for Sam, Campaigning for Quad Bike Safety

Fight For Sam is a Facebook lead awareness and education group Aimed in promoting the dangers associated with the use of Quad bikes. The page was started by Emily Cason, the mother of Sam Cason who was killed in a Quad bike accident at age 11 in 2011. The page has 1,770 followers and is regularly updated with media events, accidents and anything Quad bike related.
Successful Pediatric Injury Prevention Legislation in Massachusetts: Lessons Learned

In 2010, Massachusetts passed a law regulating All Terrain Vehicle (ATV) use by children (Sean’s law). This law imposed an age restriction so that no one under age 14 could ride an ATV and also required adult supervision for children between the age of 14 and 17. We examined the impact of Sean’s law on the rate of emergency department and inpatient hospital discharges for ATV-related injuries in several age groups (0-14, 15-19, and 25-29) and assessed changes in discharge rates across the implementation periods.

We found that the population-based injury rate of residents under the age of 20 declined following the passage of stricter ATV legislation in the commonwealth of Massachusetts as compared with adults aged 25-29. The largest decline in injury rates was observed in 0-14 year olds (45%). These results suggest that stricter legislation has led to an overall decline in the rates of ATV related injuries in children. There were no pediatric deaths in MA since the law was enacted.

Hon. Steven A. Baddour, Esq. is Senior Vice President of Government Relations, ML Strategies, LLC and is based in the firm’s Boston office. He focuses his practice on government relations at the state and federal level, public policy and complex civil litigation. Steve was former Assistant Attorney General in Massachusetts and a six-term State Senator and with a strong reputation for fighting to strengthen laws that protect children, the elderly and disabled, and was widely-known as a thoughtful voice on transportation, budgetary policy and fiscal responsibility. Steve has worked intimately with Dr. Masiakos on the ATV law and continues to be an advisor to the medical community as we work to enact several important and forward thinking injury prevention laws in MA. Many of the Bills that Steve has sponsored, including the JOL, have been mirrored by other state legislative bodies across the United States.

Peter T. Masiakos, MS, MD, FACS, FAAP is a Pediatric Surgeon and the Director of Pediatric Trauma Service at Massachusetts General Hospital (MGH). He is an Associate Professor of Surgery at Harvard Medical School and an Associate Visiting Surgeon at MGH, where he has a clinical interest in pediatric trauma care and has become a vocal injury prevention advocate. He has been involved in successfully educating the Massachusetts legislature and the US Consumer Product Safety Commission on the inherent risks that All Terrain Vehicles (ATVs) pose on children and testified both at the Massachusetts state house and at the consumer product safety commission on the need for new legislation which would prohibit the use of ATVs by. As a result of this work, the first law imposing an age restriction on ATV use in the United States was enacted on July 31st, 2010. Dr. Masiakos continues to work alongside Massachusetts State Legislators on several other comprehensive injury prevention laws including junior operator laws (JOL), safe driving laws and child restraint laws.
Drowning prevention efforts in Australia are synonymous with lifesaving and water safety. Public perceptions place lifesavers, swimming pools and beaches at the centre of efforts to reduce drowning. While this will likely always be the case, an exciting change in the public and policy debate is underway.

This presentation argues that drowning prevention is in transition in Australia and beyond. Evidence based decision making, cross-sectoral collaboration and contrasts with low and middle income perspectives are all changing the way the drowning prevention sector is approaching its lifesaving work.

Lessons from three events will be discussed;

1. The formation of the Australian Water Safety Council and the publication of the first Australian Water Safety Plan in 1998 started to transform the role of organisations including Royal Life Saving, Surf Life Saving and AUSTSWIM. This change is again highlighted in recently released Consultation Draft of the Australian Water Safety Strategy 2016-2020.

2. Australian supported efforts to reduce child drowning in Bangladesh have led to new ways of framing drowning as a community public health issue, and developed new ways of working.

3. The World Health Organisation, published its first comprehensive Global Report on Drowning in 2014. The report is significant in that WHO describes drowning as a serious and neglected public health threat; reinforces the multi-dimensional nature of drowning, and calls for a multi-sectoral approach; and frames drowning against other major public health challenges such as malnutrition, malaria and the impacts of disaster.

The presentation will outline the link between Australian efforts and WHO calls for greater collaboration, including the development of national water safety councils, national water safety plans and a global partnership for drowning. It will forecast what this might mean for research, policy makers and practitioners in the future.

Justin Scarr is the Convenor of the Australian Water Safety Council and Chief Executive Officer of Royal Life Saving Society – Australia. He is a leading contributor in the development of Australian Water Safety Strategies 2008-2011 and 2012 – 2015. Outside of Australia, Justin contributes to global advocacy and research to reduce drowning through roles as Drowning Prevention Commissioner and Asia-Pacific Secretary General of the International Life Saving Federation, and through his work with the International Drowning Research Centre – Bangladesh. He has been a facilitator at numerous drowning prevention conferences and workshops in Australia, Vietnam, Bangladesh, Philippines, was an advisory committee member to the WHO Global Report on Drowning and was the Event Director of the World Conference on Drowning Prevention 2011, Vietnam.
INVITED PANEL SPEAKERS

MR JEREMY HENDERSON, MEDIA AND COMMUNICATIONS MANAGER, FOUNDATION FOR ALCOHOL RESEARCH AND EDUCATION

Jeremy is a communications specialist with over twenty five years of media and public relations experience in the government, private and not-for profit sectors. A journalist by profession, Jeremy has worked on both sides of the ‘media fence’ commencing his career in television news with Prime Canberra, serving as National Media Manager for Japan’s Ministry of Foreign Affairs at the Embassy of Japan, Canberra, and as Public Relations Manager to an IT Consultancy, Pyxis Consulting Group.

For many years Jeremy also provided media training to the private and government sectors, as a consultant and trainer to national media training organisation, Roger Fry & Co.

Currently Jeremy heads up the Foundation for Alcohol Research and Education’s communications team, and is responsible for ensuring FARE’s comprehensive efforts towards stopping alcohol harm receives maximum attention and media exposure.

JULIE LEWIS, EDITOR, SYDNEY MORNING HERALD LETTERS PAGE

Julie Lewis has worked as a journalist for more than 20 years in Sydney, Melbourne, Russia and the United States. She has edited various news and features sections of The Sydney Morning Herald and The Sun-Herald and is a co-editor of the Herald Letters page and a Fairfax Media editorial writer. She is the co-editor of a book of previously unpublished letters to the editor, Pardon Me for Mentioning.

MELISSA SWEET, FREELANCE JOURNALIST AND HEALTH WRITER, CROAKEY

Melissa Sweet is a public health journalist, author and the founder of the public health blog Croakey. She is an avid tweeter (@Croakeyblog), and a participant in digital media innovation. She has an honorary appointment as an adjunct senior lecturer in the Sydney School of Public Health at the University of Sydney, and is a PhD candidate at the University of Canberra. She chairs the Public Interest Journalism Foundation, based at the Centre for Advancing Journalism at the University of Melbourne.
Safer Restraint of Kids with Medical Conditions and Disabilities in Motor Vehicles

Presented by: Mrs Susan Teerds, Kidsafe Qld Inc

Co-authors: Ms Tory Cameron, Kidsafe Qld Inc

Abstract:

In 2009, 288,300 children (7%) of those aged 0-14 years, were estimated to have a physical disability. Children with such conditions often cannot support their torso or head in an upright seated posture. They often have diverse conditions including seizures and intellectual disability. They may also exhibit abnormal movements or unwanted reflexes like seizures, which affect their ability to sit and travel in safety and comfort.

Children with burns, orthopedic conditions, congenital dysplasia of the hip or congenital respiratory diseases often require short and long term restraint system options which provide flexibility for seating posture and leg casts.

Children with an intellectual disability, autism and behavioral difficulties require special considerations and if incorrectly restrained they can create a dangerous situation for the child and other vehicle occupants.

The Australian Standard (AS/NZS 4370:2013) Restraint of children with disabilities, or medical conditions in motor vehicles recommends that these children be restrained in (AS/NZS 1754:2013) compliant car restraints. Even modified compliant car restraints should be considered before special purpose seats from overseas, expensive and not compliant.

Key Messages:

Coupled with the recent release of Type G child restraints, and restraints with supportive side-impact protection that meet AS/NZS 1754:2013, Kidsafe Queensland has been extremely successful in seating increasing numbers of children with disabilities in Australian Standard child car restraints with the minimal modifications.

Objectives:

Lessons learnt in Queensland provide a platform for strengthening the safe restraint of these children in motor vehicles in car restraints that meet one of the highest standards in the World. They also improve awareness and understanding of the ability to seat children with disabilities into compliant child car restraints.

Discussions and conclusions:
We are collaborating with manufactures on the development of car restraints that meet the requirements of children with disabilities and Australian Standards. We are also collaborating with occupational therapists, physiotherapists and other key stakeholders on the safest method of transporting children with medical conditions and their special needs. It will be argued that children with disabilities and medical conditions are already at a disadvantage and therefore should be - where possible - restrained more comfortably, safely and cost effectively in Australian Standard compliant child car restraints.
Children and Powered Two Wheel Vehicles: A review of risk factors and interventions

Presented by: Dr Julie Brown, NeuRA

Co-authors: Ms Lisa Schonstein, George Institute For Global Health; Professor Rebeeca Ivers, George Institute for Global Health; Associate Professor Lisa Keay, George Institute for Global Health

Abstract:

Background:

Injury associated with powered two and three wheel vehicles is a concern for children in both developed and developing nations. Children use off-road vehicles for recreation, organized sport and assisting with farm activities. In countries where motorcycles are the predominant mode of transport, children are commonly transported as pillion passengers. To date there has been no summary of risk factors and potential interventions for children involved in these activities.

Aim:

To examine the literature related to risk factors and effective interventions for injury among children using powered two wheel vehicles.

Method:

We used a systematic approach to collate data from published and grey literature on injuries to children associated with use of powered two wheelers globally using academic datasets and public search engines. All study types were eligible, excluding clinical case studies. We searched websites of major conferences, organisations, network websites, and contacted specific individuals and units by email or phone seeking relevant research in this area.

Study type, methods and key elements of the work were extracted and summarized and the intervention was graded according to The Promise Matrix. Reporting followed the PRISMA statement.

Results:

Males dominate casualty numbers and are commonly injured as riders. Females are commonly injured as passengers. Studies report children using off-road vehicles as young as 1 with median ages of 9 to 12 depending on the sample. Crash studies support the proposition that inherent physical and psychological limitations may limit children’s ability to safely control off-road vehicles and ride as pillion passengers. However there is no definitive research underpinning age limits for operating or riding on these vehicles. Children have lower rates of helmet use than seen among adults and use of protective clothing is less common then the use of helmets. Besides helmet effectiveness studies, there has been no study of the effectiveness of any other interventions to specifically reduce injury or crash risk among children using powered two wheel vehicles. However a small number of interventions have been implemented or proposed. Using the Promise Matrix the most promising of these relate to limiting the use of these vehicles by age and/or vehicle type, and increasing use of protective gear.

Discussion and Conclusions:
There is a need for more robust studies of potential interventions to reduce death and injury among children using powered two wheel vehicles. Minimum age limits for riders and pillion passengers need to be established.
The AH&MRC Aboriginal Child Seat Restraint Project

Presented by: Mrs Kaylie Harrison, The Aboriginal Health and Medical Research Council of NSW

Abstract:

Australian Aboriginal children are approximately three times more likely to be involved in road related fatalities and hospitalisations compared to that of non-Aboriginal children. Research shows that with the correct use of child seat restraints, these injuries can be greatly reduced, however, the correct use of child seat restraints still remains low.

The Aboriginal Health and Medical Research Council of NSW (AH&MRC) was funded by Transport Roads & Maritime Services to develop and deliver the AH&MRC Aboriginal Child Seat Restraint Project.

The project was implemented from July 2014 – June 2015 and Aimed to promote, facilitate and support the effective use of motor vehicle child restraints by Aboriginal families in selected areas of NSW.

AH&MRC supported X12 Aboriginal Community Controlled Health Services (ACCHSs) to deliver the project at a local level with their own Communities. Activities included education sessions with mums and bubs groups, working with the local primary school, awareness raising activities at community events, and the development of local resources.

This presentation will describe the involvement of Aboriginal workers in this project, and showcase the high quality and diverse range of work undertaken by services.
Its Safer to Wait Till You’re 148cm Child Car Restraint Laws in New Zealand and How We Are Progressing Towards International Best Practice

Presented by: Ms Heather Robertson, Safekids Aotearoa

Abstract:

Context:

Historically New Zealand was identified as having one of the highest child road fatality rates in the OECD and ‘the lack of’ or ‘incorrect use of appropriate child restraints’ was acknowledged to have contributed to this unacceptable position. Motor vehicle crashes continue to be a leading cause of death and injury. The New Zealand 2020 Safer Journeys Road Safety Strategy 2010-2020 seeks to subsequently ensure the appropriate use of child restraints, supported by effective legislation.

The strategy aspires to bring such legislation in line with international best practice and envisages by 2020 “the use of booster seats will be the norm for children aged 5 to 10”. It is estimated if children in this age group were restrained according to best international practice an estimated annual social cost saving of $9.8 million due to injuries or deaths would be achieved.

The first step in achieving this aspiration came to fruition on the 1st of November 2013, when it became compulsory for children to use an approved car restraint until their 7th birthday. The government must be commended in taking this action. However, internationally there have been significant developments around child restraint requirements for older or taller children.

Objectives:

This presentation will focus on

• What we know about child passenger injuries and car restraint use in New Zealand and internationally
• A review of the historical journey of car restraint use in New Zealand
• What has happened in New Zealand since the 2013 law change
• How we are collectively moving forward towards our aspiration of all children being correctly restrained

Key messages:

• New Zealand children are prematurely graduated to adult safety belts and exposed to unnecessary risk.
• Continued advocacy and focus is necessary to ensure that current legislation is amended to ensure the mandatory use of child restraints until a child reaches 148cm in height.

Discussion and conclusions:

Whilst innovation is crucial, so is what we view as innovative. Undertaking existing practices which we are yet to adopt is innovative too!

This presentation seeks to stimulate discussion on current and potential future advocacy efforts to inspire and initiate action in key stakeholders and regulatory bodies. The effective and targeted use of advocacy actions are necessary to reach our aspiration of children being appropriately restrained until they reach a height of 148cm.
Social Marketing to Reduce Preventable Injuries in BC, Canada

Presented by: Dr Ian Pike, University of British Columbia

Co-authors: Mr Kevin Lafreniere, The Community Against Preventable Inuries

Abstract:

Purpose:

To determine the efficacy of a social marketing campaign to raise awareness, change attitudes and behaviours to reduce the number and severity of injuries among citizens aged 25–54 in British Columbia, Canada.

Methods:

A two-year, two-phase formative evaluation comprised focus groups and on-line survey. Phase I consisted eight focus groups of 6-8 participants aged 25-54 throughout BC. The goal was to understand perceptions, attitudes, knowledge and behaviours, and to understand potentially effective injury prevention messages and channels. Phase II comprised on-line survey of 300 citizens 24-54 in May, 2009. Demographic, knowledge, attitudes and behaviour variables around injuries served as pre-campaign baseline measures.

A multi-year, multi-faceted campaign, utilising TV, radio, print, signage, guerrilla events and social media launched in June, 2009. Data from random samples (n=700) were gathered at 4-month intervals and used to monitor changes in awareness, attitudes, behaviours, together with changes in injury deaths and hospitalizations.

Results:

Approximately 50% of BC population (2 million) were reached weekly, and over 100 million media impressions were generated during the 6-month launch period. 50,000 visited http://www.preventable.ca. Campaign recall increased 45%; TV ads were considered informative, relevant, credible and generated self-reflection with no advertising fatigue. Positive shifts (5–10%)

Message 1: Campaign recall increased 45%; TV ads were considered informative, relevant, credible and generated self-reflection with no advertising fatigue

Message 2: A social marketing campaign resulted in significant changes in awareness, attitudes and behaviours, which was associated with decreased injury mortality.
Networking Without Borders: The implementation of the peer-exchange network, a model for sector wide engagement

Presented by: Ms Venessa Wells, Injury Control Council of Western Australia

Co-authors: Ms Rachel Meade, Injury Control Council of Western Australia; Ms Roisin Sweeney, Injury Control Council of Western Australia; Mr Marc Zen, Injury Control Council of Western Australia; Mrs Megan De Piazz, Injury Control Council of Western Australia

Abstract:

Context:

Injury prevention practitioners face a multitude of complex challenges that are often amplified when delivering services in regional areas. One particular challenge is accessing opportunities to network and build partnerships with other injury prevention practitioners.

Research revealed limited low resource and low cost opportunities for Western Australian injury prevention practitioners to connect, network and build partnerships, particularly between regional practitioners.

Objectives:

This paper describes an innovative approach to connecting practitioners across Western Australia and initial findings from its implementation. The Peer Exchange Network Aims to support Western Australian injury prevention practitioners, particularly those based in regional locations, to enhance their partnership building skills by increasing their access to networking opportunities. The Peer Exchange Network provides the opportunity for participants to build their knowledge, skills and partnership capabilities to develop, implement and evaluate injury prevention initiatives.

Key Messages:

Differentiating itself from other networking and mentoring programs, the Peer Exchange Network is built upon the concept that all practitioners, regardless of their position, experience or Background, have something to contribute.

Using technology to overcome geographical isolation, The Peer Exchange Network provides participants the opportunity to interact with a wide range of practitioners working in injury prevention, all of whom have a diverse range of skills, qualifications and expertise. It is grounded in an innovative approach pairing practitioners randomly across the state, inviting them to participate in a self-directed and mutually beneficial conversation with a peer.

Discussion and Conclusions:

The Peer Exchange Network format challenges the assumption that networking can only occur face to face and is time and resource intensive. Unlike other networking platforms which encourage users to be selective who they network with, Peer Exchange Network utilises a unique technological platform for connecting participants, removes status of participants and allows participants to have a dialogue. The Peer Exchange Network may play an active role as an enabling structure in injury prevention. It is anticipated that linking injury prevention practitioners, in a professional capacity,
will support partnership development and contribute to building sector capacity. Peer Exchange Network provides an innovative opportunity to network without borders.
**Know Injury Knowledge Hub: The development of a knowledge exchange portal to support evidence informed practice in WA**

**Presented by:** Ms Rachel Meade, *Injury Control Council of Western Australia*

**Co-authors:** Ms Venessa Wells, *Injury Control Council of Western Australia*; Ms Roisin Sweeney, *Injury Control Council of Western Australia*; Mr Marc Zen, *Injury Control Council of Western Australia*; Mrs Megan De Piazz, *Injury Control Council of Western Australia*

**Abstract:**

**Context:**

Knowledge exchange portals have been recognised as effective online tools to exchange information and resources and connect practitioners to inform and influence evidence based practice. It is well established that policy and program design in public health should be informed by evidence. Evidence informed practice utilises the best available knowledge of what works and why in the design and delivery of policies and programs, reducing risks for harm or the likelihood of poor community impact. Accessing and exchanging knowledge between practitioners is essential to evidence selection.

Formative evaluation identified the need for such a platform for injury prevention practitioners to access and share evidence across Western Australia. Subsequently the Know Injury team at the Injury Control Council of Western Australia (ICCWA) developed the Know Injury Knowledge Hub with the support of the WA Department of Health.

**Objectives:**

The purpose of the Know Injury Knowledge Hub is to provide information, tools and training to enhance the capacity of injury prevention practitioners to deliver, evidence informed activities. We present an overview of the development of the hub, preliminary engagement results and lessons learnt from its implementation.

**Key Messages:**

The hub has developed and applies a Know, Learn, Connect framework developed by ICCWA, underpinned by a public health approach to injury prevention. It builds practitioners’ knowledge about injury topics, providing practitioners with an understanding of the extent of the problem, determinants, effective strategies, current initiatives and key stakeholders in Western Australia. It focuses on increasing practitioner skills in relation to health promotion planning, implementation and evaluation and focuses on providing opportunities for practitioners, particularly those who are geographically isolated to initiate and build relationships and partnerships with other injury prevention practitioners.

**Discussion & Conclusion:**

Driven by the principle of dialogue rather than one-way retrieval and transfer of information, the hub utilises discussion boards, blogs, networking opportunities and online chat to encourage knowledge exchange. It is envisaged that the hub in combination with other knowledge exchange strategies in ICCWA’s larger sector capacity building program, will support the injury prevention workforce in the delivery of evidence informed initiatives.
ABORIGINAL AND TORRES STRAIT ISLANDER COMMUNITIES

PA Safety Model

Presented by: Mr Chris Webber, Rotorua Lakes Council

Abstract:

Innovative Maori models can generate impactful approaches to wellbeing, safety, risk and harm reduction.

This presentation applies a new conceptual Pa Model to demonstrate modern-day applications of traditional Maori concepts that can continue to benefit all. The Pa model evolved from a Masters thesis in indigenous environmental health and continues to be tested in the safety field.

The Whare Tapa Wha house of four sides (physical, mental, social, spiritual) is surrounded by protective layers (customs, people, environment) and accessed via three gateways comprising nine essential posts (Nga Uara/values). The multiple protective palisades represent community efforts to protect and sustain the people—visible indicators of strong/weak defence.

Using the values and indicators, gaps and gains can be identified, tracked and developed in new ways to be culturally appropriate, effective and empowering for all.
Understanding Burn Injuries in Aboriginal and Torres Strait Islander Children: Treatment, Access to Services and Outcomes

Presented by: Dr Kate Hunter, The George Institute for Global Health & The Poche Centre for Indigenous Health

Co-Authors: Andrew Holland, The Children’s Hospital at Westmead; Roy Kimble, The Children’s Health Research Centre, University of Queensland; Kathleen Clapham, Australian Health Services Research Institute, The University of Wollongong; Julieann Coombes, The George Institute for Global Health, The University of Sydney; Kellie Stockton, The Children’s Health Research Centre, University of Queensland; David Read, Royal Darwin Hospital; Anthony Sparnon, The Women’s and Children’s Hospital, Adelaide; Delia Hendrie, Curtin Health Innovation Research Institute; Kurt Towers, Northern & Central Adelaide Local Health District; Belinda Gabbe, School of Public Health and Preventive Medicine, Monash University; Rebecca Ivers, The George Institute for Global Health, The University of Sydney

Abstract:

Background:

Burns in children can be a devastating injury. Aboriginal and Torres Strait Islander children experience burns at least double the rate of other Australian children. Having consistent access to high quality care remains fundamental to good outcomes in burns care. There continues to be well documented barriers to access to both tertiary and primary healthcare for Aboriginal and Torres Strait Islander people in both urban and rural/remote settings. Despite the over-representation of Aboriginal and Torres Strait Islander children in burn injury, no large-scale study has explored the outcomes in this population.

Aims:

This cohort study will follow for 2 years Aboriginal and Torres Strait Islander children aged up to 16 years who present to a burn unit in New South Wales, Queensland, South Australia and the Northern Territory and will describe the burden of burns, access to care, and functional outcomes.

Methods:

Quantitative data will be collected via: 1. Participant interviews. 2. Capture of clinical data from medical records, 3. Linkage to MBS/PBS records. Qualitative research will be conducted to identify barriers to health care for Aboriginal and Torres Strait Islander children from the perspective of the patient, their families, and their health care providers.

Results:

Data collection began in January 2015. To date, the study has 22 participants (79% participation rate); 13 boys (59%) with a mean age of 4.9 years. Data collected comprises the nature and description of the injury, description of first aid received, access to services, delivery of care, impact of injury on the family and child and the child’s quality of life.

Discussion and conclusions: These data will be used to inform the development of appropriate, best practice, models of care. The study is governed by an advisory group comprising representatives
from the investigators, Aboriginal community members, and Aboriginal health organisations and peak bodies.
**What’s Next for Aboriginal and Torres Strait Islander Children After a Burn Injury?**

**Presented by:** Ms Julieann Coombes, *The George Institute for Global Health*

**Co-authors:** Dr Kate Hunter, *The George Institute for Global Health*

**Abstract:**

**Project Background:**

Despite significant overrepresentation of Aboriginal and Torres Strait Islander children in burn related injury, there is little research exploring their access to health care for burns, or their quality of life after they return to their homes, families and communities post-burn.

**Framework:**

Indigenous Research Methodology

**Methodology:**

Qualitative research will be conducted with 20-25 Aboriginal and Torres Strait Islander children less than 16 years of age (and their families) who present to a Burns Unit using semi-structured interviews. This research is part of a larger prospective study exploring burn care in Aboriginal and Torres Strait Islander children. Children and their families will be recruited from the four states the main study is operating in.

The interviews will map out participants’ pathways to accessing services in order to improve understanding of how a child with a serious burn and their family experience the journey to recovery. Participants will be asked about barriers to services. The Aboriginal Interpreter Service (AIS) will be present during discussions with the participants who do not have English as their first language.

As an Aboriginal researcher I am conducting my research using Aboriginal ontology as a framework, as it is a holistic framework based on interconnectedness, person centred care and Aboriginal ways of knowing.

**Significance of the research:**

Qualitative research will generate rich data to ascertain the impact of burns care, the outcomes on family life. It will also help understand the barriers to health care once the child is back in community and explore the support systems Aboriginal and Torres Strait Islander children have access to for better health outcomes and ongoing personal growth and well-being.
Persisting Inequalities in Unintentional Injury Hospitalisation Between Aboriginal and Non-Aboriginal Children in NSW

Presented by: Mr Holger Moeller, Centre for Big Data Research in Health, University of New South Wales

Co-authors: Dr Kathleen Falster, National Centre for Epidemiology and Population Health, The Australian National University, Canberra; Professor Rebecca Ivers, The George Institute for Global Health, University of Sydney; Professor Louisa Jorm, Centre for Big Data Research in Health, University of New South Wales

Abstract:

Background:

Australian Aboriginal children experience significant health disadvantage compared with their non-Aboriginal counterparts. Unintentional injuries are a major contributor to these inequalities.

Aims:

Our Aims were to identify leading injury mechanisms associated with inequalities in hospitalised unintentional injuries between Aboriginal and non-Aboriginal children, and to assess if these inequalities have changed over the past 14 years.

Methods:

We analysed linked hospital and mortality data for the state of New South Wales (NSW) from 1 July 2000 to 31 December 2014. This was a retrospective whole-of-population cohort study including 1,124,403 children (35,740 Aboriginal) born in a NSW hospital between 1 July 2000 and 31 December 2012. Differences in the risk of injury hospitalisation between Aboriginal and non-Aboriginal children were estimated using Cox proportional hazards models. Change over time was assessed by comparing two cohorts of children born between 2000-2006 and 2007-2012, respectively.

Results:

Overall, Aboriginal children were 1.6 times more likely than non-Aboriginal children to have been hospitalised for an unintentional injury (HR 1.6; 95% CI 1.5-1.6). The largest differences were observed for poisoning (HR 2.7, 95% CI 2.4-3.0) and burn injuries (HR 2.4, 95% CI 2.1-2.7). Although rates of hospitalisation for unintentional injuries decreased in both groups of children from 2000-2006 to 2007-2013, the inequality for all unintentional injuries remained unchanged in 2007-2013 (HR 1.6, 95% CI 1.5-1.7).

Discussion and Conclusions:

Despite the national initiative to close the health gap between Aboriginal and non-Aboriginal peoples and the fact that overall injury rates are decreasing, no progress has been made in reducing inequalities in hospitalised child injuries in New South Wales. These injuries are highly preventable; our findings suggest that more effort needs to be put into implementing effective targeted injury prevention programs to close the health gap between Aboriginal and non-Aboriginal children.
Evaluation of the Illawarra Aboriginal Medical Service ‘Safe Homes, Safe Kids’ Program

Presented by: Ms Kathleen Clapham, Australian Health Service Research Institute

Co-authors: Ms Keziah Bennett-Brook, Australian Health Research Institute; Ms Julie Booker, Illawarra Aboriginal Medical Service; Ms Leanne Lawrence, Illawarra Aboriginal Medical Service; Ms Adele Cortez, Illawarra Aboriginal Medical Service; Ms Sam Greene, Illawarra Aboriginal Medical Service

Abstract:

Background:
Consistently higher injury rates amongst Aboriginal children reveal that Indigenous children have not benefited from the interventions which have been effective in reducing injury rates for non-Indigenous children. Intervention strategies in Indigenous communities must go beyond traditional approaches and take into account the broader range of social, historical and cultural factors impacting on Indigenous populations but few culturally acceptable Indigenous led interventions have been evaluated. The Illawarra Aboriginal Medical Service (IAMS) developed a home visiting safety program targeting disadvantaged Aboriginal families with young children living in the Illawarra. Aboriginal family workers conduct home visits and provide intensive assistance to vulnerable families utilising a locally produced safety promotion package. Focus is on families with new babies, first time parents and teenage parents. In 2013, researchers at UOW received funding from the NSW Health Aboriginal Injury Prevention and Safety Promotion Demonstration Grants to conduct a program evaluation.

Aims:

This collaborative presentation by UOW researchers and IAMS staff will report on the findings of the evaluation of a home visiting model of early intervention as an injury prevention program, and reflect on the process of undertaking a collaborative evaluation in an Aboriginal community setting.

Methods:

The evaluation was conducted between January 2014 and June 2015 and involved development of a program logic model and evaluation framework, including process, impact and outcomes. Routinely collected program data was collected for all clients between October 2013 and September 2014. Qualitative data were collected using semi-structured interviews with 11 IAMS staff, 10 clients and 14 stakeholders. A family worker survey was also collected and analysed. Data was coded thematically and a framework analysis applied using NVivo software. Collaboration between researchers and the IAMS and capacity building in injury prevention, research and evaluation for the family workers occurred throughout the period.

Results:

Clients greatly valued the relationship with their family worker and the IAMS’ holistic model of service. Improvements were recorded for the main participants in line with the expected outcomes in the model. Results included: increased engagement in safety programs; improved child safety knowledge and skills; increased accessibility for families to services; improved attitudes to home and
community safety. Child injuries were also reported to be prevented within the home. Limitations included the small number of clients and the primarily qualitative nature of the evaluation.

Discussion/Conclusions:

The IAMS ‘Safe homes Safe kids’ program offers a promising program for addressing complex family issues in urban areas.
**The Effects of an Injury Prevention Program on Incidence Rates in Junior Male Soccer Players**

Presented by: Mr Ahmed Farhan, Universiti Teknologi MARA

Abstract:

Background:

The rates of soccer injury are among the highest in sports, which is one of the major reasons for players to drop out, particularly among junior soccer players.

Aims:

This study investigated the effects of an injury prevention program (IPP) on the rates of soccer injury in male junior players.

Methods:

Fifty male junior soccer players (mean ±SD: age = 13.34±0.47 years; BMI = 20.96±1.57 kg/m²; stature = 1.61±0.07 m) from two sports schools were divided randomly into experimental (EXP; n = 25) or control (CON; n = 25) groups. The EXP group participated in the IPP that focused on physical training (5 times/week) and education lectures on awareness of injury prevention measures (3 times/week) for 12 weeks. The CON group was instructed to continue training and warm-up as usual. The rates of injury were documented over a 1-year period via a monthly injury report for each player.

Results:

The incidence rates per 1000 hours of practice and match were 10.93 in the EXP group and 13.17 in the CON group, which equates to 17% fewer injuries in the EXP group. In EXP group rates post-test was 4.26 overall and 1.19 for 1000 hours of practice time, and 12.01 per 1000 hours of match time, while CON group rates post-test was 6.72 overall, and 3.02 per 1000 hours of practice time and 16.09 per 1000 hours of match time, which equates to 36% fewer injuries in the EXP group. A high incidence of mild injuries, moderate injuries, and injuries during the matches were noted.

Discussion and conclusions:

The rates of injury in male junior soccer players can be reduced by physical training and educational lectures. Hence, it is suggested that such interventions are included in their regular training program.

Key words: Junior players, injuries, injury prevention measures, physical performance, soccer.
Concussion: When in Doubt Sit It Out

Presented by: Mr Ryan MacDougall, The Sydney Children's Hospital Network

Abstract:

Context:

The frequency of hospitalization for sport-related concussion has been shown to have increased 60.5% in the past decade in Victoria, Australia. Most concussions are considered mild and short lived and often result in health consequences including impaired thinking, memory problems and emotional or behavioural change. More severe cases of concussion and those who suffer from post-concussion syndrome may experience long-term effects that severely impact schooling and psychological wellbeing.

With recent media attention, sports organisations are enforcing concussion guidelines at the elite and semi-elite levels. This unfortunately is not the case at the grass roots sports level for children. A lack of familiarity with guidelines and a poor understanding of a child’s vulnerability to concussion often results in an ill informed decision to allow a child or young person to return to sport following a concussion, thus placing them at risk of further injury.

Objectives:

Create partnerships with external organisations that are stakeholders in concussion prevention and awareness in children and young people in New South Wales.

Create a suite of tools and resources tailored to the target groups to provide education on concussion awareness and prevention.

Key Messages:

The campaign Aims to educate the target groups to recognize, respond to, and minimize the risk of concussion.

The key messages promoted throughout the campaign include; “Concussion: When in Doubt Sit it Out”, understand the signs, symptoms and prevention of concussion, understand how to respond when a child is concussed, and understand how to help the child have a safe and gradual return to school and sport.

Discussion and Conclusions:

Targeting community and high school sports coaches, parents and health care professionals, the campaign provides accurate information on concussion risk and prevention. Educating the target groups will help them to develop personal skills and self-efficacy with respect to concussion.

The campaign relates to the themes of child health and safety and sports injury prevention and rehabilitation. Educating the target groups is paramount to improving health outcomes for children suffering concussions; therefore, the campaign will greatly improve the health and safety of children and young people in NSW. It will also serve to prevent sports injury and aid in rehabilitation by providing guidelines on safe and gradual return to school and sport.
This important campaign will lay the foundation for further work and a sustainable response to concussion in children and young people across NSW.
The Online Concussion Awareness Training Tool (CATT)

Presented by: Dr Shelina Babul, BC Injury Research and Prevention Unit

Co-authors: Dr. Ian Pike, BC Injury Research and Prevention Unit; Ms Kate Turcotte, BC Injury Research and Prevention Unit

Abstract:

Background:
Prevention, recognition and treatment of concussion, particularly in sport, is important nationally and internationally. The on-line Concussion Awareness Training Tool (CATT – www.cattonline.com) includes three distinct sites for (1) Medical Professionals, (2) Parents, Players and Coaches, and (3) Educators.

Aims:
The Aim of this initiative was to create and evaluate an accessible, regularly updated, on-line concussion resource based upon the Zurich Consensus Statement on Concussion in Sport. This resource is intended to support standardize concussion diagnosis, treatment and management. Each site includes a self-paced learning module as well as tailored resources.

CATT for Medical Professionals (CATT MP) Aims to standardize practice in a clinical setting, with a focus on the paediatric patient. Resources include diagnostic tools, clinical resources, patient handouts, journal articles, websites, videos and individual case studies.

CATT for Parents, Players and Coaches (CATT PPC) speaks to the identification and appropriate management of concussion, with Smartphone accessible resources: ‘concussion response tool’ and ‘questions to ask your doctor’.

CATT for Educators (CATT Ed) includes Return-to-Learn protocol and resources for teachers, administrators, counsellors, and others working with children in the school setting.

Methods:
For each of the three CATT sites, evaluation included online recruitment of applicable participants, with a pre-post intervention survey design. Sample sizes of at least 33 were required to compare the change in pre/post survey scores with the power to detect a large effect size of 0.5.

Results:
CATT MP was launched mid April, 2013. Physicians demonstrated significant positive change in concussion practices (p=0.001), and significant change in knowledge by those treating more than 10 concussions/yr (p=0.039). Nurses had significant positive change in practices (p=0.005) and attitudes (p=0.035). CATT PPC was launched mid June, 2014. Parents demonstrated significant positive change in concussion knowledge (p=0.002). CATT Ed is anticipated for launch in May 2015, with an accompanying evaluation.

Discussion and Conclusions:
Concussion is an under-recognized, -diagnosed and -treated medical condition, requiring both physical and mental rest. The CATT addresses this gap by increasing knowledge and awareness
among appropriate specific audiences. Good concussion management can reduce related health problems and the risk of long-term brain damage, potentially lowering total health care costs among those who are injured.
Is Running Associated with the Development and/ or Progression of Knee Osteoarthritis?

Presented by: Mr Richard Leech, Arthritis Research UK Centre for Sport, Exercise and Osteoarthritis University of Nottingham

Abstract:

Aims:

• Identify and discuss the effects of joint loading seen during running and present the evidence for how this may be detrimental or beneficial to the knee joint structures
• Review the impact of joint injury on incidence of knee osteoarthritis in the active population
• Compare the risks associated with running and other sports (recreational and elite level)
• Critique the current research and stimulate a wider debate regarding how this evidence is conveyed

Introduction:

It is well known, supported by the overwhelming strength of evidence, that regular physical exercise has many health benefits including protection against obesity and cardiovascular diseases. As a result, physical activity is reinforced globally by public health initiatives, but this could lead to unknown consequences for the joints. The potential exists for a paradox relating to exercise and joint health. Reduced physical activity due to injury or disease will negatively impact on health, whilst simultaneously increasing the burden on healthcare systems. Running participation also suffers from a common perception that it is detrimental to the weight-bearing joints, especially the knee. As running is so popular and with knee osteoarthritis amongst the most common musculoskeletal conditions requiring healthcare intervention, it is imperative that the association between the two is supported by robust science.

Research Overview:

Previous research has produced conflicting findings regarding recreational sport as a risk factor for knee osteoarthritis. Authors have identified significant trends for increased risk of knee osteoarthritis with higher activity levels, whilst others have not replicated these findings; some show no relationship whilst others indicate beneficial (protective) effects of exercise. The conflicting outcomes may occur for several reasons, primarily methodological differences, which make comparison and interpretation problematic. Very few papers are related specifically to recreational running and knee osteoarthritis. The potential effects of running may be reversed or exacerbated, either directly or indirectly, by many factors; but at the moment the research it is very limited. One would argue that there is insufficient evidence to conclude whether any relationship (positive or negative) exists. Severe joint injury is associated with a significantly increased risk of developing knee osteoarthritis. Prevention of injury, particularly amongst younger athletes should be the focus of future research and a clinical priority.

 Athlete Perspectives:

Healthcare practitioners, and athletes themselves, face significant challenges as the amount of research available to inform decision-making are limited. They therefore may consider anecdotal evidence rather than proven scientific fact. Additionally, risk factors for incidence and progression may not be the same and this requires significantly more investigation. It is unknown what shaped
curve represents increased (or decreased) risk of knee osteoarthritis as a consequence of running; how much (if any) is too much? As yet, we do not know. The key to understanding whether running is detrimental or beneficial will be to identify and understand the complexities of the risk factors that co-exist and their interactions with one another. Further research is needed to provide the answer.
Extent of Injury Severity and Patterns of Recovery Among Vulnerable Road Users in Nakuru County in Kenya

Presented by: Mr Enos Ngungu Muguku, NEMMED CLINIC

Abstract:

Background:

Road traffic injuries (RTIs) are a leading cause of preventable mortality and morbidity in Kenya. These injuries are quite pronounced among vulnerable road users (VRUs) namely pedestrians, pedal-cyclists and motorcyclists. Despite this, there is little research examining the status of health among VRUs following road crashes.

Methods:

A prospective cohort design was used to study adults who presented to a major public hospital in Nakuru County after incurring a traffic injury from 1st November 2011 to 30th April 2012. Data regarding injury, socio-demographics and crash characteristics were collected from the study hospital’s administrative data-set. Injury severity was assessed using the Abbreviated Injury Scale (AIS). In addition, the QWB-SA questionnaire, a validated measure of health status, was administered to patients at discharge and approximately 3 and 6 months following injury. Injury data was summarized using frequency (%) while health status data was summarized using mean (± SD) and presented by line and bar graphs. The predictors of recovery were established using a multivariate model that utilized Gibbs sampling and data augmentation.

Results:

The mean age of the 141 surveyed patients was 35.17 (13.12) years, males dominated (78%) and major trauma (AIS 3+) was frequent (64%). VRUs made 65% of the studied patients, tended to be males, involved in collision crashes mainly away from highways and suffered more frequently from injuries of the extremities. The average QWB-SA scores for VRUs showed differing rates of increase over time relative to other road users. At periods 0-3 and 3-6 months post-injury, 23% and 38% of VRUs respectively were yet to gain significant functional capacity. In the entire 6-months period 22% of the VRUs had poor recovery. Injury severity and age were risk factors while education and individual differences had a cushioning effect.

Conclusions:

Injury severity and post-injury functional limitations remain complications in a sizable number of injured VRUs. Monitoring health status and extending follow-up and medical care after discharge in some sub-groups of patients is recommended.

Key Words: Road Traffic Injuries, Vulnerable Road Users, Injury Severity, QWB-SA
An ICD-10 HARM Matrix for Estimating the Human Costs of Seriously Injured Road Crash Casualties

Presented by: Dr Mike Bambach, Transport and Road Safety (TARS) Research

Co-authors: Dr Rebecca Mitchell, Australian Institute of Health Innovation, Macquarie University

Abstract:

Background:
Robust costing methods are an important tool to estimate costs associated with serious road trauma, and are key inputs into policy development and cost-benefit analysis for road safety programs and infrastructure projects. Hospital separation data provides substantial potential for estimating the costs associated with seriously injured road crash casualties (i.e. individuals admitted to hospital following a road crash).

A widely used method for estimating human costs from specific injury outcomes is the HARM matrix, based on injuries coded to the Abbreviated Injury Scale (AIS) and using the injured body region and the severity of the injury. However, in Australia and many other countries, routinely collected hospital data are coded to the International Statistical Classification of Diseases (ICD). To use the HARM method, injury diagnoses must first be converted to the AIS, which can result in losses in data integrity which may affect the accuracy of the cost estimates.

Aims:

The Aim of this study is to establish an ICD-10 HARM matrix, such that the human costs of seriously injured road crash casualties may be routinely estimated from injuries identified on their hospital record and coded to ICD-10.

Methods:

Data linkage was used to link an individuals’ road crash-related hospitalisation record with their personal injury insurance claim, for road crashes that occurred in New South Wales, Australia. These records provided the means for estimating all of the costs to the casualty directly related to their recovery from their injuries, including the costs of; ambulance, hospital treatment, rehabilitation, follow-up medical consultations/treatments, medications, psychological treatment, litigation, economic loss, ongoing care and support services and general damages. Injuries were coded to ICD-10, and injury severity was defined using the International Classification Injury Severity Score (ICISS), where four levels of injury severity were established.

Results:

A total of 10,897 seriously injured road crash casualties with linked hospital and insurance claim records were identified. Costs were disaggregated by injured body region and injury severity to develop the ICD-10 HARM matrix. A testing dataset indicated that the ICD-10 HARM matrix predicted the actual costs to within 7%.

Discussion and conclusions:

The cost values in the ICD-10 HARM matrix provide a robust method for routinely estimating the human costs of recovery from injuries sustained by seriously injured road crash casualties, which
may prove useful for policy development and cost-benefit analysis for road safety programs and infrastructure projects.
Assessing the Validity of Traffic Coding in Admitted Patients Data Using Data Linkage

Presented by: Dr Angela Watson, Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology;

Co-authors: Dr Barry Watson, Global Road Safety Partnership; Associate Professor Kirsten Vallmuur, Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Abstract:

Background:

Police reported road crash data are the primary source of road crash information in most jurisdictions throughout the world. Recently, the focus in road safety has shifted towards a greater understanding of road crash serious injuries in addition to fatalities. Unfortunately however, the definition of serious injury within police-reported data is not consistent across jurisdictions and may not be accurate. A possible source of more accurate information relating to injury severity is hospital data. However, as these data are not designed for the purpose of road crash injury surveillance, the selection of appropriate cases is not always straight forward. A key aspect of being able to identify appropriate cases is the need to specify on-road status as road crash statistics across jurisdictions focus almost exclusively on those injuries occurring on road (i.e., public road, street or highway).

Aims:

This study examined the validity of traffic coding in hospital data through the use of data linkage with police road crash data. In addition to this external validation process, convergent validity was also explored by examining the coding of another related variable (i.e., place) within the hospital data.

Methods:

Data from the Queensland Road Crash Database (QRCD) and the Queensland Hospital Admitted Patients Data Collection (QHAPDC) for the year 2009 were linked. Validity was examined by comparing the hospital coding of ‘traffic’ with the linkage with the police data. Validity was also assessed by examining the hospital coding of traffic in conjunction with other variables such as place, activity, and road user type.

Results:

Exploration of the validity issues with hospital data traffic coding by using a combination of linked data and other coded variables (i.e., place, activity, and road user) has shown that approximately 87% of transport cases are likely coded correctly in terms of traffic status.

Discussion:

This study has shown that it is possible that using a combination of traffic status, place and activity could provide a better estimation of the road crash injury cases in hospital data. It has also further shown the utility of using linked data specifically for the purpose of data quality assessment and quantification of error.
Abstract:

Background:
Occupational health and safety for the Prosthetics and Orthotics (P&O) profession has not been well explored, despite anecdotal evidence from clinicians suggesting they are exposed to a range of hazards, particularly manual handling hazards and others previously linked to the development of work related musculoskeletal disorders (WMSD). The role of a P&O includes exposure to a combination of clinical and manufacturing environments, and exposures to a range of hazards during the fabrication of orthoses and prostheses.

Aim:

The Aim of this research is to determine the prevalence of WMSD within the P&O profession and determine what parts of the P&O job role, both physical and psychosocial, may be risk factors for the development of WMSD.

Method:

A observational, retrospective cross sectional research design was utilised to gain an understanding of the P&O situation in Australia.

A previously validated survey tool that had been modified for use within the P&O job context was circulated to Prosthetists and Orthotists working in Australia. Participants were invited to complete the survey, either online (qualtricsTM) or via a paper copy. Surveys were distributed and accepted over a four month period. Data was imported into SPSS and statistical analysis was undertaken. 145 surveys were returned and 139 (% response rate) were included in the statistical analysis.

Results:

Statistical data will be presented.

Discussion & Conclusion:

Identification of the prevalence of WMSD within the Australian P&O community will identify hazards and risk that may lead to the development of WMSD. Factors that are identified as being related to the development of WMSD will enable targeted preventative programs to be developed to prevent injuries and retain experienced P&Os in the workplace.
The ComPARE Study: Determining the impact of policy on recovery following work-related Injury

Presented by: Prof Alex Collie, Monash University

Co-authors: Mr Lee Hatherell, Monash University; Dr Christopher McLeod, University of British Columbia

Abstract:

Background:

Australia has a complex and fragmented network of systems for providing compensation for rehabilitation after work-related injury. The nation has 10 major workers’ compensation systems. These all have effective Return to Work (RTW) as an important policy objective, yet they employ a diverse array of RTW focussed policies and practices. There is very little good quality evidence of the impact of policy and practice on RTW in our compensation systems.

There is often limited scope within a given compensation system to vary and evaluate policy settings to determine if changes result in better or worse RTW outcomes. Comparisons across systems can provide policymakers with evidence on what works in promoting RTW and under which circumstances.

Aims:

The Compensation Policy And Return to Work Effectiveness (ComPARE) study seeks to provide evidence that can be used to improve the RTW performance of Australia’s workers’ compensation systems and similar systems internationally.

This project Aims to identify policy settings that have a positive, negative or neutral impact on RTW amongst Australia’s workers compensation jurisdictions, and the magnitude of that impact.

Methods:

The projects utilises a comparative effectiveness design, using case level claims and outcome data provided by 9 Australian workers’ compensation authorities. A standardised and unified dataset has been established as the basis for analyses. Important RTW policy settings have been identified via consultation with sector expert advisory group. Analyses to date has compared the duration of time away from work (proxy for RTW) between jurisdictions, and in specific cohorts (e.g., older workers, workers with mental health conditions, specific occupations).

Results:

Analyses has identified significant differences in RTW outcomes between jurisdictions, even after accounting for predictors of RTW including injury type, age, gender, occupation, industry and employer size. RTW outcomes vary substantially in specific cohorts of injured workers between jurisdictions.

Discussion and conclusions:

The ComPARE study has demonstrated that the jurisdiction in which a workers’ compensation claim is managed, is an independent predictor of time taken to RTW after injury. This suggests that policy
settings have a significant impact on RTW rates. Future studies will seek to identify the impact of specific policy settings (e.g., the degree of employer obligation to accommodate injured workers; step down rates in income replacement provisions) on RTW outcomes.
**Healthy workplaces are safer workplaces— a NSW Government update**

**Presented by:** Ismail Ibrahim, *SafeWork NSW*

**Abstract:**

In response to the growing prevalence of chronic disease in working age Australians and in recognition of workplace factors that contribute to poor health, the NSW Government launched a free workplace health service in July 2014.

Operated by SafeWork NSW in partnership with the NSW Office of Preventive Health, Get Healthy at Work helps businesses address modifiable risk factors for type 2 diabetes and heart disease through the provision of two services: support to develop a simple, yet effective best-practice workplace health program and confidential health checks for workers.

Over a year since its launch, more than 1200 businesses have made a commitment to improve workplace health, with some 10,000 workers completing health checks. As a result, more businesses are involving more workplaces across NSW to develop Workplace Health Programs addressing health issues specific to their needs.

In this 15 minute session, SafeWork NSW will introduce the Get Healthy at Work initiative and share key insights and highlights, as well as examine some of the challenges still to overcome in making health a focus for every NSW business.
Managing Musculoskeletal Disorders in NSW

Presented by: Angela Bateman, SafeWork NSW

Abstract:

Diseases of the musculoskeletal system are a major issue across Australia and in NSW, between the period of 2008/9 and 2010/11, over 124,000 manual handling claims for workers compensation were recorded. These accounted for 35% off all injury and disease claims in NSW.

The total cost of manual handling claims has continued to increase each year since 2006/7, with the total cost of manual handling claims at $405 Million in 2011/12. This amounted to a 14% increase from the previous year. In 2011/12 the average cost of claim for manual handling injuries reached a peak at $9,425, indicating that manual handling claims are becoming more costly over time.

A top level review of Hazardous Manual Tasks projects by SafeWork NSW over a decade, 2002 to 2012 was undertaken to establish the type and the outcome of the intervention. The review found that majority of the SafeWork NSW projects on hazardous manual tasks focused on compliance (33), assistance (13) and information (10) projects, there were a total of 56 projects in all.

The issue is that musculoskeletal claims such as sprains and strains continue to be a costly issue in NSW and the challenge for SafeWork NSW is to implement strategies that can have sustained change and improvement.

Key challenges that have been identified are:

- Poor understanding and application of the risk management of hazardous manual tasks by PCBUs is contributing to incidence and severity of musculoskeletal disorders in NSW workers.
- SafeWork NSW requires a greater understanding and knowledge of the factors that impact on the management of hazardous manual tasks.
- A plan is required that provides the strategic framework and evidence based direction for reducing the incidence and severity of MSDs in NSW workplaces including the type of intervention

This presentation will focus on SafeWork NSW’s proposed strategies to reduce the incidence of musculoskeletal disorders across NSW including an overview of strategies and interventions including:

- participatory based ergonomics programs
- partnership with industries and workplaces
- targeted intervention with poor performing workplaces
- educating workplaces on the critical elements to successfully manage hazardous manual tasks including:
  - applying a risk management approach
  - knowledge, understanding and identification of hazardous manual task risk factors
  - directly involving workers in consultation i.e. discomfort surveys, risk assessments and solutions
  - using higher level controls to manage risk i.e. elimination, substitution, isolation, and design
  - not relying on low level controls i.e. safe lifting technique training
Injury Proof Your Business - 6 Principles for an Effective Injury Prevention Program.

Presented by: Mr Rodney Hampel, Bodycare Workplace Solutions

Co-authors: Name: Miss Amelia Toohey, Bodycare Workplace Solutions; Mr Dean Mohr, Bodycare Workplace Solutions

Abstract:

Ask any employer with a manual workforce across any industry - injury costs are trending upwards. This is despite the plethora of WorkSafe health and safety initiatives, rehab providers and despite injury management becoming a focus to all parts of the business.

Faced with this, everyone assumes that injuries are inevitable. That injuries are simply a “cost of doing business”. That doing the best for employees equates to simply managing the claims. But what if instead of simply managing the claims, employers had a way to prevent them?

We call this injury proofing. Not only does this philosophy help to enhance employee engagement and workplace culture, but it has a significant impact on reducing an organisation’s injuries, their severity and their cost.

Each year our team manage over 50,000 employees, treat more than 75,000 injuries onsite and attend more than 300,000 appointments. That means through to our core we understand how occupational environments work and what is important to both employees and their managers. We get workplace injuries and, more importantly, we know how to prevent them. We are constantly analysing our onsite data to continuously adjust and refine our injury proofing model.

At the core of our belief system is that being proactive is the answer to injury prevention. We don’t accept the “break-fix” model of waiting for an employee to be injured before sending them off for treatment. It’s already too late then. We believe in analysing root causes, developing programs to lower risk profiles and acting fast to minimise harm, in conjunction with learning and system improvements. Our approach is collectively known as the Proactive Injury Prevention System. By implementing this system, we have found that organisations experience:

- Significant reductions in Work Cover claims, TRI’s, LTI’s and MTI’s.
- Reduction in time lost by preventing employees going offsite for treatment with external providers.
- A drop in premiums and administrative costs associated with claims
- A more engaged, motivated and productive workforce
- A streamlined, holistic approach to injury prevention, treatment and management

Through research, analysis and our extensive industry experience we have created 6 principles that when implemented correctly, lead to an effective injury prevention program.
Barriers and Facilitators to Adoption of Improved Safe Work Practices in Australian Primary Industries

Presented by: Associate Professor Richard Franklin, James Cook University

Co-authors: Miss Jemma C King, College of Public Health, Medical and Veterinary Sciences, James Cook University; Dr Kristin E McBain-Rigg, College of Public Health, Medical and Veterinary Sciences, James Cook University; Associate Professor Tony Lower, Australian Centre for Agricultural Health and Safety, Moree, New South Wales

Abstract:

Background:

Primary industries (PI) remain one of the most hazardous industries to work in despite nationwide legislated health and safety requirements. In 2010-11, Australia’s PI work-related fatality rates were nine times higher than the all industry average. There are a range of effective evidence-based prevention strategies available, however many of these remain unutilised within PI. Exploring why these health and safety practices are not being implemented has been identified as a key research area.

Aims:

The objective of this research was to explore barriers and facilitators to the uptake of work health and safety (WHS) in primary industries in Australia.

Methods:

A mixed methods approach was used. Literature review and focus groups - across six PI (n=87 participants) were conducted and thematically analysed to identify barriers and facilitators to WHS. A follow-up survey (n=50) was used to rank the identified issues.

Results:

The highest ranked barriers by importance at an industry level were: attitudes towards WHS; administrative burden, and cost to make changes. The highest ranked facilitators at the industry level were: safety practices which increase efficiency, leadership, and convenience.

Most respondents believed that attitudes towards WHS could be changed (97.9%) but they believed addressing turnover of staff was unlikely to be changed (44.7%). Safety practices which increase efficiency were ranked as the most likely way to make a difference to safety at an industry level but attitudes and leadership on WHS was deemed the most likely to make a difference to safety at the enterprise level. Respondents identified that changing attitudes and leadership was the responsibility of all (i.e. worker, employer, industry group, and government), with an emphasis on individual enterprises.

Discussion and Conclusion:

This is the first time in Australia barriers and facilitators have been explored and ranked for WHS across a range of PI. While the barriers and facilitators identified in this study are not novel or unexpected, as many have been previously identified in the wider literature individually, it is the consolidation and ranking of these which provides an avenue for future prevention work. This work
should not only focus attention on individuals, whilst undoubtedly required, a consideration of the wider contextual factors that are influential including the prioritisation of safety. Strengthening the ‘safety culture’ across all levels will require leadership, particularly from industry representative organisations. Communication, advocacy and appropriateness of message regarding safety practices will be essential to improve WHS in the PI.
Improving Staff Wellness Through Exercise

Presented by: Ms Donna Stonley, The Salvation Army Aged Care Plus

Co-authors: Mr Peter Bewert, The Salvation Army Aged Care Plus

Abstract:

Australia is experiencing an ageing population, this is particularly evident in the workplace and within care services there is a higher average mean. This coupled with increasing manual handling injuries from a workplace health and safety perspective prompted The Salvation Army Aged Care Plus to develop a dynamic program for workers to complete which has reduced the impact of manual handling injuries in the workplace.

This initiative was born about by Aged Care Plus wanting to reduce injuries related to manual handling. If we can prevent staff from becoming injured at work, or even reducing the severity of the injuries sustained then we will have improved the health and wellbeing of our staff and addressed our workers’ compensation concerns. Additionally, there are improved resident/client outcomes in terms of care provision, health and well-being. Staff feedback through the organisational satisfaction survey and health metrics survey revealed a high proportion of our workforce was ageing consistent with national demographic. A review of our workplace incidents and injuries resulting in workers compensation identified an increased incidence of muscular strain associated with care activities provided by staff for residents/clients. The data also identified a strong link with injury to depression.

The warm-up exercise program developed is an overall warm up but there is a lean or focus on the (lower) back and shoulder as they are the most commonly injured body parts for people working in health and aged care. Within the organisation 35% of injuries over the past 3 year period have been the result of muscular stress. Muscular stress injuries involve:

- Lifting, carrying and putting down of objects;
- The handling of objects, other than lifting or carrying;
- Muscular stress where no object is handled; and
- Repetitive movements.

Aged Care Plus engaged the expertise of a Physiotherapist and Exercise Physiologist. These health care professionals are comprehensively trained and specialise in the musculoskeletal system with knowledge of how injuries occur and how to treat, manage, rehabilitate and prevent them. The combination of having qualified and experienced health care professionals with an understanding of workers compensation injuries specific to organisational demographic was essential for success.

The exercise program is to be performed at the start each shift, or each work day.

The program has had a significant impact on improving the health and wellness of staff with the data indicating this and other wellness initiatives have resulted in a reduction of injury rate by 25%.
CHILD HEALTH AND SAFETY

Wheeled Device Safety for Children - ‘No Helmet, No Ride’ Primary School Competition

Presented by: Mr Jason Chambers, Kidsafe Victoria
Co-authors: Ms Melanie Courtney, Kidsafe Victoria

Abstract:

Context:

Research shows that wearing a correctly fitted helmet significantly reduces the risk of head injuries, which are a major cause of injury and death to riders of wheeled devices.

In Victoria, all bike riders, their passengers and scooter riders are required to wear a bike helmet. This applies when riding on roads, bike paths, bike lanes, shared and separated footpaths, recreational parks and car parks.

Despite the laws requiring helmets to be worn and the safety benefits of wearing correctly fitted helmet, evidence suggests that a large number of children who are admitted to hospital with a head injury due to a fall from a wheeled device, were not wearing a helmet at the time of their injury.

Kidsafe Victoria’s ‘No Helmet, No Ride’ primary school competition was based on the successful ‘No Helmet, No Brain’ competition implemented by Safekids Aotearoa. The competition was supported by the TAC Community Road Safety Grants program, as well as The Victorian Department of Education and Early Childhood Development, Bicycle Network Victoria, VicRoads and Rosebank.

Aim:

To increase awareness amongst primary school aged children of child injuries involving wheeled devices and the importance of helmet use.

Objectives:

To implement an educational campaign targeting primary school aged children which:

Raised awareness of the major causes of injury associated with wheeled devices and the major types of injuries sustained.

Raised awareness about the importance of helmets in preventing serious head injuries.

Engaged children in learning and discussions about wheeled device and road safety.

Encouraged children to use their creativity and promote wheeled device/helmet safety to their peers.

Key messages:

Victorian primary school children were invited to submit a radio ad, illustrated story or video around the theme ‘No Helmet, No Ride’.
Key messages about the major causes of injury associated with wheeled devices, the types of injuries sustained, the importance of helmets in reducing the risk of head injuries and how to tell if a helmet is fitted correctly, were delivered to students with the assistance of competition teachers packs. These packs provided teachers with the information and tools to incorporate wheeled device safety information into their existing curriculum.

Discussion/conclusion:

This paper will discuss all phases of the campaign including the development of resources, engagement with primary schools, evaluation results and the formation of an ongoing wheeled device safety campaign to Victorian primary school utilising the winning competition entries.
Safer Driveways - a design-led approach

Presented by: Miss Kathryn Martin, Auckland Council

Co-authors: Miss Natia Tucker, Auckland Council

Abstract:

Background:

While there is good statistical and evidence-based research available on driveway runovers in New Zealand in recent years, the number of driveway runovers in New Zealand has seen no decline. There is minimal research into the broader experience and lives of those involved in driveway runovers or those at-risk.

Auckland Council and Auckland Transport collaborated to engage in a 17 week intensive design-led project.

The project was interested in listening to the voices of families affected by driveway safety in the Counties Manukau area of Auckland, as this area was over represented in the statistics.

Aims:

This project Aims to gain an understanding of the experience and complex issues surrounding driveway safety, and the barriers to implementation of prevention strategy models into the community.

Methods:

We immersed ourselves in the lives and activities of adults and children using driveways. We explored their routines, challenges and the underlying complexities behind their thoughts, feelings and actions.

In-depth semi-structured interviews lasting 1-3 hours were conducted, as well as a number of collective, structured, ideas generation sessions.

Results:

Rich insights were extracted from the interviews, informing the development of a user experience map. From the research, concepts and ideas for safer driveways were developed for future consideration.

From the research phase and throughout analysis, some key shifts happened in our thinking which enabled us to think about driveway safety in a different light.

Discussions and conclusions:

It is hoped that this research will act as a catalyst for cohesion between existing groups working within this space, strengthening the collective knowledge and enabling engagement with the most at-risk members of the community in an effective manner. This presentation will describe the process, key insights and the learnings from the project.
The Safekids Aotearoa and Housing New Zealand Corporation Child Driveway Run-Over Campaign

Presented by: Mr Moses Alatini, Safekids Aotearoa

Abstract:

Context:

On average, a child is admitted to hospital every two weeks with serious injuries received from a vehicle driving over a child on a private driveway in New Zealand. A further five children are killed annually, in the same way. Children most at-risk live in areas of high deprivation are more likely to reside in high household occupancy dwellings. Child driveway run over injuries are disproportionately experienced by children of Maori and Pacific ethnicity.

New Zealand research has shown that around one-third of child driveway run over deaths and injuries have taken place on Housing New Zealand Corporation (HNZC) properties. The HNZC is a crown owned agent and is New Zealand’s largest landlord. HNZC owns or manages around 68,000 properties nationwide and provides residential services and houses to over 193,000 people. HNZC tenants tend to be from lower income households, and Maori and Pacific peoples are over-represented. A large proportion of HNZC households include children.

Objectives:

- Increased awareness of the burden of child driveway run over injuries and opportunities for effective intervention
- Key concepts that support effective intersectoral collaboration between Safekids and HNZC to reduce the risk of driveway run over injuries for vulnerable children and their families
- Outcomes and key learnings from this initiative, and future opportunities for effective child injury prevention action.

Key messages:

Intersectoral collaboration to support the implementation of a child injury prevention initiative, through increased awareness, behaviour change, environmental change, and advocacy.

Tagline:

Know where the kids are before getting in the car, there’s no going back. CHECK, SUPERVISE AND SEPARATE.

- Check for children before driving off
- Supervise children around vehicles – always
- Separate play areas from driveways

Discussion and conclusions:

This presentation will describe the key components of the partnership, including the national context for this work, shared values frameworks, evaluation findings and key outcomes. As a result of the collaboration, HNZC has commenced a multi-million dollar fencing and landscaping
programme by identifying and modifying properties with children under the age 5 years, and utilising Safekids tools and messaging to reduce the risk of child driveway run over injuries.

Other outcomes include changes in parental behaviour, changes to the physical environment of HNZC homes, and the development of design guidelines for vehicle access on high density housing sites.
Check Keys Check Kids - Reducing incidents of children accidentally aocked in hot cars

Presented by: Ms Elvira Lazar, RACV

Co-authors: Mrs Melinda Spiteri, RACV

Abstract:

Every day, authorities rescue children who have been locked in cars. During mild weather conditions the situation can be easily resolved. However, on a hot day the temperature inside a car can be 30-40 degrees hotter than outside, which can become extremely dangerous. Young children are more sensitive to heat and their body temperature can rise three to five times faster than older children. This puts them at greater risk of heatstroke and dehydration. RACV has previously provided information during the summer months about the extreme dangers of leaving children in a car on a hot day. Despite efforts warning parents of the dangers, RACV patrols continued to attend around 4 incidents per day. In developing the current campaign, RACV patrols were consulted to determine why these incidents remained constant. There was strong feedback indicating that children were rarely being left in vehicles intentionally. This highlighted the need for messages to be revised with a focus on accidental cases, as a lack of knowledge around the dangers of leaving children in cars did not seem to be contributing to the number of cases. Based on this, the Check Keys Check Kids campaign was developed, focussing on the premise that an accident can happen to anyone, and to provide parents with practical tips to avoid accidentally locking their keys in the car, particularly on hot days. A video, lanyard and social media messages were developed and promoted to media, RACV patrols, RACV service network, RACV shops, in the RACV electronic newsletter, child care centres, family day care and maternal and child health services throughout the summer months. Messages included practical tips to help parents avoid locking children in the car such as winding windows down in case the car automatically locks; never let children play with keys as they can accidentally lock the car; avoid distraction when loading the car; and having an easy way to hold on to keys to avoid an accidental lockout. The campaign received excellent feedback, and there were 25,000 lanyards distributed, over 1,700 web page views and over 1,300 YouTube views. There was also extensive engagement on social media with 9 posts reaching a total audience of over 80,000 with over 2,000 likes, shares and comments. The success and future directions of the campaign will be discussed with the Aim of promoting messages even further to help parents avoid accidentally locking their keys in the car.
**Hold My Hand Initiative**

Presented by: Mrs Luise Manning, *Butterfly Wings Child Parent Program*

**Abstract:**

Public education campaign to educate parents or caregivers of preschool children about the dangers and risks to children from Low Speed Vehicle Run Overs (LSVRO’s). LSRO’s are the third most frequent cause of injury or death in Qld involving children aged 1 yr - 4yrs. Children under 5 figure very highly in the statistic of LSVRO’s (1 child per week Australia-wide) according to Child Pedestrian Safety & Driveway Deaths and Low speed vehicle runovers. BITRE Report 2010.

**Objectives:**

- To Reduce the road safety risk of deaths and injuries of young children from LSVROs.
- To raise awareness of driveway injuries and create safer attitudes to driveways and car parks so that they are treated like a road.
- To provide simple tools and strategies to keep children safe and reduce the number of accidents, and fatalities.
- To raise awareness about the "safety door" and to act as a visual reminder to the child and parent to encourage hand holding in around traffic in order to keep children safe and keep them out of hospital.
- To promote “Safe Travel behaviour” in the car use of seatbelts and out of the car safe pedestrian behaviour to ensure occupants have a safe destination to doorstep journey, eg schools, home, library or park/playground.

The campaign involves providing 3 resources for parents or caregivers.

- “Hold my Hand” children’s book to reinforce the behaviour safety practices.
- A brochure containing information about LSVRO and safety messages/tips on how to prevent or reduce the risk
- A car window sticker stuck to rear car window to act as a visual reminder to parents and children importance of “active touch supervision” – hand holding in traffic areas.

The resources were issued to 20 child care centres and kindergartens in in 4300 region, over 1800 families with children under 5 years and were issued free of charge with proceeds from a Department Transport & Main Roads, Join The Drive Community Road Safety Grant. 2014. A copy of the book was also given to the centres to keep as an educational resource to teach children in future years. The book was delivered to 20 schools in the 4300 region for teachers to use as part of their on-going pedestrian safety education in class preschools/kindergarten year levels and brochures with the sticker were despatched to the families of the students (2000 families) via the NRMA Community Road safety Grants. This had the added advantage of a blanket approach that every child or family would have received some information on how to prevent LSVRO’s from occurring in their own home garage or driveway or as a pedestrian in a public thoroughfare eg school drop off, car park or on a public footpath/ shared road.

It was noted that the same information education campaigns that had worked with swimming eg Laurie Lawrence "Do the 5" song, media campaigns had encourage parents to enrol children in learn to swim classes and compulsory pool fencing had been able to markedly reduce the number
childhood drownings but that the same type of publicity had not occurred with driveway run over incidents. In fact a study by Dr Kerry Armstrong found that 7 out of 10 parents let their child play in the driveway. A conscientious effort to promote some education information was required that would directly encourage or inspire a parent to take evasive action to safety audit their home and not let complacency take place to inadvertently cause the loss of their child’s live.
SYMPOSIUM: KEEPING CONSUMERS SAFE IN A GLOBAL AND VIRTUAL MARKETPLACE

Keeping Consumers Safe in a Global and Virtual Marketplace

Presented by:

- Associate Professor Kirsten Vallmuur, Centre for Accident Research and Road Safety – Qld
- Dr Ruth Barker, Queensland Injury Surveillance Unit
- Mr Dave Strachan, Office of Fair Trading Queensland and/or ACCC representative
- Professor Luke Nottage, Sydney Law School, University of Sydney
- Ms Elaine Clayton, Black and White Engineering Solutions
- Ms Susan Teerds, Kidsafe

Abstract:

Context:

Consumer safety in Australia relies on a complex web of agencies working together using a coordinated strategic evidence-based approach to identify and respond to issues of concern in an ever changing consumer environment. An increasingly global and ‘virtual’ marketplace places the Australian consumer product safety system under significant pressure, with the number of new products in the Australian marketplace escalating annually. There is a growing industrialisation of, and importing from, nations such as India, Thailand and China, along with multiple suppliers involved in the production of consumer products and difficulty with enforcing quality checks at each stage of manufacturing.

The 2011 introduction of the Australian Consumer Law (ACL) provided a national framework and responsibility for consumer safety. The ACL emphasises consumer protection, increasing product safety requirements, and the mandatory reporting by manufacturers/suppliers of serious injuries, illnesses or deaths associated with products they have supplied. Five years on, it is important to reflect on the impact of these changes on consumer safety, including identification and responses to hazards, interagency coordination, and overall injury reduction. To ensure safe consumers in a global and virtual marketplace, continued efforts to strengthen the system of identification, coordination and response are needed.

Objectives:

This symposium will bring together experts from key agencies and groups involved in consumer safety, including researchers, clinicians, regulators, lawyers, industry, standards developers, and community advocates. These experts will reflect on the changes to the consumer safety system over the last five years identifying strengths and weaknesses of the current system to identify, coordinate and respond to hazards. Key priorities areas will be identified by each expert to facilitate a panel discussion on the future of consumer safety in Australia.

Key messages:

The consumer product safety system in Australia has undergone substantial changes over the last five years, and will continue to face significant challenges in the future. Lessons learnt from the last
five years provide a platform for strengthening the system moving forward. The need for evidence-based decision making and engagement with key stakeholders is critical.

Discussion/conclusions:

Consumer product safety responses traditionally use enforcement, ergonomics, and educational approaches. It will be argued that three additional E’s needed for consideration for an effective consumer product safety in the future are Environment (within which products are sourced and to which products will be used), Evidence (regarding injury risk rates, requiring better injury and exposure information) and Engagement (with experts across domains).
ABORIGINAL AND TORRES STRAIT ISLANDER COMMUNITIES

Fatal Burden of Injury in Australia and in the Aboriginal and Torres Strait Islander Population

Presented by: Ms Ilona Brockway, AIHW

Co-authors: Ms Jessica Zhang, AIHW; Ms Lynelle Moon, AIHW; Ms Karen Bishop, AIHW; Michelle Grouley, AIHW

Abstract:

Background:
As part of the Australian Burden of Disease Study (ABDS) 2011, the AIHW is updating burden of disease estimates for Australia and for the Aboriginal and Torres Strait Islander population. Estimates of fatal burden for 2010, which include injuries (as a disease group), have so far been published from the ABDS. Work is underway to produce detailed estimates for specific causes of both fatal and non-fatal burden as well as the burden attributable to selected risk factors.

Aims:
To estimate the contribution of injuries to the fatal burden of disease in Australia, with a specific focus on the Aboriginal and Torres Strait Islander population.

Methods:
The ABDS 2011 builds on methodological developments in recent global and country burden of disease studies, and tailors these to the Australian context.

Fatal burden is measured in terms of years of life lost (YLL) due to premature death. Fatal burden estimates for the Indigenous population are based on deaths which have been adjusted for under-identification in mortality data.

‘Injuries’ is one of the 17 disease groups included in the ABDS 2011.

Results:
Injuries was the leading cause of fatal burden in the Aboriginal and Torres Strait Islander population in 2010 (representing 22% of total YLL), and the third leading cause of fatal burden in the total Australian population (behind cardiovascular diseases and cancer).

Injuries was the leading cause of fatal burden among young Australian adults aged 15–24. Injuries were also the leading cause of fatal burden among Indigenous males and females aged 1–34.

The rate of fatal burden from injuries was almost 3 times as high in the Indigenous population compared to the non-Indigenous population. Injuries accounted for 14% of the total gap in fatal burden between Indigenous and non-Indigenous Australians.

Discussion:
In contrast to the pattern of fatal burden experienced in the non-Indigenous population, injuries ranked ahead of cardiovascular diseases and cancer among the Indigenous population, despite
having a lower number of deaths. The higher burden from injuries relative to the proportion of
deaths is primarily due to Indigenous people dying (on average) at younger ages from injuries than
from cardiovascular diseases or cancer and therefore having more years of life lost.

Conclusions:

Continued effort in reducing Indigenous deaths from injuries in children and young adults, through a
range of injury prevention strategies, is important in reducing Indigenous mortality (and its
associated burden) into the future.
Communities Driving Change: A formative Evaluation of a Multi-site Community Driver Licensing Program for Aboriginal People

Presented by: Ms Patricia Cullen, The George Institute for Global Health

Co-authors: Professor Rebecca Ivers, The George Institute for Global Health; Professor Kathleen Clapham, Australian Health Services Research Institute; Mr Jake Byrne, The George Institute for Global Health; Dr Kate Hunter, The George Institute for Global Health; Associate Professor Teresa Senserrick, Transport and Road Safety Research, UNSW; Dr Kris Rogers, The George Institute for Global Health; Dr Serigne Lo, The George Institute for Global Health

Abstract:

Background:

Significant barriers to meeting driver licensing requirements contribute to low rates of Aboriginal licensed drivers; with transport disadvantage implicated in health disparities and capacity to access essential services.

Aim:

This research Aimed to conduct a mixed-methods formative evaluation of ‘Driving Change’, a New South Wales (NSW) program involving partnerships with twelve communities to increase licensing rates through Aboriginal leadership and community capacity building.

Methods:

Triangulation of stakeholder interview (n=22) and routinely-collected program data (n=517: participant demographics, services delivered, licensing outcomes; April 2013 to January 2015) was performed. Purposive sampling identified informants from community organisations, program staff and government for semi-structured interviews; transcribed and thematically analysed.

Results:

Interviewees reported strong support for the program and emphasised a need for ongoing community consultation and Aboriginal leadership to strengthen implementation. Program participants were predominately within the target population. Variation in activity between sites was found, but anticipated as the program is intended to adjust to meet local needs rather than be prescriptive. Maintaining long-term community engagement emerged as a significant implementation challenge; consequently the program intensified support for local field workers to broker collaborative relationships with communities.

Discussion and Conclusion:

Driving Change is meeting community engagement priorities and reaching the target population. Community programs can benefit from formative evaluation to identify strengths and collaboratively address implementation challenges. There is increasing awareness that driver licensing is an important component of “closing the gap” on health, education and employment outcomes. Overall, this research demonstrates a pragmatic and culturally responsive approach, which highlights the value of involving community and government stakeholders to foster capacity building.
KEEPING YOUR MOB SAFE: A GUIDE TO MAKING ROADS SAFER IN YOUR COMMUNITY

Presented by: Dr Teresa Senserrick, University of New South Wales

Co-authors: Dr Emma Hawkes, Office of Road Safety, Main Roads Western Australia

Abstract:

The safe system demonstration project was conducted with the Bidyadanga community in Western Australia. Detailed information about the project can be found on the Austroads publications website in three reports on the development phase (literature review and methods), safe system audit phase (results and recommendations), and implementation phase (follow up on recommendations).

Objectives:

An important intended outcome of the project for all those involved in the project (research team, Bidyadanga team, WA Government team) was to develop a guide for other communities seeking to improve road safety in their area based on learning arising from the demonstration project. The objective of this presentation is to present the resulting guide “Keeping Your Mob Safe: A Guide to Making Roads Safer in Your Community” and report on its development.

Key messages:

Through collaborative efforts of researchers, community and government agencies, the demonstration project led to several road safety improvements for the Bidyadanga community that continue today. The guide provides advice to communities on how to establish a road safety project and examples from the Bidyadanga experience, as well as potential funding sources and useful contacts to provide support for the project collated from information gathered during the project and web-based searches.

Discussion and conclusions:

Many safe system demonstration projects focus on improvements to roads and roadsides. This work sought to address all aspects of the safe system – roads, vehicles, speeds, road users, policy and management – with positive outcomes for the Bidyadanga community. Based on this experience, the guide “Keeping Your Mob Safe: A Guide to Making Roads Safer in Your Community” provides information, examples and practical advice for other communities wishing to improve road safety in their region.
Driving Change: Buckle Up Safely - safe travel for kids in cars

Presented by: Dr Kate Hunter, The George Institute for Global Health & The Poche Centre for Indigenous Health

Co-authors: Associate Professor Lisa Keay, The George Institute for Global Health, The University of Sydney; Professor Kathleen Clapham, The Australian Health Services Research Institute, The University of Wollongong; Dr Julie Brown, Neuroscience Research Australia; Professor Lynne Bilston, Neuroscience Research Australia, The University of New South Wales; Mr Jake Byrne, The George Institute for Global Health, The University of Sydney; Professor Judy Simpson, School of Public Health, The University of Sydney; Professor Rebecca Ivers, The George Institute for Global Health, The University of Sydney

Abstract:

Background:

Aboriginal and Torres Strait Islander children are over-represented in road related deaths and serious injury. Research has shown children are less likely to be severely injured in a car crash if they are restrained in an age-appropriate car restraint and if the restraint is used correctly. We hypothesise that a multifaceted community based and community delivered program targeting child restraint use will increase the number of Aboriginal and Torres Strait Islander children being optimally restrained in target communities. This is the first large-scale evaluation of a state-wide child car restraint program targeting Aboriginal people reported in Australia.

Methods:

In 2015-2016 following extensive community engagement, a randomised staggered-start multifaceted education based trial will be conducted with 12 Aboriginal and Torres Strait Islander communities across NSW. A local Aboriginal person will be employed as a Driving Change: Buckle-Up Safely community worker to manage and deliver the program in each community. The program offered will be determined by each community, however it could include: parent and carer information sessions; preschool or child care based professional development workshops for teachers to build safe travel into their education program for the children; access to free restraint checks; and, access to subsidised restraints. A detailed process and impact evaluation of the program will be conducted. This study is overseen by a steering committee comprised of Aboriginal and non-Aboriginal representatives of key stakeholders who will advise on appropriate use of resources, and will facilitate dissemination of key findings.

Results:

Baseline data collection is to be conducted in 2015 before the program begins. This presentation will focus on the community engagement and leadership involved in developing and delivering this study. Importantly, this includes the engagement of local Aboriginal Elders in the program and the support of key Aboriginal Community Controlled Organisations in each community.

Discussion and conclusions:
This project will provide evidence about the effectiveness of community based programs among Aboriginal communities, including how they are delivered, to promote children travelling safely in cars.
Driver Licensing As a Social Determinant of Aboriginal and Torres Strait Islander Health

Presented by: Professor Rebecca Ivers, The George Institute for Global Health

Co-authors: Dr Kate Hunter, The George Institute for Global Health; Ms Yvonne Helps, Flinders University; Professor Kathleen Clapham, Australian Health Services Research Institute, University of Wollongong; Associate Professor Teresa Senserrick, Transport and Road Safety (TARS) Research; Mr Jake Byrne, The George Institute for Global Health; Dr John Daniels, University of Wollongong; Professor James Harrison, Flinders University

Abstract:

Objective:

Driver licensing is regarded as an important social determinant of health for Aboriginal and Torres Strait Islander people yet quantitative studies are rare. The current study describes the licensing rates, experiences and the factors associated with driver licensing for a sample of Aboriginal and Torres Strait Islander people attending Aboriginal Community Controlled Health Services (ACCHS).

Methods:

Face to face interviewer administered surveys were conducted with people 16 years or older who identified as Aboriginal and/or Torres Strait Islander in ACCHS in Redfern and Griffith in NSW, and Port Lincoln and Ceduna in South Australia over a two week period at each site between November 2012 and March 2013.

Results:

Across the four sites, 69-75% of the clients approached participated (n=625). Licensing rates varied from 51% in Redfern and 53% in Port Lincoln, to 66% in Ceduna and 77% in Griffith. Employment was strongly associated with holding a current driver licence, with 64% of employed people holding a licence compared to only 36% of those who were unemployed (p<0.05). Compared to not having a licence, having a driver licence was significantly associated with higher odds of full-time employment (OR 3.2, 95%CI 2.0-5.3) and educational attainment (OR 1.7, 95%CI 1.0-2.6 for trade or certificate; OR 3.1, 95%CI 1.2-8.1 for degree qualification).

Conclusions:

This study highlights varied driver licensing rates among Aboriginal people, suggesting different barriers to access may apply. There is a strong association between driver licensing, education and employment.

Implications:

Licensing inequality has far-reaching impacts on the broader health and well-being of Aboriginal people and their communities. This study reinforces the need for appropriate and accessible pathways to achieving and maintaining driver licensing among Aboriginal people.
An Analysis of Safety Promotion and Injury Prevention Resources for Sport Settings from Stakeholder Organisations in Australia

Presented by: Ms Sheree Bekker, Australian Centre for Research into Injury in Sport and its Prevention, Federation University Aus

Co-Authors: Dr Peta E White, Australian Centre for Research into Injury in Sport and its Prevention (ACRISP), Federation University Australia; Dr Robert Watson, Federation University Australia; Professor Caroline F Finch, Australian Centre for Research into Injury in Sport and its Prevention (ACRISP), Federation University Australia

Abstract:

Background:

Sport settings in Australia use a range of safety promotion and injury prevention resources from various stakeholder organisations, often found online. There has been limited evaluation of sport safety resources, and there exists a recognised gap in Australian and international approaches to policy development and dissemination for sport settings.

Aims:

To determine the type and scope of safety promotion and injury prevention resources available online from stakeholder organisations in Australia. Secondly, to establish the development processes and dissemination practices of these resources adopted by each organisation.

Methods:

This case study is a component of the NHMRC-funded National Guidance for Australian Football Partnerships and Safety (NoGAPS) study involving the Australian Football League; Victorian Health Promotion Foundation; New South Wales Sporting Injuries Committee; Jardine Lloyd Thompson Sport; Sport and Recreation Victoria; and Sports Medicine Australia - National and Victorian Branches. Document analysis was used to establish the type and scope of safety promotion and injury prevention resources available online for sport settings from the NoGAPS organisations. Semi-structured interviews were undertaken with self-nominated representatives of the NoGAPS organisations to determine the process for development and dissemination of these resources.

Results:

A catalogue of sport safety promotion and injury prevention resources (n=284) available online from the NoGAPS organisations was developed. The document analysis determined that the type of resources catalogued were: factsheets/flyers (n=116), research reports (n=46), manuals/guidelines (n=36), checklists/forms (n=30), policies (n=23), acts/rules/regulations (n=7), position statements (n=7), posters (n=6), codes (n=5), links to online resources (n=5), resource lists/order forms (n=3). The scope of these resources was categorised by themes: injury prevention, risk management/safety procedures, environmental issues, social behaviours and health promotion. Duplications of resources for specific safety issues, both within and across organisations, were found. During interviews, the NoGAPS organisations reported that they develop resources through a process of
identification (research, observation, consultation) and collaboration (partnership organisations, funding bodies, experts and researchers). Dissemination is achieved by placing resources online, and distributing them directly through sports organisations themselves.

Discussion and conclusions: Sport clubs have access to a variety of resources, from different organisations, covering a range of safety issues that are often overlapping. This is an inefficient and potentially ineffective manner in which to promote safety. Proactive development of a comprehensive safety policy, and targeted dissemination strategies using a social marketing approach to improve effectiveness of safety policies and practices is recommended.
Preventing Injury v. Improving Performance: We can have our cake and eat it to

Presented by: Dr. Scott Talpey, Australian Centre for Research into Injury in Sport and its Prevention

Abstract:

Context:

Injuries sustained while participating in sport have become a public health concern. Exercise training programs have been developed to combat the high injury rates associated with sport participation. Although, evidence supporting the preventative benefits of these programs is growing, their successful implementation into a real-world environment is an area that requires further exploration. In a community sport setting, coaches are the delivery agents of injury prevention exercise programs to the players. Therefore, coaches and players must value the importance of the program to optimise successful implementation. Whilst the injury prevention benefits of these exercise training programs are well documented, less is understood regarding their performance enhancing benefits. Marketing the performance enhancing benefits of injury prevention exercise programs may be an effective strategy for improving key stakeholder (coaches and players) buy in, leading to improved implementation and ultimately more effective sports injury prevention.

Objectives:

To provide evidence from peer review literature linking injury prevention to improved performance. Additionally, to review common exercise components of injury prevention programs and how they may improve aspects of performance such as jumping, sprinting and agility.

Key messages:

Understandably, a considerable amount of research has focused on the preventative effects of injury prevention exercise programs. However, minimal research has investigated the effectiveness of these programs for improving aspects of performance. Providing evidence that injury prevention exercise programs can elicit improvements in performance may help coaches and players commit valuable training time to implementing the programs, ultimately providing better protection for players from injuries.

Discussions and conclusions:

Injury prevention and performance enhancement are generally viewed by coaches and players as two separate outcomes resulting from different exercise training practices. Traditionally, coaches and players have prioritised training to improve performance over training to prevent injuries. However, exercise components within injury prevention programs often focus on improving balance, jumping/landing and sidestepping which may be beneficial for both prevention and performance. To help improve the implementation of injury prevention exercise programs in a real world context future research should concomitantly Aim to demonstrate the performance enhancing and injury preventative benefits of the exercise program.
Concussion Injury Causation in Community Australian Football

Presented by: Dr Lauren Fortington, Australian Centre for Research into Injury in Sport and its Prevention, Federation University Australia

Co-Authors: Professor Caroline Finch, Australian Centre for Research into Injury in Sport and its Prevention (ACRISP) Federation University Australia; Dr Dara Twomey, Federation University Australia

Abstract:

Background:

Head injuries in sport are a major cause of concern, with concussion of particular importance due to the potentially serious consequences of brain damage. The design of injury prevention strategies should be based on an understanding of the mechanisms (energy exchange) behind injury causation. Concussion research in the various football sports has largely focused on the use of helmets by players and on concussion management and return to play guidelines. There is very little understanding of the mechanism of concussion, particularly in community level football. The Aim of this study was to describe the mechanism and follow up care of concussion injuries sustained in adult community Australian football to identify target areas for prevention and management.

Methods:

This study was a secondary analysis of injury data collected in a cluster randomised controlled trial in community Australian football. There were 1564 players at 18 clubs. The main outcome measures were the number and rate of head/neck/face and concussion injuries sustained in training and games. A detailed description of the circumstances leading to concussion and the subsequent return-to-play status is presented.

Results:

There were 143 head/neck/face injuries sustained by 132 players, for a game injury incidence rate of 4.9 per 1000 game hours (n=138; 95% confidence interval 4.1; 5.7). Less than a quarter (n=34) of all head/neck/face injuries were concussion. All concussions occurred during games and all but one case was related to body contact with other players, within game rules (68%). Most (88%) players left the field immediately following concussion but 47% later returned to play in the same game.

Conclusions:

A relatively low incidence rate of concussion injuries is reported for community level Australian football. Prevention strategies for concussion should be based on knowledge of the mechanisms of injury and behaviours in relation to them; for community Australian football, primary prevention strategies that target body-contact/tackling skills would be of most value.

Due to the potential for serious outcomes, and in light of poor adherence with return to play guidelines, further efforts to educate players and clubs on concussion is supported.
The Development and Application of an Observational Audit Tool for Use in Australian Fitness Facilities

Presented by: Ms Shannon Gray, Monash Injury Research Institute

Co-Authors: Professor Caroline Finch, Australian Centre for Research into Injury in Sport and its Prevention (ACRISP) Federation University Australia

Abstract:

Background:
Fitness facilities should provide a safe environment for their users to engage in fitness activities, in order to ensure a minimal chance of injury. Observational audits, which are a valuable and important tool that can assess the health and safety of the physical environment, can assist to identify areas that are both satisfactory and require improvement.

Aims:
The Aim of this study was to assess a range of fitness facilities’ physical environment using a specifically designed observational audit tool.

Methods:
An observational audit tool (OAT) was developed following review of literature and International standards and guidelines for fitness facilities. Following pilot testing, 10 Victoria fitness facilities were visited by three auditors to test the inter-rater reliability of the tool. A further 22 facilities that ranged in company, size and type in both metropolitan and regional areas of Victoria were then audited.

Results:
A high degree of reliability between the three auditors was found (inter-rater reliability $\kappa=0.659$($p<0.005$), $95%$CI$(0.633,0.685)$; intra-class correlation ICC=$0.986$(F$(474,948)=67.226, p<0.005$), $95%$CI$(0.983,0.987)$). Only 31.3% of facilities had constant supervision of the activity areas. In 56.3% of facilities there was not appropriate storage for all loose equipment, especially in the free weights area where 65.6% of facilities had objects on the floor. No signage was present enforcing towel use, nor were there signs encouraging users to wipe down equipment, in 43.8% of facilities. Weight machines displayed torn padding 37.5% of the time, 40.6% in free weight areas and 25.0% in the stretching areas. Signs instructing users to replace free weights to appropriate storage areas were present in 84.4% of facilities. The minimum distance measured behind a treadmill was 44.0cm, with an average of 117.2cm, which were much less than recommended clearances given by major manufacturers. Commonly behind the treadmill (within 2 metres) were other equipment, designated walkways and walls.

Discussions and conclusions:
The results of the OAT demonstrate that risk management in fitness facilities needs to be held in high importance if injuries are to be kept to a minimum. Operators of fitness facilities are advised to regularly conduct risk assessments, especially given that less than a third supervised the activity areas at all times, as well as ensure that rules and etiquette are prominently displayed and followed.
Assuming adherence to standard practices such as regular risk assessments, this will ensure that injuries associated with poor risk management will be reduced, as will the likelihood of legal liability.
Use of a Syndromic Surveillance System to Describe the Trend in Cycling Related Presentations to Emergency Departments in Sydney

Presented by: Associate Professor Michael Dinh, Royal Prince Alfred Hospital

Co-Authors: Christopher Kastelein, Royal Prince Alfred Hospital; Professor Rebecca Ivers, The George Institute for Global Health; Dr Timothy Green, Royal Prince Alfred; Dr Kendall Bein, Royal Prince Alfred Hospital; Dr Tanya Bautovich, Royal Prince Alfred Hospital

Abstract:

Background:
The Public Health Real-time Emergency Department Surveillance System (PHREDSS) has been in use in NSW since 2003. It was originally designed to monitor ED presentations related to potentially communicable diseases in a timely manner.

Aims:
To describe population based trends in cycling related presentations to Emergency Departments over the past decade

Methods:
A retrospective cohort of road trauma patients (motor vehicle, motor cyclist, cyclist and pedestrian) presenting to Emergency Departments (ED) in the Sydney Greater Metropolitan Area was obtained using the Public Health Real time Emergency Department Surveillance System (PHREDSS). The outcomes of interest were the cycling related ED presentation rate per 1000 population, as well as the proportion of cycling related presentations that died in ED or were admitted to a critical care ward. Trends in ED presentation rates based on presentation counts and Sydney population data were plotted and described.

Results:
68,438 cycling related presentations were identified representing 30% of all road trauma patients presenting to EDs in Sydney. There was a 91% increase in cycling related presentations for the 35-64 year old age group and a 123% increase in cycling related presentations in the 65 year and over age group. All other age groups were associated with a stable or decrease in cycling related ED presentation rates. The proportion of presentations requiring critical care ward admission or death in ED has decreased by 20%.

Conclusion:
Using an ED syndromic surveillance system, cycling related ED presentation rates in Sydney Australia have increased in those aged 35 years and over the past 10 years with a relative decrease in the proportion of deaths in ED or those requiring critical care admission.
Recent Trends in Cyclist Fatalities in Australia

Presented by: Dr Soufiane Boufous, Transport and Road Safety (TARS)

Co-Authors: Associate Professor Jake Olivier, School of Mathematics and Statistics, UNSW

Abstract:

Background:

In Australia, where cycling has been gaining steady popularity, recent media reports indicate an increase in cyclist deaths in contrast to the observed decline in European countries, where cycling is a much more established mode of transport.

Aims:

The study examines trends in cyclist fatalities in Australia between 1991 and 2013 compared to fatalities among other road users. It also examines the age distribution of cyclist fatalities and trends in single and multiple vehicle crashes.

Methods:

Information on cycling fatalities recorded between 1991 and 2013 were extracted from data on all national road fatalities as reported by the police to all State and Territory road safety authorities. Trends were examined using Poisson regression modelling.

Results:

As with other road users, with the exception of motorcyclists, cycling fatalities decreased by 1.9% annually between 1991 and 2013. However, while cyclist deaths following multivehicle crashes decreased at a rate of 2.9% per annum (95% CI: -4.0, -2.9), cyclist deaths from single vehicle crashes increased by 5.8% per annum (95% CI: 4.1, 7.5). The difference between the two trends was statistically significant.
Systematic Review and Meta-analysis of Bicycle Helmet Efficacy to Mitigate Head, Face and Neck Injuries

Presented by: Associate Professor Jake Olivier, University of New South Wales

Co-Authors: Ms Prudence Creighton, University of New South Wales; Dr Tim Churches, UNSW South Western Sydney Clinical School

Abstract:

Background:

There have been two systematic reviews and three meta-analyses of studies assessing bicycle helmet efficacy. The methodology of these reviews has been criticised by some authors and publications in the last 15 years have not been reviewed systematically. The most recent meta-analysis reported decreased estimates of bicycle helmet efficacy over time, corrected for potential publication bias, and found the summary odds ratio diminished when studies reporting head, face and neck injuries were combined. However, this study did not use standard methodology to identify time trend or publication bias, the sole the author did not perform a systematic search to identify and assess all available published studies, and the heterogeneity among studies reporting different injury outcomes was not assessed.

Aims:

The objective of this study is to systematically review and summarise results from studies assessing bicycle helmet efficacy to mitigate head, face and neck injury.

Methods:

Four electronic databases were searched for relevant, peer-reviewed articles in English. Publications were included if they reported medically diagnosed head, face or neck injuries and helmet usage, and included cyclists with other injuries. Participants were cyclists of all ages and interventions were any type of helmet, excluding non-approved helmets where possible. Studies were assessed for quality but not excluded on this basis. Summary odds ratios were obtained using mixed effects models, stratified by potential heterogeneous factors (injury type: head, facial, neck; and severity).
Behaviour and Perception of Youth As a Road User

Presented by: Dr Pallavi Sarji Uthkarsh, Shree Siddharta Medical college

Abstract:

Introduction:

Road traffic injuries are the leading cause of death globally among young people. Human behaviour is a major risk factor in accounting for Road Traffic Injuries (RTIs) especially in developing countries.

Objective: To study behaviour and risk perception of youth as road users in Tumkur district and to know their experience and understanding of first aid.

Methods: A cross sectional study was undertaken among 2000 young people in the age group of 18-25 in Tumkur district,karnataka.

Results:

Nearly 54% of youth use foot path and 43% use zebra cross (wherever available) on most of the occasions; common reasons for not using pedestrian facilities was absence of foot path and zebra cross. Nearly 60% reported that they do not follow lane discipline and were unaware of speed limit within city/highway. More than half reported that they use mobile phone even while using the road as a pedestrian or as a rider. Hardly 1% of the youth were aware of concept of visible clothing. Only 20%of youth use helmet with the major reason being absence of helmet law and hair fall. More than 50%of students reported unsafe behaviour as a bus user. More than 40% perceived it as safe not to follow strict safety norms. Only 10% thought that RTIs can be prevented and their knowledge on first aid to RTI victims was poor.

Policy implications:

It's unfortunate that today's youth die and become disabled due to road traffic injuries. Youth, are vulnerable road users, their risk taking behaviour is high and is an important risk factor. However, this can be changed with a combination of educational, regulatory and environmental modifications. Larger policy and regulatory changes are required to address road safety in India for making young people safe.

Area for future research: Human factor is a important risk factor, more studies should be undertaken related to human behaviour and RTI.

Conclusion:

Youth as a road user does not follow majority of safety norms and they perceive its safe not to follow them. Their understanding of road crashes and its preventable nature is poor.
BURN PREVENTION AND TREATMENT

Primary Burns Prevention and First Aid Education - Does it work?

Presented by: Miss Bethany Farley, Julian Burton Burns Trust

Abstract:

Background:

Over 93% of burn injuries are considered unintentional, many caused through carelessness, inattentiveness or risk taking behaviour.

Aims:

In 2013 there were 2,442,498 students attending primary school in Australia. Schools and the National Australian Curriculum provide an existing infrastructure ideal for prevention and first aid education.

Methods:

Studies demonstrate that ‘a comprehensive, school wide social and character development program can have a substantial impact on reducing problem behaviours of public health importance in elementary-school-age youth’.

BurnSafe, a schools program run by the Julian Burton Burn Trust in South Australia, is designed to reduce the incidence and impact of burn injury through primary prevention initiatives. The programs focus on injury prevention through making safe choices, understanding the short and long-term consequences of a burn injury and identifying risk taking behaviour. Aims to equip primary school aged children with the knowledge and understanding the impact their choices and behaviour have. BurnSafe’s secondary focus on reducing the impact of the burn injury is through education of correct first aid methods with role-play and practice.

BurnSafe incorporates many methods of facilitation from trained BurnSafe Education Officers to education session material and educational resources for external facilitation. The programs and material have been designed to meet the National Australian Curriculum standards.

Results:

This presentation will provide evidence of the effectiveness of BurnSafe and of the different teaching methodologies. It will also demonstrate the flexibility of BurnSafe for delivery used nationally and internationally. We will present data to demonstrate BurnSafe’s effectiveness in reducing the incidence and impact of burn injuries in South Australia.

Discussion and conclusions:

BurnSafe can be delivered nationally and internationally through:

- educator-led primary schools program
- resources for teacher-led sessions using new technology
- educator-led education sessions via video conferencing tools available to schools
- collaborative education with government and non-government agencies
targeted educational resources outlining prevention for high risk demographics and general prevention and first aid

The suite of programs and materials offered by BurnSafe, developed in collaboration with hospitals and data from the Bi-NBR, is available for education nationally and internationally.
Learn to Stop Burns and Scalds in the Kitchen (0-5)

Presented by: Miss Erin Simmonds, Kids Health, The Children's Hospital at Westmead

Abstract:

Background:

Burns are the third highest cause of injury among children in Australia. From 2005 to 2013, 5,448 (72.7%) burns occurred among children 0-5 years in NSW. The majority of burns in this age group occurred in the kitchen (57.3%). In total, 608 (11.2%) children who suffered a burn were from the Blacktown LGA.

Over the past decade, the incidence of scalds has not changed.

Aims:

Improve knowledge and burns prevention behaviours in the kitchen among parents and carers of children 0-5 years

Improve knowledge of burn dangers among children 3-5 years

Methods:

Focus groups were conducted to inform the development of the project and resources. The feedback was used to develop an educational project “Learn to Stop Burns and Scalds in the Kitchen” to trial with Early Childhood Education and Care services (ECEC) in the Blacktown LGA.

The project involved randomisation of the centres into three groups in order to evaluate the interventions. The intervention for parents is a pictorially based take home exercise with and without supporting resources. In class activities to educate children aged 3-5 years about burn dangers is also being evaluated and whether this has an impact on the behaviours of parents at home.

The project is being evaluated through pre and post surveys among parents/carers, pre and post child hazard identification checklists and feedback from the ECEC’s.

Results:

Over 50% of focus group participants had children 0-5 years that have had 1-3 minor burns. Many parents/carers had poor knowledge of first aid and did not follow a range of recommended behaviours to prevent burns in the kitchen.

There are 18 centres involved in the project with a combined reach of 1,644 parents/carers. The pre surveys and child checklists were distributed in May, the take home exercises and resources will be distributed in August and the post surveys and child checklists will be distributed in November 2015. The in class activities will be conducted over a four month period before and after the dissemination of the take home exercises.

Discussion and Conclusions:

The results will be used to inform burns prevention projects in the future. There is potential for a large number of parents and carers of children 0-5 years to be accessed via ECEC’s. However, there
are large gaps in early childhood participation so there is potential to target parents in other settings such as Community Health Centres, playgroups and Aboriginal Medical Services.
From the Frying Pan into the Fire: Accuracy of online burn first aid information

Presented by: Ms Jacqueline Burgess, Centre for Children’s Burns & Trauma Research, Child Health Research Centre, University of Queens

Co-Authors: Dr Cate Cameron, Centre of National Research on Disability and Rehabilitation (CONROD); Professor Roy Kimble, Centre for Children’s Burns & Trauma Research; Dr Leila Cuttle, Centre for Children’s Burns & Trauma Research

Abstract:

Background: Burns are incredibly painful and can lead to life-long physical and psychological scarring. Treating burns also places a significant financial burden on the healthcare system. Reducing the incidence of burns and improving burn injury outcomes is necessary to address this public health issue.

Applying correct burn first aid provides pain relief, reduces burn depth, leads to shorter hospital stays and improves wound healing. Unfortunately, knowledge and use of correct burn first aid is low in the general public. Sourcing accurate first aid information can be difficult. The Internet is a popular source of health information, and while there is an abundance of information available online, the quality and accuracy of this information has raised concerns.

Aims: To evaluate the usability, accessibility and accuracy of burn first aid information on the Internet.

Methods: Websites were identified using the term ‘burn first aid’ in four popular search engines. Website appearing on the first page of each search engine were analysed by three independent assessors to establish the website’s usability, accessibility and content accuracy.

Results: Website searches returned 40 websites of which two were excluded and 24 were duplicate sites, leaving 15 websites to be analysed. The countries of origin were USA (7), Australia (6) and New Zealand (1). The textual information on nearly all of the sites was found to be written above a sixth-grade (Flesch-Kincaid) reading level. Ten sites were created by organisations whose authors have health credentials. Only seven sites cited bibliographic references. The websites’ adherence to recommended burn first aid guidelines and content accuracy will be presented at the conference.

Discussion and conclusion: Correct burn first aid information is difficult to find, based on the website searches we performed. These websites suggest various first aid treatments – some grossly inaccurate – and poor explanations are often given. It is not surprising there is low knowledge of correct burn first aid in the community if the Internet is a primary source of information. Credible health-related organisations must ensure that the information they provide on their website is quick to find (in a crisis situation), easy-to-understand and accurate. They must also ensure that their website ranks highly on popular search engines so that internet users searching for this information find accurate first aid information first.
WEDNESDAY 25 NOVEMBER 2015, 3.30PM – 5PM

THE CHID SAFETY GOOD PRACTICE GUIDE – AN INTERACTIVE SESSION

Presented by:

- Dr Susan Adams, Sydney Children’s Hospital Randwick
- Dr Jane Elkington, Jane Elkington & Associates
- Associate Professor Lisa Keay, The George Institute for Global Health

Abstract:

This session will showcase the European Child Safety Alliances resource ‘The Child Safety Good Practice Guide’ developed for European audiences and subsequently adapted for Canadian audiences – and enable delegates to help plan the upcoming Australian version. Morag MacKay (European Child Safety Alliance, the Netherlands), author of the European resource, will tell us how this excellent guide on good investments in child injury prevention and safety promotion was developed and how it has been used in Europe and Canada. A group of trauma clinicians and injury prevention researchers and practitioners are in the process of adapting the resource for Australian practitioners and policy makers in child safety. Bring your ideas on what would make this resource useful for you to use, and any examples of good investments in child safety promotion as possible case studies in this important document – or just come and learn about what great programs and initiatives other delegates are doing in child safety.

Best Practice Recommendations for Effective Community Engagement in Injury Prevention

Presented by: Mrs Megan De Piazz, Injury Control Council of Western Australia

Co-Authors: Mr Marc Zen, Injury Control Council of Western Australia; Ms Venessa Wells, Injury Control Council of Western Australia; Ms Rachel Meade, Injury Control Council of Western Australia; Ms Deborah Costello, Injury Control Council of Western Australia; Ms Tanya van Sittert, City of Melville

Abstract:

Context:

Community engagement, defined as a method of working collaboratively with a group or groups of people on a shared goal or common interest, is an essential element in the development of injury prevention and community safety programs, particularly at a local government level.

Community engagement provides a foundation to better understand the needs and ideas of community members, ensuring their priorities are reflected in decision-making and subsequently service provisions. However, community engagement is not without its challenges. Challenges include ensuring community members present at forums have an equal say, achieving consensus and capturing the diversity of injury issues communities face.

Objectives:

The City of Melville, Western Australia, in partnership with the Injury Control Council of Western Australia brought together community members, local community groups, health service providers and injury experts to establish a set of high priority injury and safety areas.

Key Messages:

Applying a public health approach to injury prevention and safety promotion, the “Priority Setting Workshop” applied both qualitative and local injury and safety surveillance data through a ranking process in order to reach a consensus on injury and safety areas the community wished to address.

The City of Melville identified six top injury and safety issues and initiated steps to identify partnership and solutions to address them. This event also contributed to forming part of their Pacific/Australian Safe Communities accreditation through the Australian Safe Communities Foundation.

Discussion and conclusions:

The Safe Communities Model, in which a priority setting workshop is one part, is an effective and sustainable approach to injury prevention and safety promotion from a local level. This approach generates local solutions for local concerns about injuries.

Key recommendations for future implementation of the Injury Prevention Priority Setting exercise have been drawn from four evaluation methods and will be discussed in this presentation. The
framework outlined by the Australian Safe Communities Foundation was shown to be an effective way of ensuring diversity of community members in attendance and robust prioritisation that recognises equally each person, to achieve consensus.
ACC’s Injury Prevention Strategy – from data to insight, and from research to reality

Presented by: Emma Powell, Accident Compensation Corporation (ACC)

Abstract:

Context:

Accident Compensation Corporation (ACC) provides comprehensive, no-fault personal injury cover for all New Zealand residents and visitors to New Zealand. Costs covered include treatment, rehabilitation costs and workers’ compensation. ACC is a data rich environment with numerous connections into the communities it serves – but at times this has felt overwhelming.

These challenges played out in ACC’s Injury Prevention (IP) activity. Injury prevention is a core function of the organisation but despite solid efforts, injury reduction has not been consistently achieved.

It was determined that a new direction was needed. So how did we do it and what did we learn in the process?

Objectives:

In December 2014 ACC introduced a new approach to injury prevention including better:

• collaboration with a range of stakeholders
• customer focus
• understanding impact and severity through different lenses.

This presentation will focus on the ‘softer skills’ we needed to embed and will build the case that without these, access to all the data and research in the world wouldn’t have helped us reach our targets.

Key messages:

A new vision, ambition, principles, and focus areas; were developed. But arguably it is the approach we took that has made the biggest impact. We’ll talk about other projects that have been successful by looking at not only ‘what’ is done but ‘how’ it is done.

The new approach to partnerships reconsidered relationships with key stakeholders to consider the problems (including failure to deliver programmes of sufficient scale and reach, and focus on “in-house thinking” rather than systemic approaches), and opportunities such as fostering stronger partnerships by using partners to co-design and deliver initiatives.

Examples of successful partnerships and what they have achieved will be detailed including:

• Older Adult Enabling Independence programme (partnership between ACC, Age Concern and the Ministry of Health) – in response to an ageing population
• Canterbury Rebuild Safety Charter - in response to the earthquakes
• Concussion guidelines – in response to growing concern about the impact of concussion in high impact sports.
Discussion and conclusions:

Though it’s essential we use data and research to determine what we need to respond to, ACC will make the case that it’s the softer skills like communication, partnering, customer insight and collaboration that leads to real success.
Strengthening Connections Between Research, Policy and Practice to Design, Implement and Evaluate Evidence Based Injury Prevention Strategies

Presented by: Ms Mel Denehy, CERIPH, Curtin University

Co-Authors: Dr Justine Leavy, CERIPH, Curtin University; Associate Professor Richard Franklin, James Cook University; Dr Roanna Lobo, CERIPH, Curtin University; Ms Rachel Meade, Injury Control Council of Western Australia; Ms Venessa Wells, Injury Control Council of Western Australia; Ms Lauren Nimmo, Royal Life Saving Society Western Australia; Dr Erica Davison, Department of Health, Western Australia; Ms Gemma Crawford, Curtin University

Abstract:
Traditionally, injury prevention interventions have been delivered by community based organisations which may not always have the time, resources, partnerships or research expertise to evaluate programs and disseminate findings widely to those at the community, policy or practice level. Increasingly, there is a need for multidirectional information exchange between researchers, practitioners and policy-makers to enhance the dissemination and integration of relevant evidence and to build workforce capacity, particularly around planning and evaluation. However, determining the best strategies for facilitating knowledge translation between research, practice and policy in health promotion and examples of where this has been effectively applied in the real world context are currently lacking.

Objectives:
This paper describes the process undertaken to establish and sustain partnerships and develop capacity between injury prevention community based practitioners, researchers and policy-makers in Western Australia. Exemplars of knowledge translation strategies and the barriers and facilitators for a strong partnerships approach are presented using drowning and an injury prevention and community safety network as case studies.

Key messages:
Evidence informed health promotion practice and policy is central to the prevention of injury. Equally, practice informed evidence is vital in setting research priorities and direction. However, the provision of information alone rarely results in desired changes in practice, policy or research. Using a research-practice-policy exchange provides credibility and relevance in determining not only what works and why, but for whom, how, and in what contexts in injury prevention.

Discussion:
New ways of working together takes time and resources to operationalise. Seeking assistance and sharing data requires trust and rapport. Defining and communicating the role and expectations of each partner are critical. Strategies including the use of a Knowledge Broker and staff co-location have demonstrated valuable merits. Outcomes have included: organisational shifts in emphasis in the development of evaluation and planning; gains in knowledge and skills; opportunities for publications and projects; and opportunities to build a body of evidence and experience in injury research. Long term investment is required to fully realise the benefits of these partnerships. Strong links between research, practice and policy develops and enables evidence informed insights into injury prevention decision making. The potential benefits include: added rigour and credibility to
evaluation efforts; wider dissemination of findings; improved evidence informed practice; relevant practice informed research; and stronger returns on investment for funders. In the long run, this results in robust injury prevention and better public health outcomes.
Working from the Inside Out: A case study of Mackay Safe Community

Presented by: Dr Dale Hanson, James Cook University

Co-Authors: Ms Colleen Gunning, Central Queensland University; Ms Judy Rose, Mackay Hospital and Health Service; Ms Kathryn McFarlane, James Cook University; Professor Richard Franklin, James Cook University

Abstract:

Background:

Mackay Whitsunday Safe Community (MWSC) was established in 2000 in response to high rates of injury observed in the region. MWSC assumed an ecological perspective. By involving the community in finding its own solutions, MWSC attempted to catalyse structural, social and political changes that empowered the community and ultimately, individuals within the community, to modify their environment and their behaviour to reduce the risk of injury.

Aims:

An important implication of the ecological model is that MWSC was embedded in a wider ecological system. Societal influences (e.g. social norms, government policy, external investment) may reinforce or constrain what can be achieved at a community level.

This paper seeks to review the ecology of MWSC and in particular assess whether the capacity building approach adopted by MWSC sufficient to achieve and sustain the desired outcomes?

Methods:

A snowballing method was used to identify all relationships maintained by members of MWSC with both internal and external partners. Members of the NSG were initially sampled. They were asked to nominate individuals with whom they interacted in their work with MWSC. Nominees did not necessarily need to be members of the MWSC, allowing external contacts within the sphere of influence of the MWSC, the External Support Network (ESN), to participate in the survey. The chain of contacts was followed up through two survey waves, after which recruitment of new contacts was terminated.

Results:

A community network consisting of 118 members and an external support network of 50 members was established. A social network analysis conducted in 2000 and 2004 indicated that the network doubled its cohesiveness thereby strengthening its ability to collaborate for mutual benefit.

Discussions and conclusions:

While MWSC was rich in social resources, human and financial resources were largely controlled by external agencies. The bridging and linking relationships that connected MWSC to its external support network were the social mechanism MWSC used to access the resources it required to run programs. These boundary-spanning relationships accessed an estimated 6.5 full time equivalents of human resources and $750,000 (USD) in 2004 that it used to deliver a suite of injury control and safety promotion activities associated with a 33% reduction in injury deaths over the period 2002 to 2010.
MWSC can only be understood in its ecological context. The productivity of MWSC was vulnerable to the changing policy priorities of external sponsoring agents and critically dependent on the advocacy skills of its leaders.
Ever Wondered How Government Departments Make Decisions About Injury Prevention Funding?

Presented by: Dr Erica Davison, Department of Health WA

Abstract:

Ever wondered how government departments make decisions about injury prevention funding? Erica Davison is the Principal Policy Advisor for injury prevention with the Department of Health Western Australia (DoHWA) and leads the development of strategic public health policy on community injury prevention. In 2012, Erica led a collaborative, sector-wide process to determine the DoHWA’s future injury prevention purchasing priorities 2014–2019, deciding where limited funding would be directed and which injury types would be prioritised.

The DoHWA injury prevention team contributes to whole-of-state efforts to reduce the injury burden and reduce the incidence of injury related hospitalisations and deaths in WA. A key strategy to achieve this is by procuring community health promotion programs which are managed by the NGO sector.

To ensure investment in future programs met contemporary injury prevention priorities and to prepare for an open tender for these programs, a large scale and sector-wide review of injury prevention priorities was initiated. An insight into the review process undertaken in WA as well as strategies to engage the NGO sector, other government agencies, epidemiology teams and clinical injury experts to achieve a framework for outcomes will be discussed.

The methodology utilised for the review involved a series of specific injury type priority setting workshops that included; seniors falls prevention, child safety, water safety, burns and scalds in adults, adult poisonings and Aboriginal injury prevention priorities; a literature review of each injury type and facilitated consultations were completed; and reviews presented for each injury type. A final state-wide Injury Prevention Summit was convened in 2012 as a consultative event for the injury prevention sector. The agencies engaged, the steps and strategies for achieving this Summit, as well as a detailed account of achievements and challenges will be presented.

The outcome of the critically appraised priority setting process has been the award of NGO service agreements for 2014—2019, and the successful NGOs and injury prevention priority areas will be shared.

This presentation will provide a behind the scenes look into the context and approaches to setting injury prevention purchasing priorities for WA and outline how the DoHWA consulted with the injury prevention sector.
RURAL AND REMOTE INJURY PREVENTION

Preventing Non-intentional Farm Injury Deaths in Australia (2001-2013)

Presented by: Associate Professor Tony Lower, Australian Centre for Agricultural Health & Safety (University of Sydney)

Co-Authors: Ms Noeline Monaghan, Australian Centre for Agricultural Health & Safety

Abstract:

Background:

Agriculture remains a high-risk industry in terms of preventable non-intentional injury deaths and has the unenviable reputation as the second worst performing sector in Australia. Options are available to further reduce the injury burden.

Aims:

To describe the nature of non-intentional farm injury fatalities in the period 2001-2013 and examine potential improvements that may accrue by using existing evidence-based preventive actions.

Method:

Non-intentional farm injury death data from the National Coroners Information System from 2001 to 2013 were used to define the agents and mechanisms of injury deaths. Fatal incidents were assessed against a suite of existing solutions known to prevent injury. Estimates on the proportion of deaths that could potentially be prevented by adoption of these approaches were calculated by expert review.

Results:

In the 13-year study period there were over 800 fatalities. The leading causal agents were tractors, quads and farm utes. There was a reduction in the annual number of fatal incidents over this period. A review of all cases identified that a significant proportion of deaths (~40%) could potentially be prevented through the adoption of several existing safety solutions. (Note: Data are being finalized and will be updated).

Discussion:

Non-intentional injuries are a major concern within the agriculture sector. Despite continued reductions in the total number of fatal injuries over the period, there remain several key agents (tractors, quads, utes), which repeatedly feature. While evidence-based preventive solutions exist to minimize many deaths, the uptake of these by farmers remains patchy. Furthermore, the same preventive approaches are also likely to significantly ameliorate the number of non-fatal injuries as well as reducing fatalities. Continued attention to improving the consistent use of known injury solutions is essential to further reduce fatalities the farming community.
Older Farmers and Fatal Incidents 2001 to 2013

Presented by: Ms Noeline Monaghan, Australian Centre for Agricultural Health and Safety, University of Sydney

Co-Authors: Associate Professor Tony Lower, Australian Centre for Agricultural Health and Safety, University of Sydney

Abstract:

Background:

In Australia, agriculture has the second highest rate of fatalities on an industry basis. In 2011, 23% of farmers were 65 years or over, compared 3% of people in other occupations.

Aims:

Numerous injury and fatal risk factors for older farmers have been identified. These include male gender, older age, poor health status, medication use, tractor and quad use, long working hours and stress.

The Aim of this study is to assess Australian fatal injury data from 2001 to 2013 to identify trends in unintentional older farmer fatalities and to examine potential for injury prevention in this vulnerable cohort.

Methods:

This study focuses on the deaths of older farmers (aged 50 or more) and the causal agents associated with these fatalities, in Australia for the period 2001-13. Farm fatality data included both work and non-work related activities.

National Coroners Information System data for farm-related cases involving older people were coded using the Farm Injury Optimal Dataset which provides standardised codes for demographics, roles in incident, work relatedness, agents of injury, injury mechanisms etc.

Results:

The 392 older farmer deaths between 2001 and 2013 represented 47% of all 820 closed on-farm unintentional injury deaths for this period. Numbers of older farmer fatalities trended downwards, possibly due to the falling numbers of people working in agriculture.

Quads and tractors, the most frequent causes of older farmer fatalities, were involved in 37% of older farmer deaths. Tractors were the causal agent in 94 fatal incidents and 50 involved quads. Tractor death data for older farmers revealed that although rollovers still occur, run-overs are more prevalent causing 52 fatalities.

Discussion and conclusions:

The persistent effect of tractors and quads is excessive, particularly when quads are recognised as less “fit-for-purpose” than other options e.g. farm utilities. Tractor safety access platforms are also expected to play a role in reducing rear wheel run-overs. While Roll Over Protection Systems became mandatory for new tractors in Australia in 1982, some older tractors that are still in use are
not fitted with these safety system. There is a clear need to remove these tractors from the existing fleet and/or retrofit with a ROPS.

Fatalities to older farmers will continue to be a major issue given the demographics of the industry. Substantive interventions based on the existing evidence are required to ameliorate these impacts.
‘Funky Farmworks’ Food: An innovative approach to addressing rural suicide

Presented by: Mrs Tessa Sturley, WAimakariri District Council

Abstract:

Background:

The rural sector is over-represented in New Zealand suicide statistics. Evidence points to the risk factors of depression and fatigue in young dairy workers being associated with poor diet and a lack of connectedness.

Funky Farmworker’s Food (FFF) is a pilot by WAimakariri District Council, Oxford Community Trust and Rural Canterbury PHO to support a healthy, happy workforce on farms, reducing the risk of suicide. Partners include Rural Support Trust, Rural Women, Dairy New Zealand, as well as local a cooking school, supermarket and High School.

The target demographic is dairy workers aged 17 – 21 years.

Aim:

“to educate, mentor and resource farmers so that their young workers are skilled and empowered to take better care of themselves.”

A range of stakeholders have pulled together their resources, knowledge and contacts to assist young farm workers to eat better and be linked into community support. The idea is that this will improve physical and emotional wellbeing.

Methods:

21 Farms in the Oxford area were invited to join the pilot, which includes a food programme, community information and mentoring.

Key aspects are:

• Fast, fun, filling, healthy food
• Relevant information
• Mentoring with local volunteers who know the sector, and relate well to young people

Supporting farms must encourage staff to join, provide simple cooking equipment and agree to share the community information packs with young workers.

While reducing the risk of suicide among young farmworkers, member farms can potentially have:

• a healthy, happy, more cohesive workforce
• greater staff retention / reduced recruitment costs
• reduced staff downtime
• a means for community support for young farm workers

Results:

We now have eight farms signed up and ten workers enjoying the benefits of the learning and support. Six local women have signed us as mentors, and a celebrity chef has run the first cooking workshop, involving workers in preparing and sharing a meal.
The pilot has attracted interest across the national dairying sector and has been widely covered in local, regional and national media. It has also attracted the attention of Lincoln University, the key national tertiary educator to the rural sector.

Conclusions:

It appears that there is wider appetite for a wellbeing project like Funky Farmworkers Food. This presentation will detail the challenges, successes and plans for its future direction.
Comparison of ATV Injuries Across Three Populations in Alberta, Canada

Presented by: Dr. Don Voaklander, School of Public Health

Abstract:

Background:

Alberta has the fewest regulations pertaining to all-terrain vehicle (ATV) use of all provinces in Canada. Prior to 2006 the province suffered about 11 ATV deaths per annum, but since 2006, the average number of deaths has increased by about 50% (17 deaths per annum). In Alberta, there is a large farm population that uses ATVs as well as a thriving ATV tourism industry that promotes the use of ATVs for experiencing wilderness adventure.

Aim:

The purpose of this study was to examine the ATV injury experience of three distinct population groups; farmers, rural living non-farmers and urban dwellers.

Methods:

A cohort of farmers and their families were identified by a registry linkage between the Alberta government ministries of Agriculture and Health. A total of 143,431 residents of farms were identified. Random selection (n=143,431 each) of persons who were rural (communities less than 10,000) but not farmers and urban dwellers provided two other study groups. Incidence rates were calculated for each group across three injury event measures; death, inpatient hospitalization or casualty department treatment. Cox regression was used to determine differences between injured and uninjured persons for each event type.

Results:

The rate of death via ATV was 1.8/100,000 person-years for farmers, 1.6 for rural non-farmers and 0.6 for urban residents. The incidence rate for ATV hospitalization was 54.7/100,000 person-years for farmers, 50.8 for rural non-farmers and 16.7 for urban residents. The incidence rate for ATV casualty department treatment was 335.5/100,000 person-years for farmers, 368.4 for rural non-farmers and 127 for urban residents. The majority of injuries were suffered by males (75%) and the mean age was 27 years. Injured females were less likely to be driving the ATV at the time of injury (55% vs. 74%). Cox regression analysis was consistent across all injury categories identifying older age, male gender, higher socio-economic status and farm/non-farm rural status as risk factors for ATV injury.

Discussion and Conclusion:

The main finding of this study is that rural non-farm and farm populations have equivalent risks of ATV injury when compared to an urban population. Tailored education programs may be useful in alerting individuals in these populations about ATV safety specific to the farm or when ATVs are used for rural recreation activities. Efforts to bring Alberta’s ATV regulations in line with other Canadian provinces are also warranted.
SYMPOSIUM: THE RELATIONSHIP BETWEEN FAMILY VIOLENCE AND INJURY: ARE WE DOING ENOUGH IN AUSTRALIA?

Maltreatment Prevention: but It’s hardly injury prevention... or is It?

Presented by: Dr Deborah Scott, Australian Institute of Family Studies (AIFS)

Co-Authors: Dr Daryl Higgins, Australian Institute of Family Studies (AIFS)

Abstract:

The fields of Public Health and Injury Prevention/Safety Promotion have sat neatly together for many years. Injury prevention has made great strides in reducing motor vehicle deaths, improving consumer safety, and any number of other causes – using a public health methodology. Important gains have been made in relation to intentional injury, for example, in relation to alcohol-related violence. Yet there is a certain reticence by the injury prevention community to consider family-related violence as their purview. It is not uncommon for injury prevention journals and public health journals to reject papers relating to family violence or child maltreatment – because they sit in psychology or social work... but not in injury prevention or public health.

This paper Aims to demonstrate the links between child maltreatment, public health and injury prevention.

State and territory child protection departments are under increasing pressure with 135,000 children (26.1/1000) involved with a child protection department in some manner between July 1 2012 and June 30 2013. Almost half of these were cases of substantiated harm that required intervention. Between June 2009 and 2013 the rate of children in out-of-home care increased from 6.7-7.8/1000 – these are children who could not remain safely in their own home.

In Australia, the most common forms of substantiated harm from child maltreatment are neglect and emotional abuse (and these co-occur in 27% of cases). Of the 40,402 children substantiated for harm last year, 20% were substantiated for physical harm, 38% for emotional harm and 28% for neglect and 13% for harm from sexual abuse. All of these forms have an injury component. Physical abuse is intentional injury, emotional maltreatment includes exposure to domestic violence (and has been demonstrated to have severe impacts on children), neglect includes supervisory neglect, and sexual abuse is a form of sexual assault.

Risk indicators for maltreatment have a lot of overlap with unintentional injury: socio-economic deprivation, substance and alcohol misuse, with parents who are young and, consequently have a lower level of education, and belonging to minority or indigenous populations.

The National Framework for Protecting Australia’s Children 2009-2020 puts child protection into a public health framework with a strong emphasis on universal systems at the preventive level, recognising that “Child Protection Is Everybody’s Business”. Injury prevention and safety promotion can and should play a clear and important role in preventing child maltreatment.
Hospital-treated Assault Injury to Women Due to Intimate Partner Violence

Presented by: Ms Angela Clapperton, Monash Injury Research Institute

Co-Authors: Ms Erin Cassell, Monash Injury Research Institute

Abstract:

Background:

Intimate Partner Violence (IPV) has profound effects on women’s health and wellbeing including immediate and repeated physical and sexual trauma and injury and psychological illnesses such as depression, anxiety and post-traumatic stress disorder (Sarkar et al., 2008, review).

Aims:

The Aim of this study is to investigate the frequency and pattern of physical injury among women presenting to hospital in Victoria for treatment of injuries caused by IPV-related assaults.

Methods:

Injury cases treated in Victorian hospitals are recorded on two separate datasets, both held by the Victorian Injury Surveillance Unit (VISU). The Victorian Admitted Episodes Dataset (VAED) records admissions to all public and private hospitals in Victoria; the Victorian Emergency Minimum Dataset (VEMD) records injury presentations to the Emergency Departments (EDs) of the 39 Victorian public hospitals that provide 24-hr ED services.

Cases were selected if the injured person was female, aged 15 years and older at the time of admission and was injured as a result of an assault by an intimate partner. ED presentations were selected based on coded variables and the narrative describing the circumstances of the event.

Results:

Over the five-year study period there were 3,794 female IPV assault injury cases - 1,660 hospital admissions and 2,134 ED presentations (non-admitted cases). Overall, most cases (80%) were in the age range 15-44 years. In at least 8% of cases the assault was perpetrated by a former partner. The most common mechanism of injury was bodily force (70%). The most commonly injured body region was the head/face/neck (48%), followed by the upper limbs (18%). Among hospital admissions, fracture was the commonest injury type (22%), followed by superficial injury (19%), open wound (13%) and intracranial injury (7%). At least 11% (n=174) of the 1,660 women admitted to hospital for IPV-related assault injury were pregnant.

Discussion and conclusions:

Over the five-year study period 3,794 women attended Victorian hospitals with IPV-related assault injuries. The hospital admission rate for women with IPV-related injury is slightly higher than for women who present to hospital for treatment of unintentional (accidental) injury (44% vs 39%). These figures are underestimates because of barriers to case identification in hospital EDs and weaknesses in Victorian hospital data collection systems.
The public health approach to the investigation of family violence homicide: the Victorian Systemic Review of Family Violence Deaths

Presented by: Lyndal Bugeja, Coroners Court of Victoria

Abstract:

In recognition of the burden of family violence homicides, the Victorian Systemic Review of Family Violence Deaths (VSRFVD) was established as Australia’s first family violence death review in 2009. The VSRFVD is led by the Victorian State Coroner and is supported by the Coroners Prevention Unit and a stakeholder Reference Group comprising representatives from government and non-government family violence practitioners and policy makers.

The VSRFVD applies principles of public health and policy making to develop evidence-based and feasible recommendations to reduce the incidence of family violence. To achieve this, the prevalence, nature and characteristics of homicides are identified and recorded in the Victorian Homicide Register, a state-wide surveillance system of all suspected homicides since the year 2000. Individual, relationship and systemic factors are identified via in-depth structured reviews of the material generated for the criminal and coronial investigation. A review of relevant policies and consultation with key stakeholders and experts reveals gaps in service provision, sub-optimal responses to established practices and missed opportunities. This review forms the basis of written advice to Coroners on potential areas of further reform.

During the period 2009-2014, approximately 100 suspected family violence homicides have occurred in Victoria. Just over half of the investigations completed by Coroners include recommendations and/or comments on areas for system improvements. These include: the identification and referral pathways to specialist family violence services by health services that engage with both victims and perpetrators of family violence; mechanisms for families and friends aware of family violence to anonymously report their concerns to an agency appropriately resourced and equipped to respond; and the introduction of improved policies requiring police to routinely access their law enforcement intelligence systems. This program of work demonstrates how public health principles traditionally applied in Australia to unintentional fatal injury can also contribute to the identification of prevention opportunities for interpersonal violence.
**An Empirical Insight into Injuries Arising from Family Violence in Separated Families**

Presented by: Rachel Carson, *Australian Institute of Family Studies (AIFS)*

**Abstract:**

Empirical research conducted by the Australian Institute of Family Studies (AIFS), including the Evaluation of the 2006 family law reforms and highlights the prevalence of family violence in separating families. More recent research undertaken by AIFS, including the Survey of Recently Separated Parents 2012, provides insight into the injuries experienced by parents as a result of family violence, together with the effects of experiencing family violence on their everyday life. This paper will discuss the research findings that relate to parents’ reports of experiencing any of six types of injury arising from physical hurt inflicted by their former partner, both before and during separation and since separation, together with their reports of effects of experiencing emotional abuse or physical hurt in each time-period upon their day-to-day activities.
A Public Health Response to Family Violence

Presented by: Prof Joan Ozanne-Smith, Monash University Department of Forensic Medicine

Abstract:

The unprecedented level of reported family violence in Australia clearly represents a major and complex societal problem. The underlying reasons for the current situation may be multiple. The social empowerment of women through education, social and sexual liberation have clearly changed social norms. It is impossible that this has occurred without a profound effect on the place in society of men. The re-defining of this power balance and displacement of men and boys from some life opportunities along with ongoing and new societal challenges of unemployment, financial insecurity, alcohol and drugs and the diminution of extended family size and accessibility are all potential contributors to the current problem.

A holistic approach is clearly required; one that emphasises proactive solutions and prevention to a greater extent than reactive responses through the criminal justice system and post-hoc social welfare.

At the global level, multiple United Nations agencies have played a role in the recognition and prevention of violence against women and children since the late 1980s. The World Health Assembly in 1996 adopted a resolution declaring violence a worldwide public health problem. The World Health Organization published the World report on violence and health in 2002 and in 2014 the World Health Assembly drew attention to strengthening the health system’s response through a global plan of action to address violence in particular against women and girls and children.

This presentation will discuss the role of public health in responding to family violence, highlighting the need to understand the risk, protective and causal factors, to critically review evidence for effective interventions, to use epidemiological data to describe and monitor the problem, and to rigorously evaluate interventions.
Evaluating the Outcome of Spine Surgery for Chronic Pain After a Road Accident

Presented by: Dr Pooria Sarrami Foroushani, University of New South Wales

Co-Authors: Mr Rafael Ekmejian, University of New South Wales; Associate Professor Naylor, University of New South Wales; Professor Ian Harris, University of New South Wales; Dr Joseph Descallar; Mr Robindro Chatterji

Abstract:

Background:

Chronic back pain is a common road traffic injury and surgery is among the treatments used for it. A previous study in workers’ compensation cohort suggested that surgery is not the optimal method for increasing return to work and reducing pain. Nevertheless, there is a need for further data on the outcome of patients who have chronic pain and undertake spine surgery after road traffic accidents.

Aims:

Spine surgery outcome (SSO) study Aimed to explore the outcomes of patients who have undergone spine surgery after a road accident in NSW.

Methods:

SSO was retrospective study obtaining information from three insurers in NSW. Files were included in this study if subjects were 18 years or older and had undergone spinal surgery after a road collision during 2005-2011. Those with acute fracture-dislocation were excluded. Collected data from claimants’ files included: surgery type, surgery location, work status before and after surgery, ongoing symptoms, revision surgery and medication use and financial data.

Results:

After screening files, 90 subjects were included in the study (53.3% female, mean age: 46 years). Half of the surgeries were undertaken on the lumbar spine (52%), the remaining on the cervical spine (48%). While the work status of subjects did not change in the majority of cases after surgery, it improved in 11.1% and deteriorated in 10% of subjects. In addition, in 67.8% of patients, there were reports of ongoing pain two years following the surgery. Similarly, 41.1% of subjects had ongoing radicular symptoms following the surgery. During 24 months following the initial surgery, 21.1% of patients undergone a revision surgery. Average health care costs that insurer paid for subjects one year before surgery was $2,948, while this figure one year after surgery increased to $5,952 (P=0.003).

Discussion and conclusions:

According to the data identified in this study a considerable proportion of subjects, who undergone spine surgery following a road accident, continued to suffer from ongoing pain and symptoms, which resulted to revision surgeries in one-fifth of cases. Data did not support the role of spine surgery in
improving work status of patients. These findings do not support spine surgery for chronic pain following a motor accident.
Factors Influencing Social and Health Outcomes After Land Transport Injury: Recruitment and participant characteristics, short term health and social status

Presented by: Dr Jagnoor Jagnoor, The John Walsh Centre for Rehabilitation Research and The George Institute for Global Health

Co-Authors: Professor Fiona Blyth, Concord Clinical School, University of Sydney; Professor Sarah Derrett; Injury Prevention Research Unit, University of Otago; Professor Rebecca Ivers, The George Institute for Global Health, University of Sydney; Professor Ian D Cameron, John Walsh Centre for Rehabilitation Research, University of Sydney

Abstract:

Background:

The Factors Influencing Social and Health Outcomes after Land Transport Injuries (FISH) Aims to identify predictors of recovery after mild to moderate land transport injuries. There has been a substantial work on prognostic factors associated with recovery from particular types of injuries like traumatic brain injury, spinal cord injury, musculoskeletal injuries, whiplash and like. Research on outcomes of the above listed injuries have established that socio-demographic, pre-injury health, psychological, social, crash related factors, health care systems and compensation system all play a pivotal role in recovery after injury.

Aims:

The Aim is to a) describe key characteristics of the cohort (compensable and non-compensable) injured in a land transport injury, with an emphasis on socio-demographics and general health before injury and soon (within 28 days of injury) afterwards b) explains the changes to the previously reported intended methods of the FISH study

Methods:

777 participants aged ≥17 years involved in a land transport crash and who had sustained a mild – moderate injury diagnosed by a medical practitioner or registered health practitioner were interviewed. A telephone-administered questionnaire obtained information on socio-economic, pre-injury health, and crash-related characteristics.

Results:

Over one-fourth (215; 27.3%) of the participants were born outside Australia, 67% were males, 79.5% were in paid employment at the time of injury. The data source/hospital was significantly associated with the distribution of mode of transport injuries and major differences were observed for urban hospitals with 35.9% (232/647) of the cohort being bicyclists whilst a high proportion of motorbike riding injuries (51.6%; 48/93) were reported from rural hospitals. At the first interview, most participants were experiencing worse health status (EQ5D a mean difference of -0.539; <0.0001); despite less than half reporting admission to hospital because of their injury. Return to work was reported by 65% whilst only 36% reported being able to return to their usual social activities. Analysis of outcome predictors related to post-injury function, disability and return-to-work soon after injury and 6 months later is now under way.
Discussion and Conclusion:

The interim analysis of the cohort reported a very high proportion of bi-cyclists injuries and there were challenges in recruitment through several of the proposed data sources like the police, ambulance and primary health practitioners. The results highlight the impact of mild to moderate injuries in both compensable and non-compensable cohort in first 4 weeks after injury.
**Stressful Compensation Process Associated with Anxiety After a Motor Vehicle Crash**

**Presented by:** Dr Nieke Elbers, *University of Sydney*

**Co-Authors:** Professor Arno Akkermans, VU University; Ms Keri Lockwood, *University of Sydney*; Professor Ashley Craig, *University of Sydney*; Professor Ian Cameron, *University of Sydney*

**Abstract:**

**Background:**
Research shows that being involved in a compensation process after a transport accident results in poorer recovery. At 6, 12 and 24 months after the injury, the people who claim compensation are more often depressed, anxious, in pain, and work disabled than those who do not claim compensation. This has important consequences for society, as poorer recovery is associated with prolonged work disability, increased health care utilization, and therefore higher societal costs. Injured people have indicated that their recovery is hampered because of the stressful claims process. Further research is required on why the compensation process is stressful.

**Aims:**

The aim of the current study is twofold. The first is to investigate whether the interaction with the insurance agency is associated with increased levels of anxiety in injured people involved in a compensation claim. The second is to explore qualitatively aspects of dissatisfaction with the compensation process.

**Methods:**

Participants (N = 417) were injured people involved in a compensation scheme after a motor vehicle crash (MVC) in New South Wales, Australia. Interviews were conducted by phone at 2, 12 and 24 months after the MVC. A suite of measures were used including compensation related measures, pain catastrophising and the anxiety/depressed mood subscale of the EuroQol. The association between predictors and anxiety/depressed mood as the dependent variable were analysed using forward logistic regression analyses. The comments about dissatisfaction with the insurance company were analysed qualitatively.

**Results:**

The strongest predictor of mood status found was pain-related catastrophising, followed by dissatisfaction with the insurance company. Dissatisfaction was attributed to (1) lack of communication and lack of information, (2) delayed or denied payments of compensation, (3) slow treatment approval and discussions about causality, (4) too much complicated paperwork, and (5) discussions about who was at-fault.

**Discussion and conclusion:**

Dissatisfaction with the compensation process was found to contribute to anxiety in the compensation process. A stressful interaction with the insurance company was associated with problems of communication, medical treatment approval, and claim settlement. This study additionally draws attention to some under recognised problems such as delayed payments of income replacements, which could cause financial insecurity. Pro-active claims management could
address some of the identified issues, which could improve health of injured people after a MVC. The strongest predictor for anxiety/depression, however, was pain catastrophising. People who score highly on catastrophising after the MVC may benefit from early psychological interventions Aiming at addressing negative cognitions.
**Student Workshop: The next wave of injury prevention research and practice**

Presented by:

- Sheree Bekker, *Federation University Australia*
- Rebecca Ivers, *The George Institute for Global Health*
- Caroline Finch, *Federation University Australia*
- Seye Abimbola, *University of Sydney*
- Bridie Scott-Parker, *University of the Sunshine Coast*
- Justin Scarr, *Royal Life Saving Society*
- Lauren Fortington, *Federation University Australia*

Abstract:

A 90 minute workshop focused on students; crafted around the changing landscape in the field of injury prevention research and practice.

This workshop will include career insights from early and mid-career researchers, as well as experts and practitioners in the field. A range of subjects will be discussed, including career pathways, publishing, research communication, and how to establish a ‘voice’ in your field. The student program is open to all undergraduate and postgraduate students, either full time or part time, undertaking studies relevant to injury prevention and safety/health promotion.
CHILD HEALTH AND SAFETY

Epidemiology and Management of Splenic Injury in Children and Young People in NSW

Presented by: Dr Susan Adams, Neuroscience Research Australia, Sydney Children's Hospital

Co-Authors: Dr Julie Brown, Neuroscience Research Australia

Abstract:

Context:

Injury is not only the leading cause of death in childhood but remains so up to the age of 40. Although most gains are to be made through prevention, once a person is injured, preventing mortality and reducing morbidity require focus on the quality of care from the pre-hospital setting, through a local or regional hospital and on to the trauma centre, whether it be Paediatric or Adult.

Most abdominal injury in children and young people in Australia is a result of blunt trauma and the most commonly injured organ is the spleen. It's well established that the management of splenic injury in children should be non-operative in the great majority of cases. The non-operative management (NOM) rate approaches 97% in paediatric trauma centres. The management of splenic injury in young adults has also moved towards a non-operative approach following its success in children.

Data from the US indicates that for children who experience splenic injury, the likelihood of operative management remains higher in rural than metropolitan areas and higher at non PTC’s than PTC’s. These relative rates are not known in NSW.

Objectives:

This presentation highlights what is known about the demography and aetiology of splenic injury. The benefits of NOM including reduced length of stay, infection risk, transfusion rate, operative morbidity and cost are presented. The health system resources required for successful NOM are discussed and the barriers to achieving higher rates of NOM in NSW are explored. A plan for studying the demography, aetiology and management of splenic injury across NSW using linked data is presented.

Key messages:

NOM of splenic injury in children and young people in NSW should be well over 95% regardless of hospital at which they present.

Discussion:

Further study is required to gather specific information about the rate of NOM of splenic injury in NSW, although it is likely to reflect the patterns reported in the international literature. The unique geography of trauma service delivery in NSW, the personnel and resource requirements and the lack of local uniform management guidelines may be factors in NOM rate being lower outside the major paediatric trauma centres. Thus addressing these issues is likely to increase NOM.
Conclusion:
By studying the pattern of splenic injury and its management across NSW using linked data, strategies for injury prevention, health professional education, and trauma service planning can be developed.
Prevention Interventions and Unintentional Injury Mortality Rates in Canadian Children

Presented by: Dr. Sarah Richmond, York University and Hospital for Sick Children

Co-Authors: Ms. Jennifer D'Cruz, McMaster University; Dr. Eleanor Pullenayegum, Hospital for Sick Children; Mr. Armend Lokku, University of Toronto; Dr. Alison Macpherson, York University; Dr. Andrew Howard, Hospital for Sick Children; Dr. Colin Macarthur, Hospital for Sick Children

Abstract:

Background and Aims:

Unintentional injuries are the leading cause of mortality and morbidity in Canadian children. The objective of this study was to examine unintentional injury mortality rates in children (0–19 years) in Canada from 1950–2009, and to examine the trends in mortality rates against national population-level injury prevention interventions.

Methods:

Injury mortality data from the Public Health Agency of Canada were age and sex adjusted to the 1950 Canadian population. National paediatric injury prevention campaigns and legislative changes were identified and correlated with injury specific mortality data.

Results:

From 1950–2009, the overall unintentional injury mortality rate decreased by 86%. Although males consistently had a higher mortality rate compared with females, the standardized male:female rate ratio decreased from 2.37:1 in 1950 to 1.97:1 in 2009. Substantial mortality declines (94%) were noted in children less than 1 year of age, predominantly between 1961–1988 when the Hazardous Product Act and Crib Regulations were implemented. For burns, there were significant changes in slope noted between 1972–1994 compared to pre-1971 (introduction of the Hazardous Product Act – Flammability Requirements), where the greatest decline was noted in children ages 1–4 years (est. =-0.03, 95%CI=-0.02, -0.04). For 15–19 year olds, there was a 408% increase in mortality rates between 1950–1971, followed by an 81% decline post-implementation of seat belt legislation in 1971.

Discussion and Conclusions:

During 1950–2009, there have been significant mortality declines across all age groups, except in 15–19 year olds from 1950–1971. Implementation of safety campaigns and legislative changes specifically related to child safety appear to have had an overall positive impact.
Identifying the Causality of Product-related Injuries in Emergency Department-based Injury Surveillance Data

Presented by: Ms Jesani Catchpoole, Centre for Accident Research & Road Safety Queensland (CARRSQ)

Co-Authors: Associate Professor Kirsten Vallmuur, Centre for Accident Research & Road Safety - Queensland (CARRS-Q); Mrs Sue Walker, School of Public Health, Queensland University of Technology

Abstract:

Background:
The implementation of the Australian Consumer Law in 2011 highlighted the need for better use of injury data to improve the effectiveness and responsiveness of product safety initiatives. One of the challenges in utilising injury data in the Product Safety system is that clinically coded data have a limited ability to inform the level of product involvement in an injury event. Text narrative data collected in emergency departments can potentially provide relevant product information.

Aim:
The study Aimed to identify and quantify the causality of product-related paediatric injuries in emergency department-based injury surveillance data.

Methods:
A secondary analysis of paediatric injury data was performed using data from Queensland Injury Surveillance Unit collected between 1 January 2008 and 31 December 2010. A total of 7,743 cases were randomly selected and manually reviewed to determine any product involvement in the injury event. A Product Involvement Factor (PIF) classification system was used to categorise these injury cases into eight product involvement categories: No product involved; Non-manufactured product, Proximity product, Defective product, Maladapted product, High intrinsic risk product, and Inadequate description.

Results:
Overall, 44% of all reviewed cases were associated with a variety of consumer products in which different types of involvements were identified. The most common involvement of a product in an injury was due to a proximity factor, with 25% of reviewed cases being categorised under this category. Only 6% were established as being directly due to the product (i.e defective or maladapted product). Furthermore, approximately 13% were identified as product-related injuries; however, the type of product involvement could not be established due to inadequate descriptions of how the injury occurred.

Discussion and conclusions:
Injury narrative data play a significant role in identifying the types of products involved in injury cases and are also pivotal in establishing product causality. The types of objects involved in injuries were able to be retrieved from the text narrative data in almost 80% of all injury cases evaluated in
the text narrative review. The results of this study confirmed that a PIF categorisation tool is useful to categorise product-related cases in injury data.
An International Collaboration- The Western Sydney Shaken Baby Prevention Project

Presented by:

- Ms Candace Douglass, The Children’s Hospital at Westmead
- Ms Sue Foley, The Children’s Hospital at Westmead

Co-Authors: Ms Jenni Rose, The Children’s Hospital at Westmead

Abstract:

Context:
The Western Sydney based Shaken Baby Prevention Project has engaged in collaborative and cross disciplinary development of a parent and professional education process over the past 12 years. The project's education, implementation and evaluation activities have been conducted by multi-disciplinary groups of students and professionals. We have worked in partnership with a range of organisations, health, and education facilities around the globe to promote safe care of babies.

These international partners have used various project products to evaluate the tools, develop culturally programs and a range of implementation processes. It has been endorsed as useable and acceptable in every evaluation undertaken in a range of countries around the world.

Objectives:
The project’s original strategy was the development of a parent education tool, and a brief video and supporting resources were produced. It was soon apparent (from research and trials), that professionals, organizations and community members also need access to education about crying babies, the impact of head and brain injuries on children, and the importance of improved multiple knowledge and skills in this area.

We have used a model of sharing the master of resources at no cost, with the request that a copy of any adapted/translated resources is provided to the project team for sharing. We have used our professional and personal connections to expand the reach of the project and have developed productive research and collaborative partnerships as a result.

Key messages:
Our mission is inspiration to action, to encourage this and other safe parenting education is universally available to all people in the world of babies and young children. We have a strong commitment to working in partnership with a range of agencies and consumers to ensure the project message is accessible.

The project has also evolved over time and this journey will be shared to help inspire and encourage others who may feel overwhelmed or daunted when the initial project phase has died down.

Discussion and conclusions:
This presentation will share some of the challenges and achievements in undertaking and promoting this health promotion project internationally. Issues such as ownership of resources, sourcing funding and managing an evolving project team over a long period of time will be explored.
An In-depth Case-control Study of Children Using Powered Off-road Vehicles: A progress report

Presented by: Dr Christopher Mulligan, Neuroscience Research Australia, University of New South Wales

Co-Authors: Dr Julie Brown, Neuroscience Research Australia; Dr Susan Adams, Sydney Children’s Hospital

Abstract:

Background:

The use of off-road vehicles is a significant cause of death and injury. There is a need to identify risk factors related to the vehicle, the riding environment and the type of riding being undertaken. As demonstrated in on-road studies, in-depth crash investigation allows collection of this level of detail.

Aim:

To establish vehicle, environmental and riding activity factors that increase risk of crashing among children using powered off-road vehicles.

Method:

We are conducting a prospective in-depth case-control study of crashes among children using powered off-road vehicles. Cases are children < 16 years who attend one of the major paediatric trauma centres in Sydney, following a crash on an off-road vehicle. Controls are children who have ridden off-road vehicles in the past 12 months, and will be matched by age and gender to cases. Cases are recruited through the hospitals. A broad recruitment strategy is being used to collect controls including social media and advertising through riding and training organisations. While case numbers will be limited by the number of children presenting to the hospitals, we expect a final sample of 50 to 70 children. Our Aim is to collect 2-3 controls per case, so our estimated sample size for controls is 210. For cases, data collection involves in depth interviews, inspection of the crash site, the vehicle and any protective equipment used. For controls, data collection is via an on-line survey. Data relevant to riding history, training, and practices, including purpose and riding locations will be collected from both samples. As will data relevant to rider anthropology, vehicle type and use of protective equipment. Conditional logistic regression modelling will be used to conduct the case-control analysis.

Results:

To date, 20 cases have been recruited, and control recruitment has just begun. Of the first 12 cases with complete data, all have been males. aged between 4 and 15 years. Almost all (11/12) wore helmets at the time of the crash. Four children were taking part in organised riding activities, and the remainder were engaged in recreational activities. Five of these occurred on private properties, one occurred on a public road and two on bush trails. Injury severity ranged from AIS 1 to AIS 5. Most crashes involved loss of control or impacting fences. One child crashed while attempting a jump.

Discussion and Conclusion:
This study will provide important information about vehicle and environmental risk factors for off road crashes.
Establishing an Injury Indicator for Severe Pediatric Injury

Presented by: Dr Ian Pike, University of British Columbia

Co-Authors: Dr. Alison Macpherson, York University; Dr Natalie Yanchar, Dalhousie University and IWK Health Centre; Dr Hala Tamin, York University

Position: Associate Professor, School of Kinesiology and Health Science

Abstract:

Background:

Reference to injury indicators is one way to prompt action to reduce the burden of injury. However, routinely gathered data, such as hospitalizations, may be subject to variation from sources other than injury incidence. A need for an indicator to define severe injury, which may be less vulnerable to fluctuations due to changes in care and care policies, has been identified.

Aim:

The Aim of this study was to identify ICD-10 codes associated with severe pediatric injuries, and to specify and validate a severe pediatric injury indicator.

Methods:

The indicator was developed in four stages. First, two data sets that included the Injury Severity Score and the Survival Risk Ratio, respectively, were used to produce a preliminary list of diagnoses to define severe pediatric injury. In the second phase, in order to establish face validity of the list of diagnostic codes, it was sent to trauma surgeons who classified each code as severe enough to require care in a trauma centre, or not severe enough to require care in a trauma centre. In phase 3, the indicator was then fully specified. The final phase involved using a different data set to validate the codes in a real-world situation.

Results: Sixty diagnoses were identified as representing severe pediatric injury, and form the basis for this indicator. Following specification, the indicator was applied to an existing comprehensive data set of pediatric injuries. The decline in hospitalization of pediatric injuries was significantly steeper for severe than non-severe injuries, suggesting that factors related to the decline in this trauma subset are unlikely to be related to changes in access or other components of trauma care delivery.

Conclusions:

The results of this study can be used to operationalize a definition of severe pediatric injury. An indicator based on this methodology can be used for the evaluation of trends in severe pediatric trauma and will help identify special populations at risk. This research will inform policies and procedures for appropriate and timely referrals of severe childhood injury to appropriate levels of care.
Key message:

There are limitations to using one method alone to measure injury severity in the pediatric population.

Key message:

An indicator of severe pediatric injury, based on a robust methodology can be used to analyze changes in severe pediatric injury over time and to assess the performance of pediatric trauma systems.
Child Injury Profiles: Utilising data to influence decision making and engage a collective approach

Presented by: Ms Amanda Kelly, Auckland Council

Co-Authors: Ms Kathryn Martin, Auckland Council

Abstract:

Background:

Presenting data in an innovative and visual way is a successful method to engage key decision makers and broker partnerships. In response to the request for a more detailed break-down of injury data from the injury prevention sector and politicians, Auckland Council worked in partnership with Safekids Aotearoa, to develop child injury profiles for the Auckland region.

Aims:

The Aim of this project is to provide evidence based infographs, designed for quick and easy understanding of current local trends that support child injury prevention across the Auckland region. This data encourages a collective approach between the sector and local government to reduce child injuries. This project strongly aligns with priority one of Auckland Council’s 30 year plan, The Auckland Plan - putting children and young people first - as well as the target to decrease child hospitalisations due to injury, by 20% by 2025.

Method:

The child injury hospital admissions data from 2008 – 2012 was provided by Otago University’s Injury Prevention Research Unit (IPRU) and Auckland Council’s Research, Investigations and Monitoring Unit (RIMU). The data was analysed and 21 profiles were graphically designed to represent each local board area. The profiles were shared with Auckland councillors, Local Boards, the wider community and through local media and encouraged a collective response.

Results:

The breakdown of child injury data to local board area was a national first and the profiles are visually designed to make for easier interpretation and a more targeted approach. A multi sector shared action plan, Auckland Children Living Injury Free, is currently being developed in consultation with the wider sector and Aims for a more joined up approach to child injury prevention.

Discussion and Conclusion:

The data provided a strong benchmark to work collectively with the injury prevention sector and key decision makers to reach the Auckland Plan’s target and reduce injuries for one of our most vulnerable populations.
**Barriers and Enablers to Enacting Injury Prevention Legislation in Canada**

**Presented by:** Dr. Linda Rothman, York University

**Co-Authors:** Dr. Alison Macpherson, *Faculty of Health-School of Kinesiology & Health Science, York University, Toronto, Canada*; Dr. Linda Rothman, *Faculty of Health-School of Kinesiology & Health Science, York University, Toronto, Canada*; Ms. Pamela Fuselli, *Parachute*; Ms. Kathy Belton, *Injury Prevention Centre, School of Public Health, University of Alberta*; Dr. Ian Pike, *BC Injury Research and Prevention Unit*

**Abstract:**

**Background:**

Policy supporting injury prevention is crucial for the health and well-being of Canada’s children. However, injury prevention legislation has not been adopted uniformly across the country. Very little is known regarding why decisions have been made with respect to enacting or not enacting laws. The purpose of this study was to determine the key barriers and enablers to enacting injury prevention legislation in Canada.

**Methods:**

An online survey was conducted from January-April, 2015. Purposive snowballing sampling was used to identify individuals involved in injury prevention research, practice and policy throughout Canada. Respondents were asked to identify the provincial level injury topics they have been involved with, and whether there was legislation in their province related to the topic. They were then asked to rate the importance of various factors considered enables or barriers to injury legislation using a 5 point Likert scale.

**Results:**

There were 57 respondents with representation from all 10 provinces with the majority from Saskatchewan (16, 28%), Alberta (11, 19%) and Ontario (10, 18%). The top six injury topics identified were: bicycle helmets (45, 79%, 67% with policy/legislation in their province), cell phone-distracted driving (38, 67%, 92% with policy/legislation), booster seats (28, 49%, 75% with policy/legislation), concussions (24, 42%, 25% with policy/legislation), ski helmets (23, 40%, 35% with policy/legislation), and graduated driver’s licensing (22, 39%, 95% with policy/legislation). The top barriers to legislation were insufficient managerial/political support, competing policy priorities and lack of community/political pressure or influential policy champion. Competing policy priorities and insufficient managerial/political support were particularly relevant barriers to bicycle and ski helmet legislation. The top enablers of legislation generally were research/surveillance, managerial/political support, professional groups to consult with and media attention. Research and media attention were especially important to concussion legislation. Legislation already existing in other provinces and media attention were enablers especially relevant to cellphone legislation.

**Discussion/Conclusion:**

There are common barriers and enablers to enacting injury legislation among injury topics but there are also those that are especially relevant to specific topics. Generally, strategies to implement evidence-based policies should include collaboration between research, management and the
community. Media coverage and a visible champion are also influential in enacting legislation. Findings can help inform the process of turning injury prevention evidence into policy action.
RELAXED: An evidence based de-escalation guideline for out of hospital care

Presented by:

- Ms Nadia Nissen, University of Tasmania
- Ms Stacey Hutchinson, University of Tasmania

Abstract:

Background:

Out of hospital care environment is the situation and location where emergency medical treatment is given to patients before they are transported to hospital. Paramedics encounter agitated or aggressive patients that require treatment and transport. De-escalation techniques aim to diffuse a situation and prevent harm allowing patients to receive the treatment they require without the use of physical or chemical restraints to minimise danger for both the patient and clinician.

Aim:

To develop a suitable evidence based memory aid guideline for clinicians to assist with de-escalation.

Methods:

Academic journals, text books and grey literature were search to find suitable evidence relating to de-escalation techniques. This evidence was evaluated by authors and repurposed for the out of hospital environment.

Results:

Evidence was collated and a guideline has been developed to assist clinicians in de-escalating situations. The mnemonic RELAXED was utilised to aid clinician memory representing key trigger words: Recognise; Engage; Listen; Ask; eXit; Evaluate; and Document/Debrief.

Discussion and conclusions:

The de-escalation guideline developed involves recognising the situation and risk factors, engaging with the patient being mindful of non-verbal communication, actively listening, asking patient permission, being exit aware, constantly evaluating the situation and afterwards debriefing and completing documentation. Concisely, the RELAXED mnemonic is vigorously researched clinical evidence based guideline and will assist paramedics to be prepared for de-escalating situations.
**Safety Promotion Networks: Magic, Alchemy and the Goose that Laid the Golden Egg**

**Presented by:** Dr Dale Hanson, *James Cook University*

**Abstract:**

**Context:**

Aesop’s fable, “The goose that laid the golden egg” illustrates humankind’s need to get something for nothing. Today, in a time of economic rationalism and reduced government investment in communities, there has been a resurgence of interest in community networks. Politicians, researchers, safety promotion practitioners and communities are mesmerised by the “magical” power of community networks - “The goose the laid the golden egg.”

**Objectives:**

Is community safety promotion magic? Call a meeting of interested community members, wave your magic wand, shout “abracadabra” and every one gets on, agrees on what needs to be done and resources can be conjured out of thin air.

**Key Messages:**

Research shows that this social magic or “partnership synergy” is a carefully constructed social space created by facilitator leaders whose special skill is their ability to unite people around a cause. This process may seem magic to group members who come along meetings and don’t contribute to the background work necessary to engage group members and maintain their cooperation. While this process may seem magic, it is not alchemy. You cannot turn lead into to gold. If you want group members to develop a common perspective and share their expertise, time and money, you must invest the time necessary to develop and maintain a productive relationship with them.

**Discussion and Conclusions:**

Thinking the goose must be made of gold, the farmer in Aesop’s fable killed the goose hoping to get all its gold immediately. Effective safety promotion networks are not a quick source of free gold. It takes skill, time and patience to create this precious social resource. Like the golden goose, they must be looked after so they can keep producing. If you try to access their gold too easily or too early you may find that, like Aesop’s farmer, you have “killed the golden goose”.

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Comparative Effectiveness of Local and External Public Trauma Rehabilitation Services

Presented by: Dr. Jane Wu, St. Vincent’s Hospital

Co-Authors: Associate Professor Steven Faux, St. Vincent’s Hospital; Professor Ian Harris, Liverpool Hospital; Associate Professor Chris Poulos, University of New South Wales

Abstract:

Background:

Patient flow is a major problem in hospitals. The pattern and outcomes of transferring trauma patients from acute trauma care to inpatient rehabilitation have not been well studied.

Aims:

To examine the outcomes of patients transferred from a designated trauma centre to its local rehabilitation service (Group A) compared with outcomes of patients transferred from the designated trauma centre to an external rehabilitation service (Group B). This is done to identify any delays and opportunities for improvement.

Methods:

Retrospective cohort study using linked registry data. This study included all patients admitted after a motor vehicle collision (MVC) to any of the 7 major and 4 regional services in New South Wales, Australia over the period of 2009-2012, who were treated with inpatient rehabilitation. Those requiring specialised brain injury or spinal injury rehabilitation were excluded. Those referred to private rehabilitation units were also excluded. The main outcome measures were acute length of stay (ALOS), inpatient rehabilitation length of stay, and functional outcomes as measured by the Functional Independence Measure (FIM).

Results:

Two hundred and forty nine patients from 11 trauma centres were included. Mean age was 57 and 158 (64%) were male. The majority (59%) of the patients were provided with inpatient rehabilitation by the local rehabilitation service (Group A). The rest were transferred to an external public rehabilitation service, usually based on the patient’s residential postcode (Group B).

There was no significant difference between the age of the patients, injury severity or ALOS between the two groups. Admission and discharge FIM scores were also similar between the two groups. There was significant difference in the LOS in rehabilitation (30 days for Group A compared to 40 days in Group B, p=0.02). Using LOS to calculate cost, this increases the inpatient cost of each external referral to rehabilitation by $8220 AUD compared to rehabilitation provided by the trauma hospital’s own rehabilitation service.

Conclusion:
Transferring patients to an external rehabilitation service from a designated trauma centre is less efficient than providing the same care by local rehabilitation service. There are opportunities to improve the efficiency of trauma management and rehabilitation care.
Record Linkage is Feasible with Non-identifiable Trauma and Rehabilitation Datasets

Presented by: Dr. Jane Wu, St. Vincent's Hospital

Co-Authors: Associate Professor Steven Faux, St. Vincent's Hospital; Professor Ian Harris, Liverpool Hospital; Associate Professor Chris Poulos, University of New South Wales

Abstract:

Objectives:

To (1) describe probabilistic linkage (PL) for road trauma and rehabilitation records in New South Wales (NSW) Australia and (2) determine the accuracy of linkage for these records. Reasons for incomplete linkages will be explored. The benefits of the linked study database will be described.

Methods:

Data was extracted from the NSW Trauma Registry for all road trauma admissions for the year 2009-2012 and from Australasian Rehabilitation Outcomes Centre for January 2009 to June 2013. PL was performed using (1) age, (2) sex, (3) residential postcode and (4) date of acute discharge = date of admission to rehabilitation.

Results:

Out of 3256 road trauma records, 683 were matched to rehabilitation records. Using the field of “discharge destination” from the trauma records, 265 patients with unmatched records were discharged to inpatient rehabilitation (missed matches). This gives an overall 72% linkage rate (or sensitivity) using PL. False-matches are cases that link but are not true matches. They were determined by manual review and 16 cases were found, giving a specificity of 99%.

Conclusion:

This study has shown that it is feasible to use PL to link road trauma and rehabilitation datasets in the absence of identifiers.

Implication: PL may be applied in other registries to help monitor road trauma outcomes. This is a cost effective way to capture the rehabilitation outcomes of multi-trauma patients.
Impact on Psychosocial Factors After Receiving Self-management Skills

Presented by: Miss Nurrul Hafeezah Sahak, University Putra Malaysia

Co-Authors: Associate Professor Kulanthayan K.C Mani, University Putra Malaysia

Abstract:

Psychosocial factors were identified as the significant factors for the development of prolonged pain and disability. Rehabilitation should be directed to overcome psychosocial obstacles to recovery and return to work.

The Aims are to evaluate the effectiveness of a combined vocational rehabilitation with receiving self-management skills and to compare the changes on psychosocial factors between control and intervention group.

A randomized controlled trial study design will be applied among the 200 respondents equally divided to the intervention and control group. An online self-reported questionnaire will be answered by both groups to indicate the extent to which psychosocial factor domains delay recovery. However only those in the intervention group will be receiving self-help skills concurrent with usual care. Patient recovery outcome will be measured at baseline and 4 months after baseline.

The data collection stage is still ongoing but the result will be ready at the time of this conference. Potential results are psychosocial factors (pain, function, emotion, coping, confidence, work perception and occupational factors) will be reduced more significantly among those in the intervention group compare to those workers who receive usual care only. The cost of medical leave may be saved as there will be no long absenteeism to recuperate from injury. Besides, employers are able to retain skilled workforce. Spouse or parents will no longer worry of having low self-esteem among injured worker as this intervention will provide support to its participants to regain self-confidence that has lost due to the injury.

Previous research from other part of the world have confirmed that workers who were injured recover better and faster if they returned to work early after their injury. The strategies used in self-management coaching able to assist injured workers to reduce the level of pain, minimise reliance on medication, increase confidence, improve emotional wellbeing and increase capacity for work. Combination self-management coaching with vocational rehabilitation is believed to fastened recovery period and gives synergistic effect to the positive changes on psychosocial factors, which leads to early return to work.
Presented by: Ms Amanda Tovell, Research Centre for Injury Studies
Co-Authors: Professor James Harrison, Research Centre for Injury Studies

Abstract:

Background:
The Australian Spinal Cord Injury Register (ASCIR) records the new cases of spinal cord injury (SCI) due to trauma that occur in Australia and involve the provision of inpatient care by any of the participating specialist spinal units (SUs). Australian residents who sustain SCI elsewhere and are treated in Australia are also included. The register has operated in a similar way since 1995-96.

Aim:
To present a descriptive summary of variation in demographic characteristics and external causes according to ASCIR data on persisting SCI due to traumatic causes occurring from 1 July 1995 to 30 June 2012.

Method:
Descriptive statistical analysis of ASCIR case data. Reporting is restricted to cases aged 15 years or older at onset, reflecting the usual age limit for admission to the participating SUs.

Results:
Male cases were about 4 times as numerous as female throughout the period. Age at onset was in young adulthood for most cases throughout the period, but the proportion occurring at 55 years or older increased. The profile of major external causes of SCI changed, with the proportion of cases sustained while a motor vehicle occupant declining and the proportion of cases sustained while using a motor cycle and in low falls increasing.

Discussion:
Spinal cord injury due to traumatic causes is an often severely disabling condition which continues to occur in Australia. Some aspects of the profile of cases have changed little since the mid 1990s (e.g. male preponderance) while others have changed to a noteworthy extent (e.g. fall in proportion of MV occupant cases and rise in proportion of motorcyclist cases).
How Road Traffic Injury Patients Are Cared on Roads in a Country Without Formal Pre-hospital Care Services

Presented by: Dr. Roshan Sampath, Ministry of Health

Co-Authors: Professor Rohini de A Seneviratne, University of Colombo

Abstract:

Background:

Vast majority of road traffic deaths in low-income and middle-income countries occurs in pre-hospital phase. Timely pre hospital care to limit or halt the cascade of events following trauma otherwise leading to death and long term disability is a well proven fact in trauma care. It is need take measures in improving the quality of formal or informal pre hospital care to reduce the morbidity and mortality caused by road traffic accidents. Currently no formal pre hospital care service is available for all road traffic injury patients in Sri Lanka. In the absence of such system, how the injured are presently managed before they reach a health care facility has to be studied to improve the services.

Aims:

To describe the pre - hospital care received by the road traffic injury patients admitted to the Primer Trauma Care Centre at National Hospital (NHSL) of Sri Lanka.

Methods:

Pre hospital care was assessed in a cross sectional study enrolling 1546 road traffic injury patients directly admitted to NHSL for in ward treatments within 24 hours of the injury. A short pre tested interviewer administered questionnaire was used to collect data.

Results:

Pre hospital care of the road traffic injury patients shows that 84.2% (n= 1301) has not called for help at the site of accident. Out of who called for help (n=245) only 2.4% (n=6) has called for an ambulance services or for an Emergency Medical Team. Majority of patients were assisted by three wheel drivers (18%; n=279) as a single category. Only 5.1% (n=79) of the injured had received some form of first aid and out of who were lifted to the vehicle (n=882), 99% (n= 871) were lifted to the vehicle inappropriately. Nearly two third (65.5%; n=1013) were transferred by three wheeler while only 0.7% (n= 11) has been transferred by an ambulance. The median time taken to reach a health care facility was 40 (IQR 30) minutes.

Discussion and conclusions:

Findings of the present study indicate, grossly inadequate. It was observed an inadequate care received in the pre hospital setting and the inappropriate way of transferring the patients using three wheelers.

However, three wheel drivers are a potential group of road user whom can be used to improve the informal pre hospital care services in the country.
FALLS PREVENTION AND AGEING

Approaches to Developing a Falls Prevention Program for Older Aboriginal People

Presented by: Ms Caroline Lukaszyk, The George Institute for Global Health

Co-Authors: Ms Julieann Coombes, The George Institute for Global Health; Professor Bob Cumming, University of Sydney; Professor Tony Broe, Neuroscience Research Australia; Dr Anne Tiedemann, The George Institute for Global Health; Associate Professor Lisa Keay, The George Institute for Global Health; Professor Catherine Sherrington, The George Institute for Global Health; Professor Rebecca Ivers, The George Institute for Global Health

Abstract:

Background:

Fall injury in older Aboriginal and Torres Strait Islander people is a neglected but important public health issue. However, there has been little research to date that explores the patterns and severity of fall-related injury in older Aboriginal people, or evaluates the effectiveness of currently available falls prevention programs for this population. This project identifies the need for falls prevention programs for older Aboriginal people in NSW and works with communities and service providers to identify what is required for an appropriate program.

Methods:

The project is governed by the research team in conjunction with an Aboriginal steering committee comprising members from community and health care settings. A health and community service provider audit tool was distributed to health networks across NSW in June 2014 to determine fall prevention or healthy ageing programs currently accessed by Aboriginal people. Qualitative work with clients and staff from several Aboriginal Medical Services or aged care programs will also be conducted to explore perceptions of falls and identify acceptability of falls programs in the community and practical delivery models.

Results:

Over 80 services responded to the audit of health services. Few Aboriginal specific programs were identified but there were multiple locations where there was significant interest from both community and service providers in offering appropriate falls prevention programs. Yarning circles were held across five communities in NSW, giving the opportunity for over 70 older Aboriginal people to share their views on healthy ageing. Service providers from a variety of health and community services were interviewed, offering their perspectives on what is needed to decrease falls for their older Aboriginal clientele. Detailed results from the audit and qualitative work will be presented.

Discussion:

The results of the audit and qualitative work will be used to develop, implement and evaluate a falls prevention program targeting older Aboriginal people. The program will be piloted at 3 sites in NSW during 2015. This project will offer unique insight into development and feasibility of culturally appropriate programs Aimed at reducing the burden of falls in older Aboriginal people in NSW.
Using Grants and Coaching to Build Capacity in Falls Prevention

Presented by: Ms Rachel Meade, Injury Control Council of Western Australia

Co-Authors: Ms Gemma Crawford, The Collaboration for Evidence, Research and Impact in Public Health; Ms Emil Anderson, Injury Control Council of Western Australia; Ms Ailsa Dinnes, Injury Control Council of Western Australia

Abstract:

Context:

The World Health Organisation (2009) recognises workforce development as an important component of injury prevention. The Injury Control Council of Western Australia (ICCWA) has delivered a grants program as part of the Stay On Your Feet® falls prevention program since 2006. Recent research to explore the effectiveness and value of the grants program recommended an increased focus on supporting falls prevention event coordinators to implement appropriate, evidence informed and more sustainable health promotion projects with more comprehensive planning and evaluation. In 2014 after additional research and development, the first phase of a pilot Stay On Your Feet® grants and coaching program was implemented by ICCWA with the support of the WA Department of Health.

Objectives:

The grants and coaching program was implemented as a strategy to build the capacity of health professionals in identifying and implementing effective falls prevention strategies. The program provides financial support for successful applicants to deliver local falls prevention strategies in Western Australia. The program also incorporates a free, non-compulsory, one-to-one coaching service in writing grants applications and implementing funded projects. Skills development occurs through coaching through the domains of program planning, implementation, evaluation, partnership building, communication and report writing competencies.

Key Messages:

The Stay on Your Feet® grants and coaching program creates the opportunity to support innovative and local solutions to the prevention of falls among older adults. This approach recognises the diversity of local needs and the vital role that local services and community groups play in preventing falls.

This presentation will present preliminary results of the evaluation of the grants program; exploring the implementation of coaching for organisations and the value of the approach in the context of running a small grant program. It was recognised that the grants program provided a valuable engagement opportunity when working with new stakeholders however initial challenges included limited uptake of the coaching.

Discussion / Conclusion:

While the pilot will run in five phases until 2017, it is useful to examine early results to determine the benefits and challenges of delivering this service. Preliminary evaluation will enable the program to refine and improve implementation in later phases.
Some questions which have been raised for the future are whether the demand and outcomes of coaching merit the investment; what additional resources may be required; and whether the experience gained by ICCWA in these one-to-one coaching relationships will enrich the support provided to the wider sector.
**Increasing the Impact of Falls Prevention Messages; Reducing the steps without losing the evidence**

Presented by: Ms Megan De Piazz, *Injury Control Council of Western Australia*


**Abstract:**

Falls amongst adults aged over 60 remains a significant public health issue, requiring effective community-based prevention strategies. The Nine Steps to Stay On Your Feet® message has been promoted by the Injury Control Council of WA (ICCWA) on behalf of the WA Department of Health since 2004 to raise awareness of falls prevention strategies. Recent research with community members identified this message may be more useful as a falls prevention tool for health professionals rather than for awareness-raising in community members.

In 2014 ICCWA sought to reposition the Stay on Your Feet® brand with the primary target group. The objective was to offer positive choices and simplified calls to action that were easy to understand, recall and implement via new messages, writing style, imagery and resources.

Formative research was undertaken to evaluate the effectiveness of the revised messaging and confirm preferred formats. Research included a rapid literature review; focus groups (n= 40) with community dwelling males and females aged over 60; a series of consultations with falls prevention clinicians, policy makers and academics; and a review of draft resources against best practice in behaviour change communication.

The formative research emphasised the importance of delivering consistent messages across different settings. Resources should function as reminders and should be accessible, appealing and short with minimal text. Imagery should feature diverse talent who are real and similar to the target audience.

This presentation will summarise the research results, feature the new messaging, imagery and formats and outline how ICCWA will measure if the brand reposition has been successful.

Mass media can been an effective component of a comprehensive health promotion intervention. However, this requires sufficient and evidence informed planning and evaluation; as well as development in line with theory and agreed practice in contemporary behaviour change communication guidelines. Five Move Improve Remove social marketing campaigns are being implemented to promote the new calls to action: move your body, improve your health, and remove hazards. Polls, quizzes, surveys and in depth interviews will aim to establish whether these calls to action have been successful.

Learnings from the implementation of this research included the importance of: allowing sufficient time for consultation; engaging the diverse stakeholders early in the process; compromise in light of resource and time limitations and contractual obligations; clear communications with the external agency to assist them navigate the evidence and evidence gaps; and ongoing evaluation and integration of findings.
An Older Man, a Ladder and a Job to Do: a dangerous triad

Presented by: Mrs Katherine Schaffarczyk, Westmead Hospital/University of New South Wales

Co-Authors: Associate Professor Roslyn Poulos, University Of New South Wales; Dr Sally Nathan, University Of New South Wales; Dr Brahmaputra Marjadi, University of Western Sydney; Dr Jeremy Hsu, Westmead Hospital, Sydney, Australia

Abstract:

Background:

Research into factors contributing to falls from ladders in older men in the non-occupational setting to inform injury prevention initiatives, is limited.

Aim:

This study Aimed to identify the nature and severity of the injuries sustained, contributing factors, and the impact on functional outcome of ladder falls in this population.

Methods:

A mixed methods approach was used. Eligible participants included men greater than or equal to 50 years of age who presented to the Emergency Department (ED) of a large city hospital, following a non-occupational ladder fall between February 2011 and December 2013. Patients were either admitted to hospital or discharged from the ED. A retrospective review of the Trauma Registry and medical records was undertaken. Interviews were conducted with a sample of men (and/or their spouses). The Late Life Functional Disability Instrument (LLFDI) was administered to the men interviewed to determine pre and post fall function.

Results:

Eighty six men were identified, aged 50-85 years (mean 64.7 years). Twenty seven percent fell from a height of >3 metres. Twenty seven percent had severe trauma (ISS greater than or equal to 12). The most commonly injured regions included: upper limb (37%), head (30%), lower limb (29%), spine (27%) and chest (19%); 38-81% of these injuries were serious (AIS greater than or equal to 3).

Half of admitted patients were hospitalized for more than 5 days, with two patients dying during admission.

Reasons for climbing the ladder were mostly for gardening or cleaning gutters. Most falls occurred during Spring on a weekend.

Fourteen interviews were conducted with 19 participants (men=12, spouse=7).

Interviewed men demonstrated a decrease in post fall LLFDI scores at 4-27 months post event compared with self-reported pre-fall scores, despite 7 having minor trauma (ISS <12) on admission. Thematic analysis of interview data identified the following factors as contributing to ladder falls: situational (e.g. knowledge deficit of correct ladder placement), societal (e.g. living alone, limited income), generational (e.g. retired with time available) and attitudinal (e.g. poor risk assessment, complacency).
Discussion and conclusions:

Injury prevention strategies need to focus on raising awareness of risk of ladder use in this population, highlighting the importance of assessing risk before climbing and the potential negative sequelae of a fall. Engaging partners such as ladder manufacturers, ladder retailers, health professionals and men who have fallen from a ladder sustaining serious, life altering injury, will be important in educating older men about risk.
Domestic Ladder Fall Injuries Revisited

Presented by: Professor Joan Ozanne-Smith, Monash University Department of Forensic Medicine

Co-Authors: Dr Jennie Oxley, Monash University Injury Research Institute; Mr Steve O’Hern, Monash University Injury Research Institute; Ms Fiona Kitching, Monash University Department of Forensic Medicine

Abstract:

Background:

Ladders are frequently used consumer products in domestic environments. They represent one of the highest risks of fall-related injury and are the product most often associated with DIY deaths and hospitalisations. Domestic ladder fall injuries are increasing despite reductions in workplace ladder-related falls and injuries.

Aims:

To investigate issues surrounding domestic ladder fall injuries and provide the evidence base for effective preventive programs and action.

Methods:

A multi-phased study was undertaken in Victoria in 2014 comprised of: injury data analysis (hospital; trauma registry; coronial); literature review; consumer survey (ladder users); key stakeholder interviews, including manufacturers, regulators, health sector and retailers.

Results:

Data: The average frequencies of all hospital treated ladder related injuries and deaths was >2500 and 9, respectively. Across all severity levels, domestic ladder falls accounted for most ladder injuries, particularly major trauma (73%) and deaths (72%). Factors associated with high severity included older age, male gender, activity type, and body region injured. Costs for hospital admissions alone were estimated at >$18.3 million over the three years 2010/11-2012/13.

Literature review: Few existing initiatives addressing ladder falls outside the workplace were identified. Although government, advocacy, consumer and injury prevention groups provide information on ladder safety techniques, and ladder manufacturers have implemented various safety design features, no evidence of effectiveness was found in reducing ladder fall injuries. Within the workplace, Australian Standards and Occupational Health and Safety Regulations provide effective enforceable rules governing ladder usage.

Consultation: While many survey participants were aware of ladder safety issues, few took appropriate action, and substantial numbers engaged in unsafe practices. Of 114 participants, 13% had experienced a ladder-related injury.

All stakeholders interviewed noted the significance of domestic ladder-related fall injuries. They were aware of/had implemented various preventative initiatives, though few were evaluated. Despite successful WorkSafe initiatives, particularly implementation of regulations and alternative methods to access heights, major gaps in safe domestic ladder use were recognized. Stakeholders made a number of recommendations.
Discussion and conclusions:

This study employed a multi-disciplinary approach to understand domestic ladder fall injury issues. It describes injury circumstances, attitudes and behaviours of ladder users and information on initiatives and standards to underpin the development and evaluation of prevention strategies. The findings are synthesised to provide evidence-based strategies. Complementary recommendations are made for interventions across multiple sectors including enhancements to design, manufacture and the environments in which ladders are used, education and promotional activities, enhanced data systems, and for further research.
Behind the Wheel: A randomised controlled trial evaluating a safe transport program for older drivers

Presented by: Ms Kristy Coxon, The George Institute for Global Health

Co-Authors: Associate Professor Lisa Keay, The George Institute for Global Health; Ms Anna Chevalier, The George Institute for Global Health; Dr Elizabeth Clarke, Kolling Institute; Dr Laurent Billot, The George Institute for Global Health; Dr Soufiane Boufous, Transport and Road Safety; Professor Rebecca Ivers, The George Institute for Global Health; Dr Julie Brown, Neuroscience Research Australia

Abstract:

Background:

Safe mobility is important to quality of life in later years. Self-regulation is one strategy that has been proposed to help older drivers drive safely for longer, but little is known about the efficacy of education programs to promote self-regulation among older drivers.

Aims:

To determine if a one-on-one safe-transport program can change driving exposure and behaviour, while maintaining community participation, in a group of older drivers.

Methods:

We adapted the Knowledge Enhances Your Safety (KEYS®) program for the Australian context and evaluated the program using a randomised controlled trial involving 380 drivers aged 75 years and older, residing in the suburban outskirts of Sydney. The primary outcome was weekly driving (km) collected via an in-vehicle data logger, with GPS receiver which recorded second-by-second GPS location. Secondary outcomes included stage of behaviour change with regards to self-regulation of driving, community participation measured by the Keele Assessment of Participation and uptake of alternative transport. We used Generalised Estimating Equations to model the impact of the safe transport program on driving exposure adjusting for repeated, weekly measures over 12 months. Ordinal regression was used to analyse differences in behaviour profile quartiles between groups. Three subgroup analyses based on sex, age and function were performed on the primary outcome of distance driven over 12 months. Data was analysed using intention-to-treat.

Results:

We recruited 380 participants (230 men, 150 women) with average age 80 years and average weekly mileage of 140±167 km; 366/380 (96%) completed the study and 362/380 (95%) vehicles were instrumented. The program was delivered to 183/190 (96%) of those drivers allocated to the intervention. While there was no difference in weekly mileage (adjusted between group difference: -10km, p=0.25, 95%CI:-28 to 7km), those in the intervention group were more engaged in self-regulatory driving practices than those in the control group (OR:1.6, p=0.02, 95%CI:1.1-2.3). At 12 months there was similar usage of alternative forms of transport, on average 5 trips per month.
(mean difference 0.1 trips, 95% CI: -1.4 – 1.6). Importantly, there was no difference in community participation between those who received the education and those who did not (between group difference: -0.1, p=0.59, 95%CI:-0.6 to 0.3).

Discussion/Conclusions:

This evaluation shows an individualised safe transport program promoted behavior change but did not translate into a significant difference in weekly mileage. Longer follow-up may be required to account for gradual age-related changes and uptake of self-regulatory driving practices over time.
**Behind the Wheel: Rapid deceleration and crash events in a randomised controlled trial evaluating a safe transport program for older drivers**

**Presented by:** Associate Professor Lisa Keay, *The George Institute for Global Health*

**Co-Authors:** Ms Kristy Coxon, *The George Institute for Global Health*; Ms Anna Chevalier, *The George Institute for Global Health*; Dr Elizabeth Clarke, *Kolling Institute of Medical Research, University of Sydney*; Dr Kris Rogers, *The George Institute for Global Health*; Dr Soufiane Boufous, *Transport and Road Safety, University of New South Wales*; Professor Rebecca Ivers, *The George Institute for Global Health*; Dr Julie Brown, *Neuroscience Research Australia, University of New South Wales*

**Abstract:**

**Background:**

There are concerns over safety of older drivers due to increased crash involvement and vulnerability to injury. Though self-regulation is a promising strategy for reducing crash risk amongst older drivers, it is not known whether self-regulation can be enhanced and whether safety benefits can result.

**Aim:**

To determine if a one-on-one safe-transport program, designed to encourage planning for retirement from driving and self-regulation of driving, can reduce the absolute number of crashes and rapid deceleration events in drivers aged 75 years and older.

**Methods:**

The Behind the Wheel program is based on the Knowledge Enhances Your Safety (KEYS®) program but adapted for the Australian context. This program was evaluated using a randomised controlled trial involving 380 drivers aged 75 years and older, residing in the suburban outskirts of Sydney. The primary safety outcome for this trial was rapid deceleration events (RDE) defined > 500 milli-g measured by a tri-axis accelerometer. RDEs are proposed as ‘near miss events’ and used as an indirect measure of safety. Secondary outcomes included high range RDE events (>1000 milli-g) and self-reported crashes. Generalised estimating equations were used to model the impact of the program adjusting for repeated weekly measures.

**Results:**

We recruited 380 participants (230 men, 150 women) with an average age of 80 years and 366/380 (96%) completed the 12 month study. The program was delivered to 183/190 (96%) of those drivers allocated to the intervention. In vehicle monitoring data was available for 362 participants (95%) for an average of 50 weeks. Average weekly mileage was 140±167 km and we recorded a large number of >500 milli-g RDE (average 1.2±2.5 per week). RDEs >1000 milli-g were rare with only 67 events. The number of >500 milli-g RDE’s events reduced over time (p=0.02) however there was no difference in the number of >500 milli-g RDE’s between the intervention and control groups (between group difference -0.08, 95% CI -0.37 to 0.23, p=0.58). There were also no difference in high range RDEs (p=0.27). Crashes were reported by 14 participants in the intervention and 19 in the control group (p=0.52).

**Discussion/Conclusions:**
While other analyses have shown that the program participants engaged with the process of self-regulation and retirement from driving, we did not measure a safety benefit. Near miss events were relatively common and reduced with time during the 12 month study. A longer period of follow-up may be required to find an impact of the program.
Drug Driving and Road Traffic Crashes in NSW

Presented by: Ms Emma Shearer, Centre for Road Safety (CRS), Transport for NSW

Abstract:

Context:

Driving with at least one of three illicit drugs present in the body (drug driving) is an area of increased research focus and policy action in NSW. In addition to research into this subject, Centre for Road Safety at Transport for NSW (TfNSW) has recently commenced development of a communication strategy and public education campaign to support the rollout of enhanced drug driving enforcement by NSW Police. The direction of these initiatives and enforcement programs requires evidence from crash data enhanced with drug test results. The data enhancement process and key results from this project are the main focus of this paper.

Objectives:

The broad Aims of this work are to understand the frequency of drug driving in the road toll and injury crash statistics in NSW and develop a detailed understanding of the nature of the problem in order to support strategy and policy initiatives.

This includes the development of systems and processes to provide quantitative crash analysis and the ability to produce measurements to support future program evaluation.

Key messages:

Road crash reports from NSW Police which form the main source of evidence for road toll need to be supplemented and enhanced by post-crash drug test results obtained from NSW Health (Forensic & Analytical Science Services) to enable drug driving research and analysis. The Centre for Road Safety commenced a data matching project in 2013 to cover this gap, involving data for 2010-2013, and is now continuing analysis to include 2014 data.

The research by TfNSW has identified that on average 13% of fatalities on NSW roads over the period 2010 to 2013 involved a driver or rider with at least one of three illicit drugs (cannabis, speed, ecstasy) present in their system. This places drug driving alongside other key behavioural factors in the road toll, including alcohol and fatigue.

Analysis will now be undertaken to understand the types and levels of drugs found in drivers and riders involved in crashes in NSW.

Collaboration with the NSW Police Force has also been ongoing to better understand the available evidence with detailed analysis of laboratory results from drug driving offences.

Discussion and conclusion:

Outcomes of this data enhancement will significantly inform operations such as roadside drug testing, which are to be significantly expanded. The findings will also form the evidence base for strategy and policy formulation to address drug driving issues in NSW in future.
Pedestrian Self-reported Exposure to Distraction by Smart Phones While Walking and Crossing the Road

Presented by: Dr Alexia Lennon, CARRS-Q

Abstract:

Background:

Pedestrian crashes account for approximately 14% of road fatalities in Australia. Crossing the road, while a minor part of total walking, presents the highest crash risk because of potential interaction with motor vehicles. Crash risk is elevated by pedestrian illegal use of the road, which may be widespread (e.g. 20% of crossings at signalised intersections at a sample of sites, Brisbane) and enforcement is rare. Effective road crossing requires integration of multiple skills and judgements, any of which can be hindered by distraction. Observational studies suggest that pedestrians are increasingly likely to ‘multitask’, using mobile technology for entertainment and communication, elevating the risk of distraction while crossing.

Aim:

1. Investigate pedestrian self-reported frequency of using a smart phone while walking and while crossing the road.
2. Identify groups that may be at greater exposure or risk for distraction while crossing the road

Method:

Intercept interviews (duration 10 mins approximately) were conducted with a convenience sample of 211 pedestrians 18-65yrs at two high-pedestrian-crash risk intersections (identified using crash data) in Brisbane CBD.

Interview questions asked about frequency of smart phone use for activities at two levels of distraction: cognitive only (voice calls); or cognitive and visual (text messages, internet access). Data was collected for walking and for crossing the road separately. In addition, 3 types of interaction were distinguished for text and internet use (initiating, monitoring, responding). Two types of interaction were distinguished for voice calls (initiating, answering). An additional set of questions sought to explore frequency of walking after having consumed 2 or more standard alcoholic drinks in the hour prior to walking.

Results:

Smart phone use for potentially distracting activities while walking and while crossing the road was high, especially among 18-30 year olds, who were significantly more likely than 31-44yo or 45-65yo to report smart phone use while crossing the road. For 18-30yo, and the higher-risk activity of crossing the road, 32% texted at high frequency levels and 27% used internet at high frequency levels.

Discussion:

Young people 18-30 years appear to be a high risk pedestrian group for smart phone-related distraction while crossing the road. In particular, around 20% of 18-30yo reportedly engage in a
variety of smart phone interactions while crossing the road. Interventions to reduce pedestrian crash risk should target this subgroup.
Effectiveness of an On-road Motorcycle Rider Coaching Program: a randomised control trial

Presented by: Professor Rebecca Ivers, The George Institute for Global Health

Co-Authors: Dr Chika Sakashita, The George Institute for Global Health; Associate Professor Teresa Senserrick, Transport and Road Safety (TARS) Research, UNSW; Dr Jane Elkington, New York University, Sydney; Dr Serigne Lo, Melanoma Institute Australia; Dr Soufiane Boufous, Transport and Road Safety (TARS) Research, UNSW; Dr Liz de Rome, The George Institute for Global Health

Abstract:
There is no compelling evidence to date showing effectiveness of training programs for newly licensed motorcycle riders. The VicRide program is a low risk, half-day, on-road motorcycle coaching program aimed at reducing risk of crash in new riders. This study evaluated the effectiveness of the program.

Methods:
A randomised trial was conducted across the state of Victoria, Australia between 2010-2014. Consenting riders were randomly allocated into program or control groups. Those in the program group were invited to undertake the coached ride within 6 weeks of the baseline interview; the control group were offered the program at the end of the trial. Both the program and control groups completed surveys by telephone at 3 time-points: baseline (pre-randomisation), 3 months and 12 months. Survey data were linked to police reported crashes, offences and licensing records. Outcomes include crash involvement (police and self-reported), self-reported near misses, offences, riding exposure, attitudes and behaviours. Differences in outcomes were compared using various regression analyses, in intention-to-treat analyses.

Results:
Of 2399 consenting participants, 81% were male, the average age was 35 years, and average reported riding was 163.9 km, or 4.1 hours, per week. Sports bikes were the most commonly reported (39%) followed by standard bikes (25%), and cruisers (21%). Approximately 60% of those allocated to the program group completed the coached ride; the response rate for surveys was 88.7% at 3 months, and 87.6% at 12 months. Main outcome results will be presented.

Conclusions:
The results of this large scale trial will provide strong evidence for effectiveness of motorcycle coaching programs in community settings, and will have significant policy implications.
MOTORCYCLE SAFETY

Barriers to the Use of Protective Clothing for Motorcyclists

Presented by: Miss Catherine Ho, Neuroscience Research Australia

Co-Authors: Associate Professor Lisa Keay, The George Institute for Global Health; Dr Kate Hunter, The George Institute for Global Health; Dr Julie Brown, Neuroscience Research Australia; Marijke Oomens, Neuroscience Research Australia

Abstract:

Background:

While the majority of riders in NSW report frequent use of motorcycle jackets, there is substantially less use of other forms of protective clothing, notably protective pants and motorcycle boots. Thermal discomfort is a recognised barrier to the use of protective clothing but other practical barriers remain unexplored.

Aim:

To qualitatively examine the practical barriers that motorcyclists face in using protective clothing.

Method:

Focus groups were used to seek views and consensus opinions from motorcycle riders. Participants were recruited through advertisements in motorcycle-related social media and events. A total of four focus groups were conducted with 21 participants in attendance (n=5, n=6, n=3, n=7 respectively). The focus groups involved a 2 hour guided discussion led by one researcher using a predetermined script. Two other researchers took notes as discussions progressed. The focus groups were audio recorded and the discussions transcribed verbatim to ensure accuracy of the notes being taken. The data was then analysed thematically to identify barriers to the use of motorcycle protective clothing in NVivo 10 using components of the Integrated Behaviour Change Model as a framework. The factors identified within the environmental constraints component of this model were extracted for this analysis.

Results:

A high proportion of riders reported experiencing difficulties purchasing clothing that is well-fitted and this was particularly relevant to female motorcycle riders. Cost of protective gear also appears to be a practical barrier particularly for young riders. There is also a disconnect between the types of clothing that riders would like to wear, in terms of fashion, and the styles of protective clothing available to them. This is also a particular barrier for female riders, and for those riding for commuting purposes. Finding and accessing reliable information on motorcycle protective clothing was also another concern. There was a general consensus that riders had to be proactive in their own research in order to make informed opinions on the clothing they purchase.

Discussion and Conclusions:

Even though the benefits of wearing protective clothing are well-established, there remains a large proportion of riders that do not follow recommended guidelines for protective clothing. Few
previous studies have used qualitative methods to study practical barriers to the use of protective clothing. The preliminary results of this work indicate there is clear scope for addressing the practical challenges that motorcycle riders face day-to-day in wearing motorcycle protective clothing in order to encourage use and to mitigate injury.
Protective Clothing and Impact Protection for Motorcyclists

Presented by: Mrs Bianca Albanese, Neuroscience Research Australia

Co-Authors: Miss Lauren Meredith, Neuroscience Research Australia; Mr Tom Whyte, Human Impact Engineering, University of Technology Sydney; Mr Tom Gibson, Human Impact Engineering; Dr Liz de Rome, Neuroscience Research Australia; Associate Professor Michael Fitzharris, Monash University Accident Research Centre; Dr Julie Brown, Neuroscience Research Australia

Abstract:

Background:

While protective clothing reduces the frequency of soft tissue abrasions and lacerations, previous studies have found little benefit for impact injuries such as fractures. However, most previous work has not specifically examined impact injuries in regions of the body directly protected by impact protectors (IP). Nor have they examined the quality of IP indexed by energy attenuation characteristics.

Aim:

1. To examine the association between the presence of IP in motorcycle clothing and impact type injuries in body regions covered by IP, and 2. To examine the association between energy attenuation properties of IP and impact type injuries.

Method:

An in-depth analysis of 62 crash investigations was conducted. Participants were recruited by nurses who attended two Sydney hospitals and one regional hospital. Data collection included face-to-face rider interviews, review of medical records and clothing inspections. This documented the presence or not of IP in the shoulder, elbow, hip, knee and shin, and whether they were CE marked. Injury was defined as any impact associated injury in these regions of the body. Injury severity was assessed using the Abbreviated Injury Scale (AIS). The association between the presence of impact protection and (i) occurrence of injury in body regions covered by impact protectors, and (ii) the severity of that injury was examined using general estimating equations (GEE). This statistic modelling accounted for clustering by case ID and also controlled for rider age, impact speed and object struck. IP removed from the clothing was tested to the energy attenuation requirements of European Standard 1621-1. GEE was also used to examine the association between IP that passed the Standard and injury.

Results:

Fifty-seven jackets and thirty-two pants were inspected. The presence of IP had no significant effect on whether or not injury occurred or severity of injury. Just over a third (37%) of impact protectors worn were certified to European Standard 1621-1(CE mark). From our testing, 81% of IP passed the European Standard requirement for energy attenuation. IP that did not pass this requirement were 5 times more likely to result in AIS 2 injury (95%CI 1.6-18.7).

Discussion and Conclusions:

There is scope for improving the performance of impact protectors supplied within motorcycle specific jackets and pants in Australia. There is no Australian Standard for motorcycle impact
protectors and the results suggest further investigation of the quality of impact protectors supplied in clothing on the Australian market is needed.
Motorcycle Helmet Protection and Brain Injury Risk in Facial Impacts

Presented by: Mr Tom Whyte, UTS

Co-Authors: Dr Tom Gibson, Human Impact Engineering

Abstract:

Background:

Helmets are mandatory for motorcyclists in Australia and the majority choose to wear a full face helmet with a chin bar. Real-world crash studies have found that the facial region is the most frequently damaged area on the helmet, and cases where the chin bar was damaged showed a higher incidence of head and brain injury than cases without facial impact damage. However, the Australian helmet standard has no requirement for impact protection in the area of the face and chin bar. The extent of head protection offered by full face helmets and the optimum chin bar design for facial impact protection are relatively unknown.

Aim:

To investigate the effect of motorcycle helmets and chin bar design on the risk of brain injury during a facial impact.

Method:

The face of a seated THOR dummy (head, neck and upper torso) was impacted by a 23.4 kg flat faced pendulum at three impact velocities (2 – 4.3 m/s). The dummy was tested in four conditions: unhelmeted, shorty helmet, full face helmet and full face helmet with additional EPS foam. The shorty helmets and full face helmets were certified to the Australian Standard AS 1698 and the same model and size helmet was used for each test. The THOR headform response was measured using a 9 accelerometer array.

The headform kinematics were input into the Simulated Injury Monitor (SIMon) software finite element model of the human head and brain. Brain responses were simulated for the THOR tests and theoretical brain injury metrics (cumulative strain damage measures and maximum principal strain) were calculated. The effect of impact speed and helmet condition on the brain injury metrics were examined using SPSS version 21.

Results:

Full face helmet protection with and without additional chin bar EPS resulted in a significant reduction in the maximum principal strain and cumulative strain damage measures compared to the unprotected dummy for all impact speeds tested (p<0.05). The addition of energy absorbing padding to the chin bar did not have a significant effect on the brain injury metrics compared to the unpadded full face helmet chin bar.

Discussion and Conclusions:

This study indicates that full face protection provides a reduction in brain injury risk in the event of a facial impact. Identification of the specific chin bar design factors that influence head injury risk requires further investigation to achieve improved protection for helmeted motorcyclists.
**Motorcycle Helmets: Consumer rating and assessment of Safety Helmets (CRASH)**

**Presented by:** Dr Andrew McIntosh, *McIntosh Consultancy and Research*

**Co-Authors:** Dr Basuki Suratno, *Transport for NSW*; Mr Jack Haley, *NRMA Motoring and Services*; Ms Jessica Troung, *Transport Accident Commission (TAC)*

**Abstract:**

**Background:**

Motorcyclist safety is a safety priority for many organisations. The CRASH program is supported by Transport for NSW, NRMA Motoring and Services and TAC Victoria.

**Aims:**

The Aim of the CRASH program is to provide motorcyclists with comprehensive and comparative information regarding helmet safety performance and usability.

**Methods:**

On an annual basis, a selection of approximately thirty AS/NZS 1698 compliant motorcycle helmets is assessed on sixteen items. The items and scoring is based on a number of sources, including crash studies, biomechanics and motorcyclist focus group input. Each helmet is assigned one to five stars each for safety and ergonomic performance. The Background to the test items and scoring will be presented. The fourth set of helmets will be assessed in 2015. All types of helmets have been assessed, e.g. full face, open face, flip-up and motocross. Safety tests are more demanding than in AS/NZS 1698 and assess helmet performance in low and high severity impacts.

**Results:**

Ninety helmets have been assessed up to and including 2014. To date the majority of helmets (56%) have been rated as three stars on safety and two stars (50%) on ergonomic performance. In general, the impact performance of the helmets is better than suggested simply by compliance to AS/NZS 1698 requirements. For example, the median peak average headform acceleration for 2.5 m flat anvil impacts is 189 g, compared to a pass level for less severe tests of 300 g in AS/NZS 1698. Standard deviations for the multiple tests are also low, indicating consistency across examples of the same helmet model and different impact sites. However, the performance of helmet models is not consistent across all the safety tests. There is considerable variation in the relative rank of each helmet on the impact tests, for example. The greatest ergonomic deficit is in the area of in helmet noise and resistance to fogging of the visor. In wind tunnel tests, in helmet sound pressure levels were considerable, often greater than 100 dB, which has human factors implications for on-road safety and noise induced hearing lose. In terms of helmet type, the performance of full face helmets was superior to open face helmets.

**Discussion and Conclusions:**

A selection of results will be presented in addition to a more general discussion about the CRASH program.
**A Systematic Review of Back Protection for Motorcyclists**

**Presented by:** Dr Pooria Sarrami Foroushani, *University of New South Wales*

**Co-Authors:** Mr Rafael Ekmejian, *University of New South Wales* Professor Ian Harris, *University of New South Wales*; Associate Professor Justine Naylor, *University of New South Wales*

**Abstract:**

**Background:**

Due to their relative lack of protection, motorcyclists are a vulnerable road user population who are overrepresented in traffic injuries. Utilisation of back protectors may be an effective preventive measure for spine injuries in motorcyclists. Despite their increased use, the theoretical evidence for the use of back protectors is contentious.

**Aim:**

The study aimed to investigate the current evidence on the ability of back protectors to reduce the rate of back injuries in motorcycle accidents and to reduce patient mortality in motorcycle accidents.

**Methods:**

A systematic literature search was conducted using the electronic databases Medline, Embase, CINAHL, Cochrane Central Register of Controlled Trials, and Google Scholar. All clinical study types were included in this systematic review, whereas opinion pieces and laboratory or biomechanical studies were excluded. While, back protectors and spine protectors were included as the intervention, neck braces and speed humps were excluded. The target conditions were any injuries to back. Only English studies were included in this systematic review.

**Results:**

While the strategy initially yielded 185 studies, after removing 19 duplicates, 147 were excluded by title and abstract leaving 19 studies for which the full-text evaluation. Upon analysis of full-texts, two studies were included which assessed the effect of back protectors on back injuries and no studies were found assessing the effect on back protectors on mortality. The identified study had small sample size and several other limitations that reduce the clinical applicability of its findings.

**Conclusion and discussion:**

We were not able to find high quality evidence regarding the effectiveness of back protectors, which is indicating a need for rigorous evidence in this regard.
THURSDAY 26 NOVEMBER 2015, 3.30PM – 5PM

CHILD HEALTH AND SAFETY

Development of Tools to Stage Developmental Attributes of Children Related to the Task of Riding Powered Off-road Vehicles

Presented by: Dr Julie Brown, NeuRA

Co-Authors: Dr Susan Adams, Sydney Childrens Hospital; Dr Chris Mulligan, NeuRA; Associate Professor Lisa Keay, George Institute for Global Health; Professor Rebecca Ivers, George Institute for Global Health; Ms Kristy Coxon, George Institute for Global Health

Abstract:

Background:

Childhood deaths and injuries due to powered off-road vehicles are steadily increasing in Australia. Unlike the case for registered vehicles on public roads, there are no legislative controls restricting minimum age of use of powered off-road vehicles. There have been repeated calls to restrict use of these vehicles based on likely physical, cognitive and perceptual limitations of children. However there is no evidence to support this or to define appropriate minimum age.

Aim:

To present methods for (i) staging physical, cognitive and perceptual attributes of children related to the task of riding powered off-road vehicles, and (ii) development of a tool for scoring riding techniques.

Method:

A project steering committee will be established consisting of researchers, an occupational therapist, motorcycle industry representatives and off-road rider trainers specialising in the training of child riders.

Existing validated and widely accepted tools used by occupational therapists to assess and stage gross motor skills, fine motor skills, balance & coordination, strength & endurance, vision, and sensory processing will be reviewed. A task analysis with input from industry and trainer specialists will then be used to match skills assessed to the task of riding. The reliability and validity of the modified assessment tools will then be examined using standard methods. The researchers will then work with industry and specialised trainers to develop a tool to assess riding techniques using similar methods to those used in the development of tools to assess on-road riding techniques in adult riders.

The final assessment tools will be used in a pilot study of riding performance before and after exposure to off-road rider training. Riders will undergo the developmental staging assessments and functional assessment of their riding technique prior to and 3 months after training.

Results:
Pilot study results will be used to develop a framework for guideline development with industry and rider training groups.

Discussion and Conclusions:

While there have been repeated calls for restricting use of powered off-road vehicles for children under a certain age, there is no data available for making decisions about what that age cut off might be, and if it should be different for different vehicle types. Furthermore, educational interventions need to be targeted at specific age groups, and without this critical information it is difficult to design effective health promotion messages. This research represents a key first step in initiating actions to address injury among children using powered off-road vehicles.
Trends in Hospitalised Toddler Poisonings by Pharmaceutical and Prescription Type Drugs

Presented by: Dr Sophie Pointer, Research Centre for Injury Studies

Abstract:

Background:

Age and injury are closely linked at some periods of life and poisoning injuries provide a salient example of how patterns and rates of injury in childhood vary in ways that are considered to reflect development. The high rate of poisoning among toddlers largely results from exposure to substances including pharmaceutical and prescriptions type drugs as very young children become more mobile. Toddlers ability to explore their surroundings increases opportunities to access a range of drugs which can be harmful if ingested. Knowing which drugs, and how exposure over time to different drugs changes is important in targeting prevention campaigns and addressing safe packaging issues.

Aims:

The Aim of this study is to describe trends in hospitalised poisonings by drugs, medicaments, and biological substances among toddlers (1–4 years). Cases will be examined by sex and type of substance over a 14 year period.

Methods:

The study will use data from the National Hospital Morbidity Database (NHMD) covering the period 1 July 1999 to 30 June 2013 to provide information on children in Australia hospitalised as a result of poisoning by drugs. Cases will be restricted to children with an age at the time of admission 1 to 4 years, where mode of admission is not a transfer from another acute hospital, and have a principal diagnosis in the ICD-10-AM range T36–T50 Poisoning by drugs, medicaments, and biological substances. Trends will be analysed using appropriate regression techniques where case numbers permit.

Results:

Information on the pattern and prevalence of types of pharmaceutical and prescription type drugs ingested by toddlers leading to hospitalisation will be presented. The percentage change over time for all cases of hospitalised poisoning by drugs will be provided along with trends in cases due to a range of substances including poisoning by nonopioid analgesics, antiepileptics and sedative hypnotics, psychotropic drugs, haematological agents, and drugs primarily affecting the cardiovascular system.

Discussion:

Overall, it is expected that a significant decline in hospitalised toddler poisoning by drugs cases will be seen over time. However changes in the rates of decline and proportions of types of drugs causing hospitalisations over the years may be seen. The results of this study will identify successes and perhaps new drugs to target in order to prevent hospitalised poisoning by drugs among toddlers.


**Child Injury: How important is household risk**

**Presented by:** Mrs Jodie Osborne, *Griffith University*

**Co-Authors:** Dr Tamzyn Davey, *The University of Queensland, School of Public Health*; Dr Anneliese Spinks, *Commonwealth Scientific and Industrial Research Organisation (CSIRO)*; Professor Roderick McClure, *Harvard Injury Control Research Center, Harvard School of Public Health*; Professor Neil Sipe, *School of Geography, Planning and Environmental Management, The University of Queensland*; Dr Cate Cameron, *Centre of National Research on Disability and Rehabilitation, Griffith University*

**Abstract:**

Background:

Evidence linking home safety practices to a reduction in childhood injuries primarily comes from studies examining specific safety devices and their related area of injury, for example pool fencing on drowning. Research into the broader relationship between home safety behaviours and overall childhood injuries has produced mixed results, which may reflect differences in sample size, study design, home safety measures and injury outcomes. Understanding the broader relationship between home design/safety practices and childhood injury is critical to the development of injury prevention programs which can be more responsive to families’ needs.

Aims:

This study examined the relationship between household injury risk and hospital treated injury outcomes in Australian children up to five years of age.

Methods:

Mothers of children between two and four years of age enrolled in the Environments for Healthy Living (EFHL) birth cohort study were invited to complete a Home Injury Prevention Survey in 2013-2014. This survey assessed characteristics of the home and safety practices. A total household risk score was calculated, and with EFHL baseline demographic survey data, was linked to the child’s injury related state-wide hospital emergency and admissions data.

Results:

Data from 562 households relating to 566 child participants were included. We found an inverse relationship between household risk and child injury, with children living in homes with the least injury risk having 1.95 times the injury rate of children living in high risk homes (95% CI 1.19-3.17). Low risk homes were more likely to be households of sole parents, low maternal education status, younger maternal age, and lower income compared with the highest household risk group. After adjusting for social and demographic factors, the relationship between household risk and child injury was no longer significant. Only child gender and maternal education level remained significant predictors of childhood injury (male children had 1.63 times the injury rate of female children, and children from families with low maternal education had 2.1 times the injury rate of children from families with high maternal education).

Discussion and conclusions:
Our findings suggest that socioeconomic factors like maternal education represent the key modifiable risk factors for injury in children up to five years of age. Strategies that address indicators of disadvantage, such as improving maternal education, or targeting injury prevention programs to mothers with lower education levels are likely to have a greater impact than modifications to the home alone.
**Falls in Children Under 1 Year of Age**

**Presented by:** Dr Christopher Mulligan, *Neuroscience Research Australia, University of New South Wales*

**Co-Authors:** Dr Julie Brown, *Neuroscience Research Australia*; Dr Susan Adams, *Sydney Children’s Hospital*; Dr Dimitra Tzoumi, *Sydney Children’s Hospital*

**Abstract:**

**Background:**

In babies under 1, falls represent the leading cause of non-fatal injury. Little is known about injury patterns and mechanisms in this population.

**Aims:**

To characterise the pattern and clinical burden of injuries in children under 1 year of age presenting with a fall, by mechanism of fall.

**Methods:**

We conducted a retrospective review of patients under one presenting to the emergency department or admitted to a Sydney metropolitan paediatric trauma centre, following a fall. We examined admission status, by mechanism of fall, gender and age. For those admitted, we examined injury patterns, clinical burden and outcome by mechanism of fall. Chi square and one-way anova tests of significance were used.

**Results:**

Over three years, 916 patients presented following a fall. The most common mechanisms were; fall from a cot, bed or couch (28%), followed by fall from baby seat, pram or bouncer (21%), dropped by another person (17%). Children dropped by another person, or who fell from a cot, bed or couch were younger than children attending hospital after other types of falls (p<0.001).

Most (806) were treated in Emergency and discharged home. A further 110 (12%), were admitted to hospital. There were significance differences in admissions by fall mechanism (p<0.001). Children dropped by other people, and who fell from a cot, bed or couch were more likely to be admitted than children presenting from other fall mechanisms.

Of those admitted, 9 were admitted to Intensive Care. There was one death. Twenty patients had an Injury Severity Score of 15 or greater.

Most patients were admitted for head injuries (93/110), including skull fractures. Intracranial bleeds in combination with skull fracture occurred in 10%.

There was no significant difference in pattern of head injury by fall mechanism. However, all children with skull fracture and an intracranial bleed were assessed by the child protection unit, compared to only 10% of those with skull fracture only. All child protection cases subsequently identified had an intracranial bleed.

**Discussion and conclusions:** Some fall mechanisms are significantly more likely to result in admission. Most children <1 year admitted after a fall have a skull fracture but intracranial bleeds are less
common. Further investigation of risk factors for being dropped by other people, and falls from cots, beds & couches is required. Child protection assessment of young children presenting with intracranial bleeds and a history of a fall may be warranted.
Childhood Injuries and Cognitive Development: Results using individual fixed effects

Presented by: Mr Anthony Niu, Centre for Health Economics, Monash University

Co-Authors: Dr. Nicole Au, Centre for Health Economics, Monash University; Associate Professor David Johnston, Centre for Health Economics, Monash University; Professor Michael Shields, Centre for Health Economics, Monash University

Abstract:

Background and Aims:

During the last two decades, a growing body of economic literature has established strong adverse associations between early-life health problems and child development and educational attainment. There is, however, a significant lack of economics research investigating the potential effects of childhood injury. This paper fills this research gap by examining how injury, a major source of early-life health concern in the developed world, affects the cognitive development of Australian children. This study also examines several potential intermediate outcomes, such as absenteeism at school, child health status and utilisation of medical/pharmaceutical services.

Methods:

We perform our analysis using a sample of 4,591 children aged 6 to 13, which have been drawn across four waves of the Longitudinal Study of Australian Children (LSAC). The cognitive outcomes are Academic Rating Scores reported by teachers. Exploiting the rich information of the LSAC, we construct two measures of childhood injury: severities and types. Our empirical strategy includes two main steps: (1) We first demonstrate that injury is randomly selected within-child across time in Australia; (2) We then treat injury as an exogenous health shock and estimate its causal effects on children’s cognitive and developmental outcomes, using a range of individual-level fixed-effects models with a comprehensive set of socio-demographic covariates. This empirical approach allows us to control for both observed and unobserved child-, family- and school-specific characteristics, which may potentially bias estimates.

Results:

Fixed-effects results suggest that having an injury in the last twelve months is a weak predictor of children’s cognitive abilities in Australia. However, an injured child who required hospital stay has 0.6 more absent school day in the last four weeks, than an uninjured child. Further, such severe injury consumes extra 0.6 GP visit and 0.7 other medical service, respectively.

Discussion and conclusions:

Our primary finding corresponds to the conclusion from another economics study that major injuries in childhood do not strongly predict youth outcomes (Currie et al., 2010). This study, however, may still draw certain attention, since we stress that having a severe injury instantly causes more missing school days, worse health status and higher utilisation of medical care. Notably, the negative association between injury experience and child outcomes are not strongly driven by unobserved time-invariant confounders, which further supports our finding that injury is a more exogenous shock than other early-life health problems.
Approach to Implementation of Vitamin D Supplements in Australian Residential Aged Care Facilities

Presented by:
- Dr Amanda Miller Amberber, The University of Sydney
- Ms Pippy Barnett, The University of Sydney

Co-Authors: Professor Ian Cameron, The University of Sydney

Abstract:

Background:
The NHMRC Cognitive Decline Partnership Centre (CDPC) has committed to focusing on the implementation of vitamin D supplements in Australian residential aged care facilities (RACFs). This has been identified as a clinical practice that has experienced delays in uptake by RACFs (1). There is robust evidence demonstrating the effectiveness of vitamin D supplements in reducing falls and fall related harm in older people, that is reflected in current best practice guidelines (2,3).

As part of the implementation planning process, in addition to appraising the literature, stakeholders with valuable insight into the contextual factors of healthcare settings should be consulted (4,5). The CDPC formed an advisory group made up of aged care organisation and consumer representatives to help consolidate contextually relevant considerations for the vitamin D implementation study (ViDAus).

Aim:
To consolidate current literature and input from the CDPC advisory group regarding potential barriers, enablers and effective implementation strategies to inform the ViDAus study.

Methods:

Literature concerning the implementation of evidence into practice in the residential aged care setting was critically appraised. The primary focus was placed on quantitative and interventional studies involving falls prevention and the implementation of vitamin D supplements. Researchers met bi-monthly with the CDPC vitamin D advisory group over an 18 month planning period.

Results:

Literature pertaining to implementation strategies in aged care is limited and only provides strong evidence for educational outreach visits, with moderate evidence for audits and feedback, reminders and multifaceted interventions (6). The distribution of knowledge, or education however is unlikely to change clinical practice as a single intervention, with facilitated translation of knowledge becoming increasingly recognised as essential (5). The advisory group provided valuable insight on contextual considerations, including the need to identify barriers and enablers within individual sites to enable effective and targeted implementation.
Conclusions:

Multifaceted, interdisciplinary implementation appears to be the best approach given limited evidence for any single intervention and the variable needs of RACFs. The evolution of implementation research to knowledge translation emphasises the important role of collaboration, and the value of placing equal importance on researcher knowledge and stakeholder insight. These concepts will be reflected in the ViDAus study protocol.
Applications of Geospatial Methods in Injury and Trauma Data Analysis: A systematic review

Presented by: Mr Himalaya Singh, Federation University

Co-Authors: Dr Lauren Fortington, Federation University Australia; Dr Rochelle Eime, Federation University, Australia; Dr Helen Thompson, Centre for eResearch and Digital Innovation; Professor Caroline Finch, ACRISP, Federation University Australia

Abstract:

Background:

Injuries are a leading cause of death and disability around the world. Previous studies have shown that some populations are consistently at greater risk of injury than others. Information about where, when, to whom and how injuries occur is crucial for strategic planning and development of injury prevention programs. Geospatial methods provide a way to better understand these injury patterns and associated risk factors at a population level through mapping, cluster detection and modelling.

Aim:

The Aim of this research is to summarise and compare the types of geospatial methods that have been used to analyse injury and trauma data since 1990, through a systematic literature review.

Methods:

A search was conducted of three major electronic databases (PubMed, Web of Science and Science Direct), for papers reporting injury or trauma outcomes. Papers that reported results in the form of a map or that used at least one geospatial analysis method were included. Articles were grouped according to three methodological themes: mapping; cluster detection; and modelling. Papers reporting cluster detection and modelling methods were analysed in depth. The findings are reported using PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.

Results:

A total of 102 articles were identified, with 46 articles meeting the inclusion criteria. The major categories of injuries were road traffic (63%), dental trauma (7%), drowning (9%), fire and burn (6%), falls (11%), and workplace injuries (4%). Grouped by themes, mapping was the most frequent, with 46% of articles using this analysis and reporting method to investigate a spatial pattern of injuries. Cluster detection and modelling were less common, used in 33% and 21% of articles, respectively. Most of the articles using cluster detection relied on one cluster detection method without providing detailed justification for their choice of that method.

Conclusion:

Over the last two decades, many geospatial methods have been developed and applied in injury research, primarily in investigation of road traffic injuries. However, the depth of these investigations has largely been limited to basic mapping. Use of more advanced geospatial methods...
will help to better understand injury aetiology and other researchers should be encouraged to adopt these methods in their future studies.
An Evidence Synthesis Framework for Injury Prevention Practice

Presented by: Dr. Sarah Richmond, York University and Hospital for Sick Children

Co-Authors: Dr. Andrea Chambers, Public Health Ontario; Dr. Cameron Mustard, Institute for Work and Health; Ms. Louise Logan, Parachute - Preventing Injuries Saving Lives; Dr. Alison Macpherson, York University; Dr. Colin Macarthur, Hospital for Sick Children

Abstract:

Background:

Researchers and practitioners use evidence to target prevalent and emerging public health problems and develop and implement evidence-informed prevention strategies. Priority setting in Public Health (both for prevention programs and research) is challenging given the myriad opportunities and finite resources.

Aims:

In 2013, a national injury prevention organization in Canada initiated a research-practitioner collaboration to establish a framework for incorporating research evidence into the organization's strategic planning and program decision-making. An evidence-synthesis framework is introduced that outlines how four different types of evidence can be used in a process that directs public health action, identifies research priorities, and that supports the successful implementation and sustainability of prevention efforts.

Methods:

A unique researcher-practitioner opportunity was created to develop an evidence-synthesis framework that would guide an injury prevention organization's efforts to reduce the burden of preventable injury in Canada. The framework was developed using a process that included networking with national and international injury prevention experts, a scoping review of the literature, engagement with the organization’s leadership and staff, an extensive review of published and non-published models and frameworks, and pilot testing phases of the framework process. The framework process embeds evidence-informed decision-making into the organization.

Results:

The framework outlines a process, resources and tools to integrate evidence across the full spectrum of prevention activities. The unique contributions of the framework include highlighting research gaps and opportunities, and the placement of priority setting within the process of evidence-synthesis. This framework is applicable to prevention practice in any public health area; however, the work to date is specific to injury prevention. The evidence framework highlights the importance of interaction with researchers and stakeholders through all phases of the evidence-synthesis process.

Discussion and Conclusions:

An evidence synthesis framework has been developed that demonstrates how different types of evidence can be used to inform public health research and practice. The framework highlights a process that can direct research priorities, identify research gaps and maximize prevention efforts.
Embracing Complexity to Enhance Design and Decision-making in Injury Compensation and Rehabilitation Systems

Presented by: Dr Jason Thompson, Monash University Institute for Safety, Compensation and Rehabilitation Research

Co-Authors: Professor Rod McClure, Centre for Disease Control

Abstract:

Context:

In the area of post-injury rehabilitation research, emphasis placed on attempting to replicate classic methods of medical science often fail to provide insight or clear recommendations for policy-makers and practitioners charged with the responsibility of designing and managing safety and compensation systems. In attempts to conduct 'gold-standard' research, combined restrictions placed on study questions, participant recruitment and exclusion criteria, and pre-analysis data preparation are often so pervasive as to render interpretation and application of results almost irrelevant to a real-world audience. Alternative methodologies able to adapt to the competing research requirements of academic and industry stakeholders are required.

Objectives:

We present here the initial results of a combined agent-based modelling and large-scale interactive data-visualisation project currently being undertaken within an Australian road safety and injury compensation system.

Key messages:

Through modelling the complex interactions of clients at various stages of recovery, and by enabling system managers to interact with the policy and management levers available to them within interactive workshops undertaken in the CAVE-II data visualisation facility, we demonstrate that agent-based modelling of safety and injury compensation systems can achieve three Aims of: acting as highly engaging and effective research translation tools; enhancing internal communication and knowledge-transfer among compensation scheme staff; and; enhancing compensation scheme design, management, and decision-making.

Discussion and conclusions:

We conclude that, combined with traditional methods and modes of rehabilitation and medical research, agent-based modelling can be of great assistance in understanding and communicating the effect of health, policy, and management decisions on the health of injured populations and the viability and performance of injury compensation systems.
**Preventing Pediatric Motor Vehicle-related Fatalities: a collaborative project to enhance coronial data capture and use**

Presented by: Dr. Sarah Richmond, *York University and Hospital for Sick Children*

Co-Authors: Ms. Devon Williams, *Hospital for Sick Children*; Dr. Ian Pike, *University of British Columbia*; Dr. Dirk Huyer, *Office of the Chief Coroner for Ontario*; Dr. Colin Macarthur, *Hospital for Sick Children*; Dr. Andrew Howard, *Hospital for Sick Children*

**Abstract:**

**Context:**

Child fatality data are often referenced, yet few databases systematically collect the details of child occupant and pedestrian motor vehicle fatalities in Canada. There is a need to systematically document the collision circumstances and characterize the potential risk factors to inform and set targets for injury prevention initiatives.

**Objectives:**

This project had a number of objectives divided over three phases; 1): To collect and document the details of injuries and the specific crash circumstances of all fatally injured motor vehicle occupants and pedestrians (ages 0-18 years) through review of Ontario and British Columbia, Canada coroner case files from 2004-2009 and 2007-2012, respectively. 2): To introduce standardized data collection procedures for use by coroners, specific to occupants and pedestrians (ages 0-18 years), involved in a fatal motor vehicle collision (MVC). 3): To develop recommendations to enhance data collection in pediatric MVC fatalities; specifically: a) to revise procedures, processes, and practices to facilitate detailed data capture by coroners; b) to improve information use to inform prevention initiatives and; c) to work with coroner services to incorporate use of the data collection form as part of a pilot electronic data collection project.

**Key messages:**

Phase 1: The death investigation files reviewed did not allow ascertainment of desired detail about injuries and crash circumstances (particularly restraint use and the anatomic detail of injuries sustained, including the medical cause of death). A standardized data collection form was developed and provided to the Office of the Chief Coroner for Ontario (OCC) and the Coroners Service of British Columbia to facilitate consistent and detailed collection of information about the mechanism of injury and crash circumstances.

**Discussion and conclusions:**

Detailed information about MVC circumstances and the mechanisms of injury are imperative to the development of effective injury prevention products, policies and practices. Stakeholder involvement plays a pivotal role in increasing translation of investigative evidence to practice.

The initial results of this tri-phasic study are promising. A detailed and defined data collection form, coupled with stakeholder engagement shows increased detailed, systematic collection of data specific to pediatric fatal MVC injuries.
Lifejackets and Pacific Fishing: an empowered community approach

Presented by:

- Ms Natia Tucker, Auckland Council
- Ms Amanda Kelly, Auckland Council

Co-Authors: Mrs Sandy Harrop, Pasifika Injury Prevention Aukilana; Mr Harry Aonga, WaterSafe Auckland

Abstract:

Context:

After five Pacific net-fishing drowning deaths occurred in 10 days in October 2011, Pasifika Injury Prevention Aukilana Inc (PIPA) asked for help. WaterSafe Auckland responded by calling the Pacific community together and establishing a Net Fishing Safety project in collaboration with Auckland Council and Surf Life Saving Northern. Two further Pacific boating incidents involving lack of lifejackets in May and November of 2012 motivated broader Pacific action. In 2007, 70% of the five year average New Zealand Pacific drowning was in the Auckland region.

Objectives:

The Aim of the ‘call to action’ was to make it safer for all Aucklanders, and especially Pacific, to enjoy fishing and boating on our three harbours. The Pacific community stressed the best way to achieve this was through legislation for compulsory wearing of lifejackets. This required a change to national legislation or Auckland Council bylaw. Other councils across New Zealand had already introduced similar bylaws. Auckland covers a third of New Zealand’s population.

Key messages:

Each organisation provided their expertise and links to reach every level of the community. Council and key local boards promoted the concept to 20 of 21 local boards, challenged legal obstacles, and changed its consultation processes to become more inclusive. PIPA ensured the Pacific voice was heard at every stage, worked with the bylaws team to initiate change and mobilised “hard-to-reach” communities. WaterSafe Auckland sought best practice legislation, introduced Pacific Church Lifejacket Hubs, sourced media support and secured submissions for the introduction of the bylaw.

Outcomes, conclusions and sustaining the gains:

Council introduced the new bylaw 1 November 2014 making it mandatory for everyone on a boat under six metres to wear a lifejacket (unless the skipper deems it safe enough to take it off). It was integral to have champions at all levels of engagement – from councilors, local board members to council staff, boating and safety education groups, community organisations and community members. The bylaw is a law for the changing face of the nation.
Reducing River Drowning Deaths: A systematic review of the literature and analysis of unintentional fatal drowning data from Australia

Presented by: Ms Amy Peden, Royal Life Saving Society - Australia; CPHMVS, James Cook University

Co-Authors: Associate Professor Richard C Franklin, College of Public Health, Medical and Veterinary Sciences, James Cook University; Professor Peter Leggat, College of Public Health, Medical and Veterinary Sciences, James Cook University

Abstract:

Background:

Rivers are a leading location for fatal drowning. In Australia, rivers accounted for 20% of all drowning deaths between July 2003 and June 2007. Although a range of factors contribute to drowning in the river environment, including alcohol consumption, absence of lifejackets and exposure to floodwaters, little work has been undertaken around rivers when compared with other areas of drowning prevention such as backyard swimming pools and beaches.

Aims:

To describe the epidemiology, identify risk factors and strategies for prevention for unintentional fatal river drowning using a combination of literature review and analysis of coronial data.

Methods:

A systematic literature review was employed using the terms ‘drown’ and ‘river’ for peer reviewed literature published in the English language and humans between 1980 and 2014 across Medline; Scopus; ScienceDirect, PsychInfo, SportsDiscuss, the Cochrane Central Register for Controlled Trials and SafetyLit.

Data on unintentional fatal drowning in rivers, creeks and streams in Australia between 1 July 2002 and 30 June 2012, was sourced from the Royal Life Saving National Fatal Drowning Database.

Results:

From a total of 821 potentially relevant papers identified through the systematic literature review, 34 articles included detail on the epidemiology (n=23), risk factors (n=22) and/or strategies for prevention (n=12).

During the ten year study period, 735 people drowned in Australian rivers. The majority of people who drown in rivers in Australia are males and residents to the local area where they drowned. Over one third (37%) of all river drowning deaths are known to involve alcohol fatal drowning was most likely to occur as a result of unintentional falls into water (20%) followed by accidents involving non-aquatic transport (18%) and swimming and recreating (15%).

Discussion and Conclusions:

Few peer reviewed research studies have focused on the risk factors and strategies for prevention for unintentional fatal drowning in rivers. In many countries, epidemiological studies into the burden of drowning are only just commencing, with research pointing to the burden in fresh water or...
‘natural waterway’ locations with limited analysis on rivers due to issues within ICD10 coding mechanisms around specificity of drowning location.

With river, creek and stream drowning deaths accounting for 25% of all drowning deaths in Australia between 2002 and 2012, it is vital that the epidemiology and risk factors for river drowning are well understood if prevention strategies are to be effective.
The Total Service Plan: Case studies highlight how evidence is used to shape policy and inform intervention strategies

Presented by: Mrs Barbara Brighton, Surf Life Saving Australia

Abstract:

Context:

In an effort to reduce drowning deaths Surf Life Saving Australia (SLSA) has created the Total Service Plan to develop the national coastal safety strategy. A central tenet of the plan is that SLSA is a knowledge and research hub with a focus on nationally significant issues and programs.

Key items included in and driven by the plan are:

- Research and data
- National Safety Agenda
- Operations, including distribution of resources and services
- Public education

The Total Service Plan is created using an iterative process of data analysis and review to identify coastal safety issues of national importance. It follows the public health model and is aligned with international risk management principles.

Objectives:

At the core of the plan is the data, including existing material such as population and drowning data, rescue statistics and operational data, as well coastal risk assessments. SLSA also uses new data, for example, a recent National Coastal Safety Survey, which explored attitudes and behaviours of the Australian public regarding the coast and safety.

In collaboration with stakeholders, the Coastal Safety team analyses this information to identify and prioritise national safety issues and priorities as well as drowning blackspots. The issues and blackspots identified through this process form SLSA’s National Safety Agenda.

Monitoring and evaluation is built into the Total Service Plan. Each component is reviewed, evaluated, revised and updated as new evidence and data become available. Every program or project is regularly assessed and improved upon or discontinued as the case may be.

Key Messages:

The National Safety Agenda influences and prioritises lifesaving operations, including services and equipment allocation, such as introducing lifesaving patrols during the wet season in Darwin, NT, to reduce drowning deaths and decrease the incidents of box jellyfish stings and crocodile attacks.

It also drives public education including evidence-based mitigation strategies, communications campaigns and pilot projects. For example, funding a community education project in Wanneroo, WA, to build residents’ knowledge and awareness of specific water safety hazards to help increase their resilience to coastal hazards and ultimately reduce drowning deaths.

Discussion and Conclusions:
This presentation will investigate case studies from the Total Service Plan to show how SLSA uses evidence to ensure lifesaving services and assets are located in areas of need and appropriate public education programs and mitigation strategies are in place to address coastal safety issues and known drowning blackspots.
Abstract:

Context:

The impact of tsunami in the Indian and Pacific basin over recent years has been staggering. The 2004 Indian Ocean tsunami resulted in over 220,000 deaths and the 2011 Tohoku tsunami saw over 15,000 lives lost. The risk of similar tsunami events exists year round.

The Joint Australian Tsunami Warning Centre (JATWC) provides warnings of impending tsunami to minimise loss of life and damage. The Australian Tsunami Advisory Group (ATAG) faces a challenge to educate the public about the low-frequency, high-impact tsunami threat, the warning system and where to find accurate information.

It stated resilience is not solely the domain of emergency management agencies; rather, it is a shared responsibility between governments, communities, businesses and individuals. The purpose of the strategy is to provide high-level guidance on disaster management to federal, state, territory and local governments, business and community leaders and the not-for-profit sector.

Objectives:

In 2011, the Australian Federal Government launched the National Strategy for Disaster Resilience. Under the auspices of this strategy, ATAG developed a national community education strategy to improve awareness of tsunami. Key elements include:

- The Australian Disaster Forum

Managed by Surf Life Saving Australia (SLSA) under ATAG and in collaboration with all jurisdictions, the toolkit is comprehensive and accessible. It provides nationally consistent information to improve awareness of the tsunami threat, warnings and preparedness to foster community resilience to the hazard.

Key Messages:

There was not a comprehensive online source of tsunami information with an Australian focus. Tsunami: The Ultimate Guide fills this information gap, and, with its ATAG imprimatur, it is the authoritative reference for tsunami in Australia.

The project demonstrated a partnership between government and key stakeholders in all jurisdictions to develop, promote and enhance national disaster resilience resources for tsunami. Managed by SLSA, the online resources were designed and created through an iterative collaboration process with ATAG. It brought together scientific experts, government, emergency practitioners, community organisations and publishing professionals to create a resource that provides authoritative, nationally consistent information that is innovative and appealing.

Discussion and conclusions:
The Guide was produced in a national framework and the material created in a format that can be replicated across other hazards. Lessons from this project could assist other jurisdictions to implement best-practice community awareness programs to assist with increasing disaster resilience and therefore reducing injury.
FALLS PREVENTION AND AGEING

A Multidisciplinary Intervention to Reduce Subsequent Falls and Health Service Use in Older People who are not Conveyed to Hospital Following Fall-related Ambulance Care

Presented by: Ms Stefanie Mikolaizak, NeuRA

Co-Authors: Professor Stephen Lord, NeuRA; Dr Anne Tiedemann, The George Institute for Global Health; Dr Paul Simpson, University of Western Sydney; Professor Kirsten Howard, University of South Australia; Associate Professor Gideon Caplan, Prince of Wales Hospital; Professor Jacqueline Close, NeuRA

Abstract:

Introduction:

Many older fallers require ambulance attendance, however around 25% are not subsequently transported to emergency departments (ED). This population is at high risk for future falls and unplanned health care use, and non-transported fallers have poorer health outcomes than transported fallers.

Aims:

This randomised controlled trial investigated the effect of a multidisciplinary, individually tailored fall prevention program offered to older non-transported adults who received ambulance care following a fall. Subsequent falls and health service use were evaluated over a 12 month period. Uptake and adherence as well as benefits beyond fall prevention were also assessed.

Method:

Participants comprised 221 people aged ≥65 years. The intervention targeted identified fall risk factors by linking participants with existing healthcare services as appropriate and providing proactive assistance. The control group received individually tailored written fall prevention advice. Intention to adhere to the intervention was assessed with the Attitudes to Fall-Related Interventions Scale (AFRIS) at baseline in the intervention group. In both groups, physical and psychological measures and measures of well-being were assessed at baseline and reassessed after six months. Falls and health service use were monitored for 12 months.

Results:

An intention-to-treat analysis showed no significant difference between groups with regard to subsequent falls and health service use. Within-group analysis revealed that control group participants had significantly worse depression, quality of life and reduced falls efficacy six months post index fall, while this decline was not evident in the intervention group. Baseline intention to adhere scores (AFRIS) were predictive of adherence rates; 46% of intervention group participants did not complete the recommendations. Analysis based on treatment received showed that there was a significant difference in fall rates in favour of individuals who adhered to recommendations in the intervention group (IRR: 0.35, 95% CI 0.21 to 0.59, p < 0.0001). Health service use was also significantly lower during the follow-up period for participants who adhered to recommendations (ambulance call-outs IRR: 0.39, 95% CI 0.22 to 0.69, p = 0.001).
Discussion and conclusion:

Overall the multidisciplinary fall prevention program did not prevent falls or reduce health care use. However, for those who completed the tailored recommendations as advised, significant benefits ensued. This suggests that this intervention has the potential to significantly reduce falls and fall related health service use for older adults who show a positive intent towards a fall prevention program.
**Abstract:**

Background:

Medicinal substances have been identified as common agents of both unintentional and intentional poisoning among older people, including those with dementia. This study aims to compare the characteristics of poisoning resulting in hospitalisation in older people with and without dementia and their health outcomes.

Method:

An examination of poisoning by intent involving individuals aged 50+ years with and without dementia using linked hospitalisation and mortality records during 2003-2012. Individuals who had dementia were identified from hospital diagnoses; unintentional and intentional poisoning were identified using external cause classifications. The epidemiological profile of poisoning by intent and dementia status was compared, along with outcomes of hospital length of stay, 28-day readmission and 30-day mortality.

Results:

The hospitalisation rates for unintentional and intentional poisoning for individuals with dementia were double and 1.5 times higher than the rates for individuals without dementia (69.5 and 31.6 per 100,000) and (56.4 and 32.5 per 100,000). The home was the most common location of poisoning. Unintentional poisoning was more likely to involve individuals residing in aged care facilities (OR 2.12; 95%CI 1.70-2.63) or health service facilities (OR 3.91; 95%CI 3.45-4.42). There were higher mortality rates and longer lengths of stay for unintentional poisoning for individuals with dementia compared to those without dementia.

Conclusions:

This study highlights the importance of appropriate prescribing and linking prescription to the review of ability to comply with a drug regimen. Clinicians need to be aware of the risks of poisoning and care is required in appropriate prescription, safe administration and potential for self-harm with these medications.
Trends in Hospitalised Poisonings by Pharmaceutical and Prescription Type Drugs Among Older Australians

Presented by: Ms Amanda Tovell, Research Centre for Injury Studies

Abstract:

Background:

Analysis of trends in injury hospitalisations between 1999-2000 and 2010-11 (Pointer 2013) showed a decrease in poisoning by pharmaceutical cases for Australians across most age groups over this 12-year period except for people aged 45-64 and 65 or older. Of particular note was an increasing rate for people in this latter age group. As Australia’s population continues to age, and live longer with chronic conditions managed by medications, this trend is likely to continue. Early identification of which drugs are involved, and for which age and gender groups, will play an important role in helping address prescribing, labelling and packaging issues associated with managing complex health conditions in later years.

Aims:

The Aim of this study is to describe trends in hospitalised poisonings by drugs, medicaments, and biological substances among older Australians (65 years or older). Cases will be examined by 5-year age groups (to 85+), sex and type of substance over a 14 year period.

Methods:

The study will use data from the National Hospital Morbidity Database (NHMD) covering the period 1 July 1999 to 30 June 2013 to provide information on older adults in Australia hospitalised as a result of poisoning by drugs. Cases will be restricted to adults aged 65 or older at the time of admission, where mode of admission is not a transfer from another acute hospital, and have a principal diagnosis in the ICD-10-AM range T36–T50 Poisoning by drugs, medicaments, and biological substances. Trends will be analysed using appropriate regression techniques where case numbers permit.

Results:

Information on the pattern and prevalence of types of pharmaceutical and prescription type drugs ingested by older adults leading to hospitalisation will be presented. The percentage change over time for all cases of hospitalised poisoning by drugs will be provided along with trends in cases due to a range of substances including medications used to treat cardiovascular disease and manage pain.

Discussion:

The results of this study will offer insight into characteristics of hospitalised poisoning by pharmaceutical and prescription type drugs among older Australians which can be utilised in targeted injury prevention and safety promotion strategies.

Reference:

Comparison of the Effects of Light and Caffeine on Young Drivers’ Subjective Sleepiness After Chronic Partial Sleep Deprivation

Presented by: Mrs Shamsi Shekari Soleimanloo, Queensland University of Technology

Co-Authors: Associate Professor Simon Smith, Queensland University of Technology; Dr Melanie White, Queensland University of Technology; Dr Veronica Garcia Hansen, Queensland University of Technology

Abstract:

Background:

Perception of sleepiness has a direct impact on the driving behaviours that lead to sleep-related road crashes. Bright light is known to produce an acute alerting effect, but the magnitude of those effects for driving performance is uncertain. Little is known about the potential benefit of low intensity blue-green light on subjective sleepiness of young drivers when compared to that of low doses of caffeine.

Aims:

This study Aimed to compare the magnitude of the effect of blue-green light and caffeine on subjective sleepiness of young drivers after a week of naturalistic chronic-partial sleep deprivation.

Methods:

Thirty healthy young participants (mean age, 23.5±2.5 years) took part in this repeated-measures, within-subjects study. The sleep-wake behaviours of the participants were monitored objectively via actigraphy for two weeks. Sleep opportunity was limited to 8 hours per night during the first week, with a 15-min reduction in sleep across the second week to get a 7-hour sleep after day 11. In the last three days participants attended a daytime test session involving two 30-minute simulated drives. The first drive was conducted under placebo red light. Participants were then provided with 4 randomised conditions which combined either caffeinated (100 mg caffeine) or placebo non-caffeinated gum, with either blue-green light or placebo dim red light. Subjective sleepiness was measured via the Karolinska Sleepiness Scale at three times per session; before and after the first drive, and after the second drive.

Results:

A within groups ANOVA found that sleepiness was between “rather alert” (KSS=4) or “neither alert nor sleepy” (KSS= 5) after three days of mild sleep deprivation, with no significant changes across three test days. Sleepiness increased significantly after the first driving session on all test days (%95 CI, -2.396 to -0.270; P=0.004). Sleepiness was not significantly improved by blue-green light (%95 CI, -0.242 to 2.042; P=0.334) but there was a significant improvement after caffeine alone (%95 CI, 0.094 to 1.839; P=0.018). The greatest improvement in sleepiness was provided by the combination of blue-green light and caffeine (%95 CI, 0.279 to 2.787; P=0.006).
Discussion and conclusion:

In this study, low levels of blue-green light, with no caffeine, did not reliably improve subjective sleepiness after chronic-partial sleep deprivation. The combination of blue–green light with low doses of caffeine significantly improved subjective sleepiness and could represent a potentiation effect. Further research is needed to determine the benefit of this regime for objective performance and safety.
**Driver and Passenger Fatalities in Young Driver Car Crashes, Queensland Australia, 2004-2012.**

**Presented by:** Dr Bridie Scott-Parker, Adolescent Risk Research Unit, School of Social Sciences, Faculty of Arts and Business

**Co-Authors:** Name: Dr Florin Oprescu, University of the Sunshine Coast; Ms Jeanne Dayton, University of the Sunshine Coast

**Abstract:**

**Objectives:**

The road safety of children (<16 years) and young adults (<18 years) remains of great concern around the world due to the continued overrepresentation of youth in road crash fatalities despite a plethora of intervention.

**Methods:**

In Queensland, the Commission for Children and Young People and Child Guardian collects data pertaining to every registered child death, including via the mechanism of road crash. This data for the period 1 July 2004 to 30 June 2012 was analysed with regards to demographic factors and variables including licence status, socioeconomic status and risk factors, providing unique insights into young driver and young passenger deaths arising from crashes in which the driver was a young driver aged <18 years.

**Results:**

During this period, 100 persons aged <18 years died in a road crash in Queensland, amounting to a total of 6283.5 disability adjusted life years. Risk factors included being male, living in a socioeconomically-disadvantaged location, driving inexperience and driving on the road before licensed. Speeding, drink driving, fatigued driving and not wearing seatbelts – behaviours which are of concern for all road users – also featured in the <18 years’ road crash deaths. Some deficits in reporting are highlighted, such as a lack of information regarding the driving environment (e.g., weather, time of day) in particular, and the implications for preventative interventions are discussed.

**Conclusions:**

These findings are of vital important for effective intervention design and development, implementation and evaluation to improve youth road safety around the world.
You’re so used to having someone tell you what to do: Experiences of young drivers during the provisional licence phase

Presented by: Dr Bridie Scott-Parker, Adolescent Risk Research Unit, School of Social Sciences, Faculty of Arts and Business

Abstract:

Background:

Young drivers are at considerable risk of injury and fatality during the earliest years of independent driving (provisional/ intermediate/ restricted/probationary licence). Interventions such as graduated driver licensing (GDL) are designed to ameliorate this risk by allowing young drivers to gain on-road driving experience under conditions of reduced risk (eg., night-time passenger restrictions in Queensland, Australia). Consistent with systems thinking, to maximise the effectiveness of interventions such as GDL it is essential that experiences of young drivers is understood.

Aims:

The Aim of the research is to explore the experiences of young drivers with a provisional driver’s licence, within the current young driver road safety system in Queensland.

Methods:

Thirty-four drivers (17-18 years; mean = 17.6, mode = 17, 14 males) with a provisional licence attending two high schools (one public, n = 21, 9 males; one private) participated in a 45-minute group discussion during the school day.

Results:

Two themes emerged: (1) independence and (2) driving logistics. A wealth of experiences and advice pertaining to the sub-themes of psychosocial independence, transportation independence, driving skills and knowledge, interacting with other drivers, driving mistakes, and owning a vehicle were shared by young drivers. Numerous recommendations are made pertaining to each sub-theme, such as informing young drivers of the expense associated with independent mobility, effectively managing a road crash, and interacting safely with other drivers now there is no longer a driving supervisor sharing the journey with them.

Discussion and Conclusions:

Importantly these findings apply to young drivers in all motorised jurisdictions, irrespective of whether they have implemented a graduated driver licensing program. The breadth of experiences – many of which placed the young driver at increased risk of harm – shared by the young drivers should be considered in refining the content and process not only of any novice licence phase during which independent driving occurs, such as the provisional phase, but also of the preceding learning-to-drive licence phase. To illustrate, greater exposure to driving hazards like driving with peer passengers and sharing the road with larger vehicles can be undertaken in circumstances of increased driving ‘independence’ (that is, under less direction) during the final stages of the learner licence. This pseudo-independent driving is an opportunity to develop skills and capabilities in the potentially-risky circumstances which the novice will soon traverse without a supervisor’s support.
Driving Behaviours Near Elementary Schools and Child Pedestrian-motor Vehicle Collisions in Toronto, Canada

Presented by: Dr. Linda Rothman, York University

Co-Authors: Dr. Andrew Howard, Child Health Evaluative Sciences, The Hospital for Sick Children, Toronto, Canada; Dr. Ron Buliung, Department of Geography, University of Toronto, Mississauga; Dr. Colin Macarthur, The Hospital for Sick Children, Toronto, Canada; Dr. Alison Macpherson, Faculty of Health-School of Kinesiology & Health Science, York University, Toronto, Canada

Abstract:

Background:
The burden of child pedestrian motor vehicle collisions remains high world-wide. Most of children’s exposure to traffic is while walking to school. However, the promotion of walking to school has become a priority in many urban centres in order to improve health, foster community relationships and to lessen traffic congestion. Although dangerous driving behaviours have been reported extensively near schools, they have not been well described and their relationship with child pedestrian-motor vehicle collisions (PMVC) has not been defined.

Aims:
To examine the correlation between dangerous driving behaviours and historical child PMVC rates near elementary schools in Toronto, Canada.

Methods:
Police-reported child pedestrian collisions (ages 4-12) from 2000-2011 during school travel times were mapped within 200 m of 118 schools along with features of the built environment. Observers measured dangerous driving behaviours and numbers of children walking to school during morning drop-off on a single day in 2011. A composite score of school social disadvantage was obtained from the Toronto District School Board. Built environment and traffic features were mapped and included as covariates. A multivariate Poisson regression was used to model the rates of PMVCs/number of children walking and dangerous driving, adjusted for the built environment and social disadvantage.

Results
There were 45 child PMVCs with 29 (64%) sustaining minor injuries resulting in emergency department visits. The mean collision rate was 2.5/10,000 children walking to school/year (SD = 5.60). Dangerous driving behaviours were observed in 104 schools (88%). Each additional dangerous driving behaviour was associated with a 45% increase in collision rates (IRR = 1.45, 95% CI 1.02, 2.07. Higher speed roads (IRR = 1.27, 95% CI 1.13, 1.44) and social disadvantage (IRR = 2.99, 95% CI 1.03, 8.68) were associated with higher collision rates.

Discussion and Conclusions
Dangerous driving was correlated with historical non-fatal child PMVC rates near schools with the most common behaviours related to unsafe parking and drop-offs. Child PMVC rates were also related to higher speed roadways and school social disadvantage. Other dangerous driving behaviours near schools and their relationship to child PMVCs need to be examined such as failure
to stop at stop signs and distracted driving. The results have important public health implications and have had an impact on City of Toronto and school board policies related to safe walking to school.
The 'Free Cuppa for the Driver' Scheme

Presented by:
- Ms Melanie Suitor, Parkes, Forbes and Lachlan Shire Councils
- Jayne Bleechmore, Dubbo City, Gilgandra and Wellington Shire Councils

Abstract:
Since its inception in 2010, the 'Free Cuppa for the Driver' Scheme has continued to improve and grow each year. More than 1,500 free cuppas have been given away by almost 150 participating businesses in more than 50 cities, towns and villages across Western NSW. The Scheme was developed to raise awareness of the benefits of stopping and reviving on long journeys, even if the break was only to get a quick cuppa. Each year the participating councils partner with local businesses who sell tea/coffee and are open at a variety of different trading hours. The participating businesses provide the free cuppas and the councils market/promote the Scheme. Visiting drivers are entitled to a free cuppa (at any participating business) by showing their driver's licence (they must live at least 100km from the town). Organisers felt that a tourist targeted road safety campaign encouraging visiting drivers to stop and take a break would most likely have a positive effect on the road toll across the participating council areas. The Scheme's fifth phase is currently in progress across 14 council areas and has seen a major innovation with the development and launch of a free smartphone app. The Scheme is a win for road safety as tired drivers have a break and it's a win for the local towns and participating businesses as they attract more customers. This paper will provide an overview of the evolution and expansion of the Scheme, its results, as well as what's planned for the future.
**FRIDAY 27 NOVEMBER 2015, 11AM – 12.30PM**

**CHILD AND FAMILY SAFETY SPONSORED BY: NSW KIDS AND FAMILIES**

*The Impact of Baby Walker Injury Prevention Strategies over Time*

**Presented by:** Ms Shannon Gray, *Monash Injury Research Institute*

**Co-Authors:** Ms Angela Clapperton, *Monash Injury Research Institute*; Mr Jason Chambers, *Kidsafe Victoria*

**Abstract:**

**Background:**

Babywalkers are devices intended for infants not yet able to walk, that consist of a frame on wheels designed to support the infant, inside the frame, and is propelled by the movement of the feet of the child. Numerous studies have associated babywalkers with considerable injury risk as they can be unstable, especially on uneven surfaces, and give the child extra speed and height, and therefore access to many hazards (Moller, 1994 & American Academy of Pediatrics, 2001).

**Aims:**

To present the impact of both voluntary and mandatory baby walker injury prevention strategies over time.

**Methods:**

The Victorian Injury Surveillance Unit publishes Hazard magazine bi-annually, which uses data collected from the two datasets they hold (Victorian Emergency Minimum Dataset, all injury presentations to public hospital Emergency Departments that have 24-hour access; Victorian Admitted Episodes Dataset, all injury-related hospital admissions to all Victorian hospitals) to disseminate injury prevention information. Various editions of Hazard provided information on babywalker-injury prevention strategies, including awareness campaigns and the introduction of manufacturing standards. The datasets were queried at various stages from 1989 to the June 2014 to compare babywalker-related injury cases with implemented injury prevention strategies.

**Results:**

In 1993 babywalkers were found to have a significant injury risk and in three years (1989-1992) there were 133 cases across three Victorian hospitals. In 1994 it was found their risk of injury was higher than other nursery furniture (e.g. 4.4 times higher than prams/strollers). In 1995 the Federal Minister for Consumer Affairs requested the voluntary withdrawal of babywalkers from sale; however in 1998 babywalkers began to reappear in stores. The proportion of babywalker injuries dropped from 19% of nursery furniture injuries in 1989 to 10% in 1996/97. Mandatory standards were introduced in Australia in 2002. Between 1999-2002 there was an average of 21 cases per year with 11% severe enough for subsequent hospitalisation, and from 2003-11 there was an average of 12 cases per year with <6% hospitalised. Updated and stricter mandatory standards were introduced early 2013. From July 2013-June 2014, there were 10 hospital-treated cases. The international situation will also be discussed.
Discussions and Conclusions:

Injury data suggests that various injury prevention strategies implemented in Australia have had a positive effect in reducing the rate of injury involving babywalkers. It is recommended that awareness campaigns continue to be implemented, alongside mandatory standards, in order to minimise the risks of injury associated with baby walker use.
Paediatric Trauma from Indoor Trampoline Centres

Presented by: Dr Christopher Mulligan, Neuroscience Research Australia, University of New South Wales

Co-Authors: Dr Julie Brown, Neuroscience Research Australia; Dr Susan Adams, Sydney Children’s Hospital; Ms Sarah Adams, Sydney Children’s Hospital

Abstract:

Background:

Trampolines are a popular recreational pastime for children and young people. In recent years there has been an increase in the prevalence and popularity of commercially run indoor trampoline centres with 20 new centres opening in Australia in the last 3 years. Consequently health providers have seen a jump in the number of injuries from these centres.

Aims: We sought to characterise the pattern and burden of injuries in children from indoor trampoline centres. We also sought to investigate the mechanisms of injury at these centres to identify particular areas or behaviours that were associated with injury.

Methods:

We prospectively reviewed patients presenting to Sydney Children’s Hospital (SCH) after sustaining an injury at an indoor trampoline centre. SCH is a level-1 metropolitan paediatric trauma centre and in 2014, an indoor trampoline centre opened in its catchment area. Patients’ medical records were examined and a semi-structured interview was conducted with each child or their parent/carer to find out the cause and other injury details.

Results:

In the study period of six months, there were 40 presentations for injury from indoor trampoline centres. There were 18 males (45%) and 22 females (55%). The average age of the patients was 10.4 years, and the average weight was 39.9 kilograms.

Injuries occurred whilst bouncing alone (for example, landing awkwardly, falling over a hazard such as a dodge-ball or whilst attempting a flip) and when children were bouncing with others (particularly more than 2 people, or with someone larger).

There was a high burden of investigation and imaging, including 35 radiographs, 5 computed tomography scans and two magnetic resonance imaging scans.

The majority of injuries were soft tissue injuries/sprains (n=22, 55%) or fractured bones (n=15, 37.5%). The most common fractures were supracondylar fractures of the elbow (n=4) and about the ankle (n=4). The most serious injury was an unstable C5 vertebral fracture requiring an anterior spinal fusion. There were 4 other orthopaedic operations performed.

Discussion and conclusions:

Injuries from indoor trampoline centres are common, can be severe, and represent an emerging public safety issue. Important causes of injury included attempting tricks above one’s level of ability, double bouncing with others and landing on hazards. This highlights the ongoing need for adequate
supervision of children using these centres, an awareness of potential dangers and individuals’ physical limitations as well as ongoing injury surveillance.


Playground Equipment and Surfacing: What you need to know

Presented by: Ms Angela Marton, Kidsafe NSW

Abstract:

Do you manage playgrounds or are you responsible for playground design? Do you find the Standards confusing? The Australian Standard for playground equipment and surfacing provides best practice recommendations related to playgrounds and surfacing.

The Kidsafe NSW Playground Advisory Unit has developed a short presentation about the playground equipment and surfacing standard which was updated in April 2014. The Standard takes account of specific Australian safety and design requirements relating to UV factors, moveable equipment and the height restrictions for upper body equipment. The standard provides playground owners and designers with greater flexibility and equipment choices.

The outline of the presentation is as follows:

- What is Kidsafe?
- Understanding of risk, challenges and hazards in playgrounds
- Causes of playground injuries
- Key aspects of AS4685: Playground equipment and surfacing.
- Introduction to the NEW Part 0 of AS4685.
Outdoor Playground Use for Active, Healthy and Safe Play in Toronto, Canada

Presented by: Dr. Linda Rothman, York University

Co-Authors: Ms. Theresa Kim, York University; Dr. Alison Macpherson, York University

Abstract:

Background:

Outdoor playgrounds provide an environment where children can engage in active healthy play and gain important new physical, cognitive and social skills. Playground play can greatly contribute to the health and well-being of children; however, very little is known regarding children’s play in outdoor playgrounds. It is important to determine which playground features encourage use and are safe, to better design and plan these play spaces. The purpose of this study was to describe variations in playground use by children of different ages in the City of Toronto.

Methods:

A naturalistic observational study was done from August-November 2014. Observations of children were unobtrusively conducted at 20 minute intervals during 4 different observations periods (weekday morning and afternoon, weekend morning and afternoon) at 50 purposively selected public playgrounds. Data were collected regarding features of each playground, as well as characteristics of the children in the playground, including; age group, visible physical disability and play equipment use. Descriptive analyses were conducted to describe different use patterns.

Results:

There were 2,154 observations of children playing in the playgrounds. There was no significant difference in the number of children playing in a playground by the number of play structures available. Seven playgrounds had no children playing on them during any of the observation periods. More children played on rubber surfaced playgrounds (76/playground), with little difference found between sand and woodchips (42 versus 35/playground respectively). Equipment most utilized were multiuse senior structures designated for older children ages 5-12 (28%), followed by swings (20%) and multiuse junior structures for younger children.
Trampoline Safety: Road to product mandating

Presented by: Associate Professor David Eager, UTS

Abstract:

Content:

This paper provides a historical account of the journey that the Australian Standards Committee CS-100 Trampolines Safety has traveled in their quest to mandated minimum product safety requirements for domestic trampolines within Australia.

Objectives:

Reduce the severity and likelihood of domestic trampoline related injuries.

Key Message:

Until this product safety Standard is mandated the domestic trampoline industry will continue to manufacture, import and sell dangerous products into the Australian market that have the potential to seriously injury and killed innocent children playing in their backyards.

Discussion and Conclusions:

A trampoline is a piece of recreational equipment used for fun, exercise and physical development by children and adults. Injuries associated with trampoline use are common and are increasing. Over 6000 people are treated for trampoline related injuries in Australia each year. Of particular concern is the increasing trend in injuries among children less than 5 years of age (approximately 10% per year) and in injuries associated with multiple users. Trampolining injuries can be severe. Fractures are the most common trampoline related injury treated in the hospital system. To-date there has been no trampoline fatality in Australia. Nevertheless, we continue to have trampoline related serious ‘near-miss’ hospital admissions such as head, neck and spinal injuries. Statistically it is only a matter of time before there is a fatality.

The trampoline safety Standard AS 4889 was first published in 2003. After thirteen year it would be reasonable to assume that there would be evidence that this Standard was reducing the frequency and severity in trampoline-related injuries. Unfortunately, there is no evidence that rate of trampoline injuries are declining, nor is there any evidence that the specific requirements of the Standard, such as padding for the springs and frame are being implemented.

Injury prevention experts have been advocating for many years that the only way to reduce the frequency and severity in trampoline-related injuries is to either prohibited their sale of trampolines because they are too dangerous; or allow their sale subject to conditions or restrictions that are specified in a mandatory minimum safety Standard.
A Rapid Risk-analysis Method for Group-level Factors Causing Injury

Presented by: Dr Damian Morgan, Federation University

Abstract:

Background:

Analytic study of complex injury problems faces difficulties: researchers must determine candidate risk factors and confounders to investigate; internal validity requires substantial samples size; measuring risk factors exposure is difficult, and; a factor may be causal or simply mark the cause. Given this, cost-benefits analysis render traditional epidemiologic studies unjustified. Cost effective methods are required to uncover injury risk factor contributions to direct controlled studies.

Aims:

Assess the utility of a risk-analysis method for drownings in a surf-bather population. Mortality and risk-exposure data are linked to estimate relative risk contributions for candidate drowning risk factors marked by at-risk subgroups.

Methods:

The method combines disparate data in eight steps. Step 1 identified key drowning risk factors (expert consensus). Step 2 mathematically modelled each factor’s risk contribution (expert analysis). Step 3 measured the prevalence of each factors for selected surf bather subgroups (ecological studies). Step 4 provided subgroup drowning risk scores combining steps 2 and 3. Step 5 determined relative subgroup water-exposure time duration. Step 6 computed a subgroup derived drowning ratio combining steps 4 and 5. Step 7 specified a subgroup comparative drowning rate (95% CIs) from mortality data. Step 8 compared the comparative drowning rate with the derived drowning ratio.

Results:

The derived drowning ratio, developed by risk analysis, predicted the comparative drowning rate for surf bathers subgrouped by gender, age, and activity. Males, male surfers, and male swimmers drowning rates were higher than predicted. Younger bathers (aged < 30 years) drowned at a lower rate than predicted as did males 30 years+ (compared to females 30 years+) and surfers (compared to swimmers and waders).

Discussion and conclusions:

Risk-analysis predicted subgroup drowning rates for key risk factors (swimming ability, surf-bathing experience, and wave-size). When compared to the gold standard, the findings provide hypotheses on the role of uncaptured gender-marked drowning risk factors (e.g., contemporaneous alcohol intake, swimming alone, deep-water bathing, and overconfidence). Uncaptured factor contributions to drowning risk are relatively low for all males (compared to females). However, a stronger disproportion contribution is apparent for male swimmers (compared to female swimmers). The age-marked risk factor of cardio-vascular health condition was also not captured in the risk analysis.
This may explain why younger age groups were predicted to drown at relatively higher rates than found.

This risk-analysis method provides cost effective evidence for the role of hypothesised injury risk factors to promote intervention and guide controlled studies.
International Tourists and Drowning in Australia: A review of coronial data to identify risk factors and propose strategies for prevention

Presented by: Ms Amy E Peden, Royal Life Saving Society - Australia; CPHMVS, James Cook University

Co-Authors: Associate Professor Richard Franklin, College of Public Health, Medical and Veterinary Sciences, James Cook University; Professor Peter Leggat, College of Public Health, Medical and Veterinary Sciences, James Cook University

Abstract:

Background:

It has been postulated that international tourists may be more at risk of drowning than residents of that country given their unfamiliarity with the hazards and risks of aquatic locations, as well as other factors including language barriers, a relaxed attitude to safety whilst on holidays and potentially an increased use of alcohol whilst on vacation and risk taking behaviour 1.

Aims:

The paper Aims to identify the incidence of drowning among international tourists in Australian waterways (2002-2012) and examine the risk factors for drowning to inform prevention strategies.

Methods:

Data on fatal unintentional drowning in Australian waterways of victims with a residential postcode from outside Australia were extracted from the Royal Life Saving National Fatal Drowning Database (RLS Database) 2. Data within the RLS Database is cross-referenced against the National Coronial Information System (NCIS) 3. Analysis was conducted in SPSS.

Results:

Between 1 July 2002 and 30 June 2012 drowning deaths among people known to be international tourists accounted for 4.2% (n=123) of the 2,940 drowning deaths reported in Australian waterways across this 10 year period. This equates to an average crude drowning rate per 100,000 short term international visitations of 0.22. This compares favourably to the Australian drowning rate of 1.40 per 100,000 population 4.

Drowning deaths among international tourists occurred primarily at the beach (39.0%) followed by the ocean/harbour (22.0%) and inland waterways (17.1%). Common activities prior to drowning included Swimming and Recreating (52.0%), followed by Diving (such as scuba diving, snorkelling etc) (17.9%) and watercraft related activities (13.0%).

Victims were most likely to reside in Europe (45.5%), followed by the Western Pacific region (38.2%) and the Americas (13.0%).

Discussion and Conclusions:

The number of drowning deaths as a rate per 100,000 visitations is small in comparison to the drowning rate among Australian residents. However all drowning deaths are preventable and minimising drowning deaths among international tourists is an important part of maintaining...
Australia’s reputation as a safe destination for visitors from overseas as well as reducing the national annual drowning toll.

Knowing the types of aquatic locations that tourists are likely to interact with (beaches, oceans, swimming pools and rivers) and the activities more commonly undertaken (swimming and recreating, scuba diving and snorkelling and using watercraft) as outlined in this paper, may provide guidance to travel medicine practitioners in assisting in reducing the drowning risk of international tourists to Australia.
Looking Upstream to Prevent Drowning

Presented by: Assoc Prof Richard Franklin, James Cook University

Co-Authors: Ms Belinda Wallis, UQ Child Health Research Centre; Associate Professor Kerrianne Watt, James Cook University; Professor Roy Kimble, Centre for Children’s Burns & Trauma Research, Lady Cilento Children’s Hospital

Abstract:

Introduction:

Prior to a drowning incident, a sequence of critical errors occur that contribute to the outcome.(1-3) Lack of supervision has been identified as contributing to drowning episodes,(4-6) yet theoretical models to assess supervision levels(7) are difficult to apply to ICD10 coded data where detail is lacking. This study has examined the predisposing and precipitating factors(8-10) using recorded narrative data associated with drowning and near drowning.

Methods:

Data from pre-hospital, emergency department, hospital admission and fatality of all drowning events in Queensland (0-19yrs) were linked for the years 2002-2008. Case narratives were filtered by age and location to extract contributing factors associated with supervision.

Results:

Of the 1299 fatal and non-fatal drowning cases, 58% had case narratives recorded (394 were pre-hospital cases and 668 emergency, hospital and fatality cases. Data were analysed by location to find age group at highest risk of drowning, and the most common supervision scenarios associated with the drowning event.
**Do Victorian Primary School Children Have the Skills to Survive in an Aquatic Setting?**

**Presented by:** Dr Lauren Petrass, *Federation University Australia*

**Co-Authors:** Associate Professor Jenny Blitvich, *Federation University Australia*; Dr Bernadette Matthews, *Life Saving Victoria*; Ms Rhiannon Birch, *Life Saving Victoria*; Ms Kate Simpson, *Life Saving Victoria*

**Abstract:**

Worldwide, epidemiological data indicate that children are a high-risk group for drowning and while progress has been made in understanding toddler drowning (0-4 years); there is a lack of empirical evidence regarding the drowning risk and protective factors among older children (5-14 years). While the need for every child to have basic swimming, water safety skills and knowledge has been identified, research from some Australian states has indicated that children leave primary school without meeting the National Swimming and Water Safety Benchmark (1). Studies to date have predominantly depended on self-reported estimation of swimming competency rather than objective measurement and therefore our understanding of swimming competency in Australian children is speculative.

**Aims:**

To determine the relationship between perceived and actual swimming competency of Year 5-6 Victorian primary school students and consider the implications for drowning risk; and to identify the relationship between parental perceptions of their child’s swimming competency and the child’s actual skills.

**Method:**

Primary schools with students undertaking aquatics programs during term three were invited to participate. Prior to program commencement, students completed a self-report questionnaire to establish their perceived swimming competency and survival skill level, and their water safety knowledge. Parents completed a similar questionnaire to provide information regarding their perception of their child’s swimming and survival skills. The actual competency of the students was then objectively measured. To minimise response bias, children were not informed that some survey questions paralleled the practical test items. To eliminate learning impacting results, practical assessment was completed before the skills were introduced in their program.

**Results:**

It is anticipated that more than 200 students will complete the questionnaire and practical testing. Preliminary results have indicated considerable variation in perceived and actual swimming competency, although the majority have limited water safety knowledge. Further results will be presented with the completion of data collection.

**Discussion and conclusions:**

Findings will provide invaluable evidence for the water safety community. The establishment of existing knowledge and competency levels via empirical evidence-based assessment will facilitate a meaningful comparison against recommended benchmarks for later primary children. This will identify whether or not remedial action is required to ensure Victorian students achieve a
benchmark level of swimming and water safety education prior to leaving primary school, which is a recognised priority area and key objective in the most recent Australian Water Safety Strategy.

(1)RLSSA (2012). The forgotten 50%: Analysis of drowning in children aged 5-19 years in Australia.
Bystander Altruism: Exploring Aquatic Rescues in Queensland

Presented by: Associate Professor Richard Franklin, James Cook University

Co-Authors: Miss Jemma C King, College of Public Health, Medical and Veterinary Sciences, James Cook University; Professor Peter Leggat, College of Public Health, Medical and Veterinary Sciences, James Cook University

Abstract:

Background:

Trained rescue professionals, both volunteer and paid, rarely drown while attempting a rescue. Surf Life Saving Australia keeps records of the number of rescues undertaken however the amount of rescues undertaken by untrained individuals who are not lifesavers is unknown. The only known statistics about non-lifesaver rescues are in the unfortunate event when the rescuer dies, typically whilst trying to save a loved one, aquatic victim-instead-of-rescuer (AVIR) syndrome. One proposed mechanism for preventing future AVIR deaths is by improving the general public’s knowledge of simple rescue techniques.

Aims:

To strengthen the evidence regarding the context of rescues undertaken in the community (which have the potential to result in an AVIR death), this study Aimed to explore who undertakes rescues, where the rescues occurred and who was being rescued.

Methods:

In 2013 the Queensland Social Survey (QSS), a stratified (by age and gender) randomized computer assisted telephone interviewing (CATI) was used to collected data from Queensland households with a fixed phone line. Six questions were added around rescue experience and rescuee. The response rate was 41%.

Results:

There were 1293 people who participated in the survey of which 671 (52%) were males. 294 (24%) had undertaken a rescue at some time in their life, with the majority (213; 72%) having undertaken only one rescue. Most people (251; 85%) were not a life guard at the time. Common locations where the rescue occurred were: beach / ocean / harbor (36%), home swimming pool (20%), river / creek / stream (18%) and other swimming pool (13%). Just under half of the rescues were of a stranger (42%). The mean age of the rescued person was 15 years (SD: 14.53; Range: 0-80) with nearly a quarter (24%) being aged 3-6 years.

Discussion and Conclusion:

While undertaking a rescue is a rare event it is not uncommon. While over half of the people rescued were known to the rescuer at the time, there was still a large proportion of people (42%) which relied on the altruism of a stranger for their safety, highlighting the need for those who regularly visit aquatic locations to be prepared to respond to a rescue situation and ensure their own safety. Training of all in basic aquatic rescues skills (including CPR) and reinforcing the need to carefully
supervise children in and around water are two messages which will promote the safety and ultimately survival of both recuer and rescue.
Coastal Rescues by Lifesavers and Lifeguards in Victoria, Australia, 2007-2015

Presented by: Dr Bernadette Matthews, Life Saving Victoria

Co-Authors: Mr Robert Andronaco, Life Saving Victoria; Mr Greg Scott, Life Saving Victoria

Abstract:

Background:
Prevention of drowning in coastal areas has been recognised as a key priority by the Australian Water Safety Council. While much is known about fatal drowning incidents in coastal areas little is documented about rescues at both bay and ocean beaches along Victoria’s coastline. A broader examination of coastal aquatic incidents and associated risk factors is required to better inform prevention strategies.

Aims:
To determine the characteristics of rescues by lifeguards and lifesavers in Victoria from 2007-2015.

Methods:
All rescues conducted and recorded by lifesavers and lifeguards at patrolled beaches in Victoria between November 2007 and April 2015 were identified using the Life Saving Victoria rescue database. Variables included, time and date of incident, location and activity at the time of incident. Demographic variables included age range, gender, and nationality.

Results:
There were 5169 rescues from 2007-2015, an average of 646 per season. Two thirds of those rescued were male (3205; 65%) and 44% (2155) were aged 6-16 years. The most common activities just prior to rescue were swimming (60%) or bodyboarding (23%). The majority (86%) of rescues occurred outside the patrol flags (designated as the safest place to swim and patrolled by lifesavers/lifeguards)

The ethnicity of victims was recorded in 89% of rescues. Thirteen percent of victims were born overseas. While the majority of rescues occurred at ocean beaches, those born overseas were significantly more likely to be rescued at a bay beach than those born in Australia (26% overseas born vs 12% Australian born). Similarly a greater proportion of people born overseas were rescued at beaches rated as least hazardous (27% overseas born vs 14% Australian born). They were also more likely to be rescued further from shore (>150m).

Discussion and Conclusions:
Over 600 lives are saved by Victorian lifesavers and lifeguards each year. Consistent with drowning deaths and hospitalisations, the majority of those rescued were male. However the age range of those rescued was younger than for fatal drowning incidents. The importance of supervision of children aged 6-16 years at beaches requires further promotion. Those persons whose country of birth was overseas were more likely to be rescued at least hazardous beaches and further from shore. This may indicate a lower level of swimming competency of people from CALD communities. More work is required to educate people from CALD communities about the potential hazards of beaches and the importance of learning to swim.
Perceived Risks of Surf Swimming - a Nippers’ Perspective

Presented by: Ms Amanda Higgerson, Federation University Australia

Abstract:

Background:

While many water safety researchers have investigated aquatic safety and children, most studies have focused on pool or closed water environments. Surf swimming presents unpredictable challenges that pool swimming lacks. To date, only limited research has examined Primary school aged children and safe participation in open water activity, in particular surf swimming.

Reducing drowning deaths at surf beaches is a priority area of the current National Water Safety Strategy (1). In the 2013/2014 financial year, 34 drowning deaths occurred at Australian beaches, with most of these (59%) attributed to swimming or recreating (2). Development of basic survival skills in open water, under instruction and close supervision, has been identified as a beach drowning prevention strategy (1). The Surf Life Saving Australia’s Junior Development Program for Nippers Aims to develop water safety skills and knowledge (3) but a fall in Nipper numbers over recent years means less children have been exposed to this program (4).

Aim:

To identify Nippers’ perceptions of their surf swimming ability, and barriers and/or facilitators to swimming in the surf during Nipper activities.

Methods:

A self-report, forced-choice response Nipper survey was developed and validated to collect demographic data, and information about competency and perceived barriers/risks. Children from NSW Mid-North Coast, aged 8-13 years and registered as Surf Life Saving New South Wales Nippers, were invited to participate.

Results:

Preliminary analysis of the 342 completed surveys indicated that over 50% of participants reported they were very good at swimming in small/medium waves, although only 30% reported their ability as very good in large waves. Participants reported some concerns with aspects related to the weather, the water environment and sea creatures, which could act as barriers to participation. The social aspects of Nippers were considered favourably. Most children reported high enjoyment in being with friends and having time to play in the surf with friends.

Discussion and conclusions:

These findings provide initial insight into Nipper perceptions of surf swimming and can be used by Surf Life Saving clubs when planning Nipper activities to consider barriers and facilitators to participation. With increased understanding of Nippers’ concerns about specific environmental factors clubs can address these factors to enhance their programs so that Nippers continue to engage, further building their aquatic skills in open water and ensuring the continued success of the Nipper program.
Perception and Risk Factors of Childhood Drowned in Bangladesh: A cases study of rural parents

Presented by: Mr. Mosharaf Hossain, *UPM*

Co-Authors: Dr. Kulanthayan K.C. Mani, *UPM*

Abstract:

Backgrounds:

Drowning is the global killer, particularly children’s and young adult. It is preventable but neglected relative to its impact on families, communities and livelihoods. The Aim of this study is to describe why children are drowned and risk factors in rural community of Bangladesh.

Methods:

A qualitative study and in-depth interviews was conducted in rural community of Bangladesh. In-depth interviews 5 drowned parents were participated. Parents one by one was conducted for discussion. Out of 5 participants 3 were women.

Results:

All parents are given bleded child luck and Allah wrote chidrens are drowned and the parents informed that, under 10 years childrens are at risk of drowned. Maximum drowned was occurred in ponds and time between 11:00AM-2:00PM. And also the risk factors lack of swimming ability, parents are not careful his/her child especially mothers are not aware about the childhood drowning, lack of knowledge about the childhood drowning and lack of medical facilities.

Conclusions:

Parents should be take care childrens at the time between 11:00AM-2:00PM, teach of swimming skills, ponds should be fenced and increased awareness by community leaders or mass media for prevention of childhood drowning. Campaigns and mass media can be used to increase the knowledge and awareness about childhood drowning among the community, especially mothers.

Keywords: Perception, Risk factors, Child drowned, Case study.
Symposium Introduction: Quad Bikes

Presented by: Tony Williams, SafeWork NSW

Abstract:

Quad bikes are the leading cause of injury and death on Australian farms, with more than 210 Australians dying in quad bike incidents since 2001.

So far in 2015 there have been 16 quad bike-related fatalities nationally. The majority were a result of head injuries or from being trapped under overturned vehicles. Manufacturers, suppliers, training providers, farming associations, regulators and the farming community all have a role to play in improving quad bike safety.

On behalf of the Heads of Workplace Safety Authorities, SafeWork NSW funded University of NSW, Transport and Road Safety (UNSW TARS) to undertake world-leading crash performance testing of agricultural and recreational quad bikes and side by side vehicles. The project sought to identify safety enhancements and design improvements to prevent injuries and fatalities. More than 1,000 tests were conducted using combinations of riders, loads and operator protection devices.

Findings and recommendations from UNSW TARS and the two quad bike related coronial inquests this year could lead to major improvements in quad bike design and safety and a reduction in the number of on-farm quad bike incidents.

SafeWork NSW is developing an industry support package including:

- initiating a consumer safety rating systems for new vehicles similar to the NCAP system
- retrofitting of operator protective devices for existing on-farm vehicles
- increasing helmet wearing and training rates
- increasing awareness in the farming community about the importance of vehicle selection, safe use and restricting child access.
Fatalities Related to Quad Use in Australia

Presented by: Associate Professor Tony Lower, Australian Centre for Agricultural Health & Safety, University of Sydney

Co-Authors: Ms Noeline Monaghan, Australian Centre for Agricultural Health & Safety

Abstract:

Background:
Quads have been the leading cause of non-intentional farm injury deaths for the past four years in Australia. There has also been significant controversy over the risk control approaches advocated by manufacturers and safety advocates.

Aims:
To describe the nature of quad-related fatalities in the period 2001-2014 in Australia and examine the current status of risk control measures.

Method:
Data from the National Coroners Information System from 2001 to 2014 were used to define the agents and mechanisms of injury deaths. Cases that had been closed by the respective coroners were included in the analyses, with descriptive data being provided. Chi-square analyses were used to compare variations by age in relation to location of fatal incident (farm vs. non-farm), mechanism (rollover vs. non-rollover) and primary cause of death.

Results:
In the 14-year period of the study there were more than 200 recorded fatalities, with over 150 of these cases having been formally closed. Males dominated the data accounting for 82% of all cases. Children < 15 years were involved in 18% of cases and people > 45 years in 45% of cases. For primary rollover events, 84% of all cases occurred on a farm. A statistically significant difference was observed for age and primary mechanism (rollover / non-rollover), with older riders more likely to die from a rollover event ($\chi^2=16.7$, df=5, p<0.01). Similarly, older riders were more likely to die in an on-farm situation compared to younger riders ($\chi^2=43.7$, df=5, p<0.01). When examining primary cause of death by mechanism (rollover/non-rollover), rollover cases were more likely to involve asphyxiation or thorax injury, while non-rollers where more likely to result from head or multiple injuries ($\chi^2=23.6$, df=7, p<0.01).

Discussion:
These data illustrate significant issues for Australia’s farming community. Currently, there are two major coronial inquests underway (n= 16 cases) and an imminent release of a new independent engineering study assessing a range of design factors related to quads. The outcomes of these processes will be discussed in light future public policy and ongoing efforts to reduce the fatality and injury burden associated with quads.
Quad-related Fatal Injuries 2007-2012: a comparison between Australia and NZ

Presented by: Dr Rebbecca Lilley, Injury Prevention Research Unit, University of Otago

Co-Authors: Associate Professor Tony Lower, Australian Centre for Agricultural Health and Safety, University of Sydney, Australia; Ms Gabrielle Davie, Injury Prevention Research Unit, University of Otago; Mrs Suzanne Wilson, Injury Prevention Research Unit, University of Otago

Abstract:

Background:

Serious concerns have been raised over the safety of quads in Australia and New Zealand (NZ), with increasing numbers of quad-related fatal injuries and the high social and economic cost of these fatalities. Previous studies have sought to describe quad-related fatalities within each country. Given the economic similarities between Australia and NZ, cross-country comparisons could untease geographical, structural and policy influences to inform injury prevention initiatives in both countries.

Aim: To enumerate, describe and compare the personal, injury and environmental factors associated with quad-related fatalities for the period 2007-2012 using Coronial case files for Australia and NZ.

Methods:

Coronial case files for the period July 2007 to June 2012 held by the National Coronial Information System, Victoria, Australia were used to identify fatalities involving a quad for both Australia and NZ using key word and mechanism searches. Information on the decedent, such as age and sex, was extracted from coronial case files. Further information on circumstances surrounding the fatal incident was coded using the Australian Farm Injury Optimal Dataset coding framework. Comparison of the distribution of decedent, injury characteristics and event circumstances were undertaken.

Results:

A total of 111 quad-related fatalities were identified: 71 in Australia and 40 in NZ. Preliminary analyses have identified the pattern of decedent characteristics was similar between both countries. Month of incident differed with 63% of Australian fatalities occurring January to June, while 71% of NZ fatalities occurred July to December. There were no differences in the nature of injury, helmet wearing, type of quad or load carrying. Differences where observed for primary mechanism of injury with Australian fatalities mainly involving collisions with stationary objects while NZ fatalities mainly involved quad roll-over. The presence of a slope was more commonly observed in NZ quad-related fatalities.

Discussion & Conclusion:

Our preliminary comparisons of quad-related fatalities between Australia and NZ identified many similarities in the characteristics of the decedent and of the fatal event. The main differences observed were in relation to the time of year of incident, the primary mechanism of injury and terrain. Given patterns of quad-related fatalities are similar between Australia and NZ consolidation of injury prevention initiatives, particularly around quad manufacturing standards and controls,
could be undertaken to develop effective prevention interventions to address commonly held quad safety concerns.
Quad Bike Child-related Injury in Queensland, Australia

Presented by: Ms Kim Vuong, Centre for Accident Research and Road Safety – Queensland (CARRS-Q)

Co-Authors: Associate Professor Kirsten Vallmuur, Centre for Accident Research and Road Safety – Queensland (CARRS-Q); Dr Angela Watson, Centre for Accident Research and Road Safety – Queensland (CARRS-Q); Dr Jesani Catchpoole, Centre for Accident Research and Road Safety – Queensland (CARRS-Q)

Abstract:

Background:
Since 2001, there have been a total of 207 quad bike fatalities in Australia, with nearly 20% of these fatalities involving children under the age of 16 years, and 77% of which involved children riding recreationally. Since 2011, Queensland reported the most number of fatalities in all the states of Australia, and over 30% of child fatalities (0-19 years) occurred in Queensland. Furthermore, during 2003-2011, the highest number of hospitalised injuries occurred in Queensland in all years except in 2008.

Aims:
This paper will describe the patterns and circumstances of quad bike-related fatalities and serious injury in Queensland children (under the age of 18 years).

Methods:
Quad bike-related incidents between 2009-2013 were identified from routinely collected injury data across the treatment spectrum from ambulance, emergency department, hospitalisation, and coronial databases. Where available, text descriptions in databases were manually reviewed and circumstances of incidents were coded. A descriptive analysis of the data was conducted to examine the patterns and circumstances of quad bike incidents in Queensland children.

Results:

Fatalities
There were four fatalities in Queensland children between 2009-2013.

One incident involved a female, 5 years of age, and one male, 11 years of age. The other two cases were not unknown.

Injury
There were almost 400 children treated by the ambulance service, over 1200 emergency department presentations and almost 600 hospitalisations related to quad bike injuries in Queensland, in the five year period from 2009 to 2013. Half of all quad bike-related ambulance attendances and emergency department presentations, and one-third of hospitalisations were for children aged 10 years and younger, and males account for around 60% of the cases. Upper extremity fractures accounted for 30% of hospitalisations, followed by fractures of the lower extremity (11%), and traumatic brain injury (10%).

Discussion and comments:
In order to inform injury prevention policy and practice in the quad bike area, it is important to identify the nature of the fatalities and injuries specific to children. Children are a high-risk group and this study demonstrates the need to better understand the nature of injuries in this age cohort for targeted safety messages/campaigns and interventions.
Death and Serious Injury of Children on Quad Bikes: RACS Perspective

Presented by: Dr John CROZIER, RACS

Co-Authors: Prof Danny Cass, RACS; Mr John Graham, RACS; Ms Amy Kimber, RACS; Ms Monique Whear, RACS; Associate Professor Kate Curtis, National Trauma Research Institute; Prof Mark Fitzgerald, National Trauma Research Institute

Abstract:

Context:
Quad bike manufacturers state that children 16 years of age should never ride, nor be passengers on adult quad bikes. No death or injury of a child on an adult quad bike is acceptable.

Objectives:
This paper presents evidence to support the development of legislation and policy to prohibit the riding or carriage of children on adult quad bikes in Australia.

Key Messages:
Between 2010 and 2014, utilizing data from the NSW Institute of Trauma Injury Management database, 102 quad bike riders or passengers sustained significant injury (Injury Severity Score &gt;8805; 13) and were admitted to NSW Hospitals.

Most people survived quad bike related injury, however:

- 6 of these patients, all males of varying ages, subsequently died, after being admitted to hospital. Of those who died, the head was the most commonly injured body region.
- Overall, chests were the most commonly injured body region, at 67%.
- Multiple body region injuries occurred in 85% of cases.
- Males were injured more often than females (89% and 11% respectively).
- The majority of males injured were aged between 45 and 64 years of age (30%).
- Moderately injured (ISS 13-15) to seriously injured (ISS 16-24) were the most common ranges of injury at 33% and 34% respectively.
- Young people under the age of 25 were just as likely as those aged 25-44 to be injured (both 27%).

Data from the Australian Trauma Registry 2010 - 2012 evidences 8.1% of seriously injured quad bike riders or passengers were children less than 16 years of age.

The data demonstrate that there has been a significant increase year-by-year in the number of quad bike injured patients requiring hospitalization throughout Australia during this period.

Discussion and Conclusions:
Allowing children to ride adult quad bikes is a breach of manufacturer directions for use.

The penalty for lack of judgement, lack of knowledge, lack of skill, or even lack of body mass and physical strength, all of which are more probable in children riding quad bikes, should not be death or serious injury.
Legislation prohibiting riding by or carriage of children on adult quad bikes is an essential form of child protection in Australia
Quad Bikes in South Australia: Uses, Incidents and Related Injuries

Presented by: Dr Lisa Wundersitz, Centre for Automotive Safety Research, The University of Adelaide

Co-Authors: Mr Sam Doecke, Centre for Automotive Safety Research, University of Adelaide; Mr Simon Raftery, Centre for Automotive Safety Research, University of Adelaide; Professor James Harrison, Research Centre for Injury Studies, Flinders University; Ms Tori Lindsay, Centre for Automotive Safety Research, University of Adelaide

Abstract:

Quad bikes are important to many agricultural industries in Australia, but the number of injuries associated with quad bike use has risen as they have become more popular. Quad bikes are now the leading cause of death and serious injury on Australian farms. The Aim of this project is to understand quad bike use and the circumstances surrounding incidents that occur as a result of their use. In particular the project identifies high risk uses and why quad bikes are chosen for these applications. We are also investigating the severity and type of injury sustained by quad bike riders and whether there are any solutions that could reduce these injuries.

The research draws on a variety of data sources. Agricultural workers (n~40) who operate a quad bike were interviewed to obtain information about their quad bike use, knowledge, and any incidents that they have experienced. Where possible, the quad and terrain were inspected. Patients admitted to the Royal Adelaide Hospital following a quad bike incident were also interviewed. In addition, information on the causes of incidents and mechanisms of injury were obtained from hospital admission data, WorkCover SA clAims data (n=199), and Coroners’ case reports (n=8) obtained from the National Coronial Information System (NCIS).

Findings from this project will lead to the development and implementation of behavioural, regulatory and engineering countermeasures that will assist in reducing quad bike related injuries in the agricultural sector throughout Australia and New Zealand.
Eight Weeks Remote Monitoring Using a Freely Worn Device Reveals Unstable Gait Patterns in Older Fallers

Presented by: Dr Matthew A Brodie, NeuRA
Co-Authors: Professor Stephen Lord, NeuRA; Dr Kim Delbaere, NeuRA; Ms Milou Coppens, NeuRA; Dr Janneke Annegarn, Philips Research

Abstract:

Background:

Fall injuries and morbidity are prevalent in older people and threaten to create a global burden with serious social and economic implications. Walking may provide both exercise and independence and several studies have reported that active older people have fewer falls. However; many falls are caused during transfer movements or walking and some studies have found that increased physical activity, and/or walking only interventions may result in more falls. This suggests further research is required to better understand the trade-offs between increased exposure to falls while walking and health benefits. Furthermore, people may undertake hundreds of walks per day and different to the analysis of repeat walks in controlled clinical settings, it should not be assumed that central values best represent performance, without first investigating how different types of walking are distributed.

Aims:

The objective of this paper was therefore to better understand how walking patterns in older people are distributed during daily-life.

Methods:

1085 days of walking data were collected from eighteen independent-living older people (mean age 83 years) using small pendent sensors. Distributions of accelerometer-derived parameters (encompassing gait domains of quantity, exposure, intensity, and quality) were investigated and compared for those with and without a history of falling.

Results:

Day-to-day gait performances varied considerably. Participants completed more short walks relative to long walks, as approximated by a power law. Overall, walks ≤13.1 seconds in duration comprised 50% of exposure to walking-related falls. Daily-life cadence was bimodal and step-time variability followed a lognormal distribution. Fallers took significantly fewer steps per walk, had relatively more exposure from short walks, and greater mode of step-time variability. A minimum of one week of monitoring is preferable to reliably assess gait quantity or gait exposure, but three days may be sufficient for assessment of gait intensity or gait quality.

Discussion and Conclusions:
Short walks constitute a large proportion of exposure to falls in older people. With respect to gait quality, mode of variability may be a better measure of central tendency than mean of variability to discriminate fallers from non-fallers. The daily-life walking patterns collected remotely over several weeks provide insight into age-related decline in physical functioning and the complex relationships between daily-life walking, exposure, morbidity and falls.
Functional Outcomes of Hip Fracture Patients in an Orthopaedic Trauma Registry

Presented by: Dr Christina Ekegren, Monash University

Co-Authors: Professor Belinda Gabbe, Monash University; Professor Richard Page, St John of God and Barwon Health; Mr Andrew Oppy, Royal Melbourne Hospital; Associate Professor Elton Edwards, Alfred Hospital; Associate Professor Sue Liew, Alfred Hospital; Associate Professor Andrew Bucknill, Royal Melbourne Hospital; Professor Richard de Steiger, Epworth Hospital; Associate Professor Raphael Hau, Northern Hospital; Ms Melissa Hart, Melbourne Health

Abstract:

Background:

Hip fracture is a leading cause of morbidity, particularly in the elderly. Monitoring functional outcomes is vital for evaluating the recovery of patients following hip fracture. The Victorian Orthopaedic Trauma Outcomes Registry (VOTOR) is a comprehensive monitoring system for orthopaedic trauma in Victoria and one of very few registries in the world to routinely measure long-term functional outcomes of hip fracture patients.

Aims:

This study aimed to report functional, residential and work-related outcomes for VOTOR patients six and 12-months following hip fracture.

Methods:

Demographic and injury data were extracted for all hip fracture patients within VOTOR from July 2009–June 2014. For all survivors to hospital discharge who were eligible for six and 12-month follow-up (i.e. those admitted July 2009–June 2013), functional outcomes (using the Glasgow Outcome Scale – Extended (GOS-E)) and residential and work-related outcomes were collected.

Results:

There were 4917 hip fractures recorded over five years, representing 17% of all VOTOR patients. The mean (SD) age of hip fracture patients was 78 (16) years and 64% were women. Seventy-eight per cent of all hip fractures were due to a low fall (e.g. tripping) but for the 15% of patients aged under 65 years, the main causes of injury were motor vehicle accidents and high falls. Of the 3905 patients eligible, 94% were successfully followed up at both six and 12-month time-points. For those working prior to injury, (n=360), 40% had not yet returned to work at six months and 36% had still not returned at 12 months. Of those surviving to 12 months post-injury (n=2931), 24% had returned home without additional assistance, 36% required extra assistance at home and 26% were living in a nursing home. For those patients followed up at 6 months (n=3666), 19% had died, 42% reported severe disability and only 9% had fully recovered. At 12 months (n=3684), 25% had died (38% in the 85 years+ group), 25% had died (38% in the 85 years+ group), 38% reported severe disability and 11% had fully recovered.

Discussion and conclusions:

In this study, over a third of hip fracture patients were unable to return to work (if working prior), required additional assistance at home and experienced severe ongoing disability 12 months following injury. One quarter of patients had died during this period. This study highlights the poor
outcomes of hip fracture patients and provides a strong justification for investigating ways of both preventing these injuries and improving their management in acute and post-discharge settings.
Validation of a Virtual Driver Assessment Tool for Older Drivers

Presented by: Mr Sidhant Chopra, Center for Research on Ageing, Health and Wellbeing, ANU

Co-Authors: Dr Ranmalee Eramudugolla, Centre for Research on Ageing, Health and Wellbeing, ANU; Ms Jasmine Price, Centre for Research on Ageing, Health and Wellbeing, ANU; Dr Xiaolan Li, Centre for Research on Ageing, Health and Wellbeing, ANU; Professor Kaarin Anstey, Centre for Research on Ageing, Health and Wellbeing, ANU

Abstract:

Background:

Road safety is an ongoing public concern and recent data indicate a need for further research into injury prevention focusing on the growing population of older drivers. Driving simulators provide a safe, economic and repeatable measure for determining safety in at-risk drivers. However, few studies have examined the acceptability and validity of simulator-based assessment in older drivers. Furthermore, existing virtual set-ups are costly, require technical expertise and differ greatly from on-road testing in their precision and method of error analysis – reducing their potential for translation and clinical utility.

Aim:

Here, we develop a cost-effective, computer-based driving assessment tool for older adults, and validate it against an on-road driving assessment using matching environment, route and scoring methodology between the real and virtual mediums.

Method:

Forty-four older drivers (mean age=75.6 (5.87) years) recruited from the community, were screened for motion sickness susceptibility before completing a 60 min PC-based simulated driving session. The simulator test comprised four instructor-guided and one self-navigation scenario. Standard scoring criteria were used by the experimenter to identify errors in observation, indication, brake/acceleration, lane position, gap selection and approach. Participants also underwent vision, hearing and cognitive assessment, and an on-road assessment conducted by an Occupational Therapist using the same standard criteria for scoring errors as used in the simulator test.

Results:

Performance on the simulator test was significantly associated with therapist ratings of on-road performance (B=0.114(SE=0.03), p<0.001), and remained significant after adjustment for simulator sickness rating, age and time between virtual and on-road assessment. Scores on the simulator test was associated with binary pass/fail on-road results - classifying on-road fails with a sensitivity of 67% and specificity of 79%. Simulator performance was also highly correlated with other measures linked to driving ability including performance on the Useful Field of View test (UFOV), the DriveScore Test, the Maze Test (OT-DORA), Trail Making Test, as well as participant age and weekly driving distance.

Discussion and Conclusion:

The findings support the use of a virtual driving assessment in older adults, modelled on a standardised clinical assessment of driving safety. The assessment set-up is a low cost, easy to score
assessment that is a valid predictor of on-road driving performance. Future work will establish its reliability with repeated testing, as well as its validity against long-term driving behaviour.
Bridging the Gap to Build Falls Risk Reduction Capacity in Community Care

Presented by: Mrs Monique King, Stay Standing Pty Ltd

Abstract:

Successful ageing in place is threatened by the rising prevalence of falls injury in line with our rapidly ageing population. In the context of increased service demand and reduced growth in funding, community services and health providers are transitioning to new models of community based integrated service delivery. Large scale rollouts of falls prevention programs have demonstrated that organisational capacity may be strained when highly qualified personnel – traditionally Allied Health professionals - are preoccupied with population level preventive programs to reduce falls risk. Changes in service demand and delivery are increasing the demand for specific skills such as falls prevention, but there is a gap in the delivery of quality falls risk reduction initiatives in the community care sector. This gap is addressed by Australia’s first national quality accredited falls risk reduction program for community Seniors under the government’s Healthy Communities Initiative – the Stay Standing Program.

The Stay Standing Program is an evidence based resource for successful ageing and falls risk reduction in community Seniors, sponsored by community care organisations with delivery by supported community care workers. The Stay Standing Program package includes capacity building for community care workers and a comprehensive toolkit of operational and presentation resources. Training of program facilitators is largely web-based, overcoming traditional geographic, financial and temporal learning barriers and enhancing equity and reach. Program content is suitable for translation to Aboriginal and culturally and linguistically diverse populations.

Community care workers in frequent, ongoing contact with their clients are well placed to identify older people at risk of falling. The Stay Standing Program is an evidence – based, multiple intervention program empowering community Seniors with integrated falls risk reduction strategies. Program content is aligned with state and national falls prevention policy and health promotion initiatives. Under the Stay Standing Program model, community care workers learn to test strength, balance and confidence for daily activities using falls risk related outcome measures, implement SMART goal setting techniques and supervise home-based balance and strength exercises. Specialised program content may be delivered by qualified local health and service providers with the community care worker ensuring group continuity as the Stay Standing Program Facilitator.
Validation of Evidence-based Screening Instruments to Identify Safe and Unsafe Older Drivers: The DASH Study

Presented by: Ms Jasmine Price, Capital Occupational Therapy / Center for Research on Ageing, Health and Wellbeing, ANU

Co-Authors: Mr Sidhant Chopra, Center for Research on Ageing, Health and Wellbeing, ANU; Dr Ranmalee Eramudugolla, Center for Research on Ageing, Health and Wellbeing, ANU; Professor Joanne Wood, Queensland University of Technology - School of Optometry and Vision Science; Prof Kaarin Anstey, Center for Research on Ageing, Health and Wellbeing, ANU

Abstract:

Background:

Population ageing trends mean research needs to be directed at maintaining older adults’ participation in activities—including driving a vehicle—safely. Research indicates older adults are over-represented in crashes per distance traveled and in serious crashes relative to younger age groups. Despite these projections, few reliable and valid methods are available for clinicians and licensing agencies to accurately identify at-risk older drivers.

Aim:

This first of its kind study will examine various available screening tools and assess their (1) validity against standard on-road driving assessment, and (2) predictive validity against driving behaviour over 24 months.

Method:

The study will recruit 650 adults aged over 65 years from (1) healthy community samples (N=200) and clinical populations recruited through typical pathways for further assessment: (1) Driver Assessment OT clinic (N=100), (2) Optometry clinic (N=200), (3) Cognitive complaints (N=150). Participants will be tested extensively on vision, cognition, hearing, and balance, and driver screening tools (Hazard Perception Test, DriveSafe/DriveAware, Useful Field of View, 14-Item Road Craft Test, OT Drive Home Maze, Multi-D). Afterwards, participants complete a standard on-road driving assessment in a dual-control car. Additionally, participants provide monthly reports on driving behaviour and incidents over 24 months. Performance on driver screening tools will be analysed against cognitive, visual and hearing abilities, on-road performance and longitudinal follow-up of driving behaviour.

Conclusions and Discussions:

The findings will provide independent data on the predictive validity of available driver screening tools. This information will be critical for clinicians, licensing agencies and policy makers in selecting tools and making evidence-based decisions regarding at-risk older drivers.
An Evidence Based Hip Protector Project in a Psycho-Geriatric Unit: Introduction and results

Presented by: Mrs Diana Clayton, Peninsula Health

Co-Authors: Mrs Jakinta Bowra, Peninsula Health

Abstract:

Context:

In our 30 bed psycho – geriatric residential care unit there are a significant number of residents who are at high risk of falling due to cognitive impairment. In a six-month period two residents’ sustained hip fractures as a result of a fall and this was a matter of concern to both the unit involved and the service provider. It was decided, based on the evidence found in research, to introduce soft hip protectors into this unit that were to be worn 24 hours a day.

Objectives:

A project was developed for the introduction of the hip protectors into the unit with the objective of reducing the number of hip fractures sustained from resident falls.

Residents are assessed using the Falls Risk Assessment Tool (FRAT) by nursing staff. Indications for Hip Protector prescription were any of the following:

• Reported High falls risk from Donor facility, Family Past History or identified as high falls risk by the FRAT
• Osteoporosis.
• History of a low impact fracture.
• Staff assessment of resident re: ambulating & transferring.

Key message:

During the project 29 residents were prescribed hip protectors and of those 27 went on to fall. There were a total of 110 falls; 83 sustained no injury, 10 soft tissue head injuries, 14 abrasions / skin tears, 2 injury not specified, 1 fractured acetabulum - this is not a hip fracture but a pelvic fracture and hip protectors are not designed to prevent this type of injury.

Discussion and Conclusions:

In the 12 months the hip protector project was running we have identified issues involving staff and resident reluctance to use the hip protectors, the laundering of the hip protector pants, the use of hip protectors with incontinent patients especially at night and skin integrity issues with the hip protectors.

The project was deemed successful as no fractured hips were sustained in the time the project was running. Since this project concluded, a hip protector program has been introduced in the unit with all new residents prescribed hip protectors. There have been no hip fractures amongst the residents wearing hip protectors since the hip protector program has been operating. The use of hip protectors in this unit has been instrumental in reducing hip fracture rates.
Research is currently being planned to assess the economic cost benefit of the use of hip protectors in this unit.
Implementation of a Falls Huddle in a Rehabilitation Ward

Presented by: Mrs Diana Clayton, Peninsula Health

Co-Authors: Ms Nikita Sundarjee, Peninsula Health

Abstract:

Background:

As part of the falls prevention program at Peninsula Health we benchmark our falls with harm and total falls by 1000 bed days with other comparable health services.

As a result the data received as part of this benchmarking we noted that we had a high level of falls with major harm compared to our benchmarking partners.

As a result we visited two of our benchmarking partners and at one were shown the “huddle” process in place for review of a fall by the care team.

Objectives:

To implement a trial post fall huddle in a Rehab ward and assess whether it was suitable for implementation in all rehab wards and other sub acute sites.

We wanted to assess the effectiveness of the huddle in improving communication with clients about their falls risk, develop patient specific strategies and reduce falls with major harm.

The huddle would be convened during business hours Monday – Friday with falls outside this time being reviewed at the first available time post fall.

The team comprising medical, Allied Health and Nursing would be paged and attend the patient in their room, the fall would be reviewed using the cheat sheet and assessment tool.

Key messages:

Good communication between team members and the use of the paging system was essential to get a prompt huddle organised.

It is absolutely essential that the huddle be held in the room with the patient and that the patient is asked to provide interventions that they can comply with to reduce the risk of a fall of similar nature.

Discussion and Conclusion:

The three month review has taken place and it was decided to continue the trial for another three months. At this time 6 patients had been reviewed using the falls huddle model and informal staff and patient feedback indicates that the huddle was well accepted and led to more specific patient orientated interventions were initiated. This project has also encouraged the development of a formal pre falls huddle for those patients deemed to be at high risk of injury.

As yet it is not possible to say if the project had reduced falls but early results are promising. While total fall numbers have fluctuated there have been no falls with major harm on the unit since the project commenced.

A formal study is required to evaluate the effectiveness of the falls huddle.
Physical Barriers to Compliance with Current Child Restraint Laws

Presented by: Mr Cameron Fong, Neuroscience Research Australia

Co-Authors: Professor Lynne Bilston, Neuroscience Research Australia; Dr Julie Brown, Neuroscience Research Australia

Abstract:

Background:

Traffic crashes are a leading cause of death among children in Australia. The current child restraint laws require all children under the age 7 to be restrained in an appropriate restraint. There may be practical constraints impacting parents’ capacity to comply with this legislative requirement.

Aims:

To examine physical limitations that prevents compliance with the current child restraint laws in Australia.

Methods:

A nationwide online survey asking parents/carers of children aged 0-7 about their experiences with child restraints was conducted in May-August 2014. This survey specifically asked parents about problems they had in using child restraints such as fitting child restraints, features of the car that impact on the installation, and the room available to install restraints. A mix of open ended and fixed response questions were used.

Results:

A total of 470 respondents completed the online survey, 430 (91.5%) females and 40 (8.5%) males aged 19-70 (M=33.7, SD=7.3). Over a quarter of respondents (26.4%) reported difficulties installing child restraints in their vehicle. The most common problems reported related to the space available in the car (17.9%), problems fitting multiple restraints (11.7%) and difficulties with hardware such as seatbelts, tethers etc. (8.5%). More than a third of participants (35.5%) reported features of the vehicle impacted the fitment of restraints. These included issues related to the width of the rear seat (11.7%), the shape of the rear seat (7.9%) and the top tether anchor position (7.4%).

Almost a third (30%) of respondents reported their primary vehicle was a small/medium car, and 22% reported living in households with 3 or more children, up to age 16.

There was no significant association between those who report problems using restraints and car size or number of children.

Most children (96%) in this sample were reported to be using age appropriate restraints as required by Australian law. There was no difference in appropriate use by vehicle type or number of children in household.
Discussion and Conclusions:

Families using child restraints are experiencing difficulties fitting child restraints into vehicles. While we saw many families with 3 or more children and using small/medium vehicles, in this sample this was not associated with inappropriate restraint use. However, only children using child restraints were included, so children using seat belts were excluded. This analysis also does not adequately represent lower socioeconomic families. Further investigation of physical constraints impacting legislation compliance, particularly in lower socioeconomic sectors, is warranted.
Occupant Protection for Low Birth Weight Babies

Presented by: Dr Julie Brown, Neuroscience Research Australia

Co-Authors: Dr Elizabeth Clarke, Kolling Institute, University of Sydney; Associate Professor John Sinn, University of Sydney; Ms Aileen Chua, University of Sydney

Abstract:

Background:

Optimal crash protection for child passengers requires an appropriate restraint for the size of the child. Current infant restraint systems are designed to fit babies of normal birth-weight; however some babies are discharged from hospital at just over half of this weight. Almost 20% of babies discharged from the special care nursery at one Sydney hospital are < 2.2kg. While it is likely that these lower birth weight (LBW) infants may be poorly accommodated in many child restraints on the market, this has not been studied previously.

Aim:

To examine the accommodation of new born infants in rearward facing restraints, by weight and restraint type.

Method:

A cohort of 90 new born infants (median weight 2.4kg) within 1 week of discharge was recruited from the postnatal ward and special care nursery of a Sydney hospital from July 2012 to August 2014. The infants were placed in a selection of 4 infant restraints (2 dedicated and 2 convertible rearward facing restraints), and a subset was also placed in a restraint designed to meet the newly adopted LBW design requirements of AS1754. Harness fit was analysed using a 4-point score for 4 different harness fit criteria: buckle position, crotch strap position (gap), shoulder strap height and shoulder strap width. Anthropometric predictive curves were developed using linear regression by weight, and harness scores were analysed using multiple linear regression.

Results:

The restraint designed for LBW babies provided superior accommodation. However, accommodation for LBW infants in other restraints was generally poor. For LBW infants, buckle position was worse in the dedicated restraints than convertible restraints (p=0.03) but shoulder strap width was better in convertible restraints (p=0.04). Overall, shoulder strap height and crotch strap position (gap) were significantly worse for babies of lower weight (p=0.007, p=0.025 respectively). The predictive anthropometric charts developed using a sample of 90 newborns enable prediction of a specific anthropometric measurement from a given body weight. Comparison of the predicted body segment lengths for given weight with the low birth weight dummy specified in AS1754 demonstrate that the dummy dimensions are above the 95% confidence limits for many measurements.

Discussion and Conclusions:

LBW dummy may not be a good surrogate for the size of LBW infants but, restraints designed to accommodate this dummy provide a much better fit for LBW infants than other infant restraints.
Parents of LBW infants should be encouraged to use restraints specifically designed to accommodate small infants.
Pediatric Road Traffic Injury Rates by Mode of Travel: Using exposure-based methods to quantify differences

Presented by: Dr Hsiu-Ping Fan, Emergency Department, Department of Emergency and Critical Care Medicine, Wan Fang Hospital, TMU

Co-Authors: Prof. Mau-Roung Lin, Taipei Medical University, Taipei, Taiwan; Dr. Ping-Wen Huang, Show Chwan Memorial Hospital, Changhua, Taiwan; Dr. Chin-Wang Hsu, Wan Fang Hospital, Taipei; Prof. Wen-Ta Chiu, Taipei Medical University, Taipei, Taiwan

Abstract:

Background:

According to The United Nations Children’s Fund, road traffic injury (RTI) is among the leading causes of death in children in Asia. In Taiwan, RTI is the first killer for children age from 1 to 19. However, little is known about the nonfatal pediatric RTI rate in Taiwan. Furthermore, the road traffic event (RTE) and RTI rates vary by mode of travel. Measures of different road travelling exposure are needed to estimate the RTI risks more accurately.

Aims:

To ascertain event and injury rates of different road travels in children in Taiwan by using an exposure-based method.

Methods:

A large cross-sectional survey was conducted at four elementary schools in Changhua City, the second largest city in west-central Taiwan. In total, 5,212 students, representing 34.4% of elementary students in the city, participated in the survey. Parents were interviewed with a structural questionnaire to obtain information about their children’s habits of road travelling and RTE experiences in past three years.

Results:

The most common mode of road travel in children in Changhua City is motorcycle (50.8% of all road travelling person-trips), following by car (28.9%), walk (17.3%), and bicycle (3%). There were totally 769 RTEs, including 166 medical-attentioned RTIs. The average annual rates were 52.2 per million person-trips for RTEs, and 11.3 per million person-trips for medical-attentioned RTIs. When comparing to walk, the relative risk (RR) of RTE were significantly higher by bicycle (RR: 14.7, 95% confidence interval (CI): 11.0-19.6), by car (RR: 2.4, 95% CI: 1.9-3.2), and by motorcycle (RR: 1.5, 95% CI: 1.1-1.9). Moreover, the RR of medical-attentioned RTI in children were also significantly higher by bicycle (RR: 18.6, 95% CI: 10.6-32.5) and by motorcycle (RR: 1.8, 95% CI: 1.0-3.0) than by walk (reference).

Discussion and conclusions:

Bicycling is the most dangerous mode of road travel for children to medical-attentioned injuries in west-central Taiwan. The injury rate in the present study is more than 35 times of US data in children aged 5-14 years. There could be several explanations. First, in our study it is the only vehicle operated by children themselves. Second, there is no mandatory bicycle helmet law in Taiwan now.
Finally, there is no exclusive bike lane in Changhua City. Our children could be the really "road users" competing the right-of-way with motor vehicles. More efforts from parents, schools and the government are urgently needed to prevent pediatric RTI in Taiwan.
Working Together for Safety: Student power in improving road safety

Presented by: Mr Graeme Barber, Woodend School

Abstract:

Context:

Situated on State Highway 1 the main route from the North Island/South Island Ferry terminal at Picton to Christchurch and beyond, Woodend School students are exposed to many hundreds of trucks passing as they walk, bike and skooter their way to and from school. Creating breaks in traffic in order to operate the ‘lollipop’ Kea crossings is problematic.

Objectives:

‘To work together for safety’ with all trucking companies/owner-drivers that pass the School and travel through Woodend.

To co-construct between the students and the trucking companies/drivers Good Will Agreements that include ‘what the students undertake to do’, ‘what the drivers undertake to do’ and ‘what the students and drivers do together’.

To improve road safety for the children and all who live, work in or pass through Woodend.

Key messages

The students undertake to:

- Keep left and wear helmets when cycling,
- Cross SH1 at the refuge points,
- Be aware of windblasts, blind-spots and turning vehicles, and
- Report any unsafe driving to the school office.

The drivers undertake to:

- Keep a special eye out for children in Woodend,
- Observing a 40km speed limit right through Woodend, and
- Report any unsafe student behaviour to the school office.

Together the students and drivers will:

- Participate in annual road safety programmes
- Design and share safety cards, and
- Design and produce safety message signs that will be placed on the back of trucks.

Discussion and conclusions:

Each term head students, staff, Police staff, Road Safety District Council staff and Trucking Company/driver representatives meet to review current issues, initiatives and co-construct next steps that improve safety for the whole community.

Every year for 10 years the annually selected student leaders (representing student voice) have grown and added value to the Working Together for Safety programme.
Traffic speeds have reduced right through Woodend School as trucks act as mobile speed bumps.

Students record registration numbers for trucks that stop to allow the Kea Crossing patrol to operate and send the drivers thankyou cards.

Programme longevity has been achieved by linking this Programme to the International Safe School criteria and then evaluating its success with stakeholder surveys and discussions.
Multi-faceted Campaign to Reduce the Misuse Rate of Child Car Restraints in Queensland

Presented by: Mrs Susan Teerds, Kidsafe Qld Inc

Abstract:

Context:

Vehicle crashes are a major cause of child death and trauma, and the majority of these child injuries are as a passenger. Although recent legislative changes have focussed on alerting parents to the need to use child-specific restraints until children are at least 7 years, and to ensure these are correctly installed in the vehicle, studies suggest that the message is not reaching a significant proportion of parents/carers. Around 20-25% of children travel in restraints that are too big for them, and around 5% are completely unrestrained. A large proportion of restraints have installation errors, which vary in seriousness from minor to life threatening.

Kidsafe Qld believes that many parents/carers are just not aware of the dangers associated with incorrect selection, use or installation of child car restraints and are not aware of the law. We also believe that information passed onto people by frontline workers can be lacking and/or incorrect.

Objectives:

To enhance child car restraint knowledge of frontline workers and parents/carers throughout Queensland. By ensuring all people have access to professionally-qualified people and via YouTube and a TVC give correct information on child car restraint use which will improve child safety through raising awareness and enhancing knowledge and skills in relation to child car restraint use; drive behavioural change with regards to child car restraint use and reduce the number of children injured, disabled and killed as a result of incorrect use of child car restraints.

Key messages:

In conjunction with a broad public awareness campaign, Kidsafe recognises that it is vital that key people in the local community communicate the correct information. We believe that is it paramount to train frontline workers who will be able to accurately influence colleagues, parents and carers – eg midwives, child services workers, child health nurses, foster care coordinators and police officers. People are more likely to listen to key safety messages when delivered directly to them, especially by people they trust and respect.

Conclusion / discussion:

Ultimately, improving parental/carer awareness will result in a reduction of child injuries/deaths from incorrect use of child car restraints. We argue that frontline health workers need to know the correct selection, use and installation of child car restraints and that we all be on the ‘same page’ to reduce the misuse rate.
INJURY IN VULNERABLE POPULATIONS

The Costs and Consequences of Fall-related Injury Hospitalisations in People with Dementia

Presented by: Dr Lara Harvey, Neuroscience Research Australia

Co-Authors: Associate Professor Rebecca Mitchell, Australian Institute of Health Innovation; Professor Brian Draper, School of Psychiatry, UNSW; Professor Henry Brodaty, Dementia Collaborate Research Centres-ABC; Professor Jacqueline Close, Neuroscience Research Australia

Abstract:

Background:

Around 9% of Australians aged 65 years and older are living with dementia. People with dementia are high users of acute health care services, with all-cause hospitalisation rates three times higher and lengths of stay (LOS) twice as long as cognitively intact people of the same age. Injury, predominantly fall-related injury, is the most common reason for admission to hospital for people with dementia. Despite this, relatively little is known about the hospitalisation experience and costs of people with dementia hospitalised for an injury.

Aim:

This population-based study Aimed to examine the consequences and costs of fall-related injury hospitalisations for people with dementia.

Methods:

Linked hospitalisation and death records for 65,800 individuals, aged 65 and over, admitted for an overnight stay in a NSW public hospital for a fall-related injury for 2010-2012 were analysed. Linear and logistic regression was used to adjust for differences in age, sex and comorbidity. Hospital costs were calculated using AR-DRG codes; average AR-DRG version 6.0 costs were assigned to each episode of care, and summed for an individual’s hospital stay.

Results:

Of the 77,948 fall-related injury hospitalisations, 18.9% had an associated diagnosis of dementia. Hip fracture was the most common injury (31.6%) followed by non-fracture injuries to the head (20.4%). for people with dementia. People with dementia had longer LOS than people without dementia (17.9 vs 16.9 days), with the exception of hip fracture (21.9 vs 29.9 days). People with dementia had higher rates of complications; UTIs (23.6% vs 15.7%), pressure ulcers (8.7% vs 5.8%) pneumonia (8.2% vs 4.9%) and delirium (18.5% vs 5.5%), and higher 30-day mortality (9.2% vs 4.2%). Adjusting for differences in age, sex and comorbidity reduced, but did not eliminate these differences.

The total estimated cost of fall-related injury hospitalisations over the 2 year period was $1,226M, with 21.4% ($263M) being for people with dementia. The average cost of hospital care for people with dementia was higher than for people without dementia ($16,746 vs $14,255 per hospital stay), however this pattern varied by injury type. The average cost for a hip fracture was lower for people with dementia ($27,943 vs $31,098), but higher for head injuries ($8,922 vs $8,050).
Discussion and conclusions:

People with dementia are disproportionately represented in injury-related hospitalisations, experience longer LOS, have higher rates of complications and poorer outcomes. Injury in people with dementia has a high personal and societal cost and represents a priority for prevention.
Child Poisoning Prevention in Bangladesh Rural Communities

Presented by: Ms Meegan Brotherton, Australian Safe Communities Foundation Inc

Abstract:

Context:

The CIPRB and the ASCF, through Noarlunga Safe Community, have worked collaboratively for the last 14 years implementing a broad range of preventative health and safety projects Aimed at poorer, rural people.

Accidental poisoning remains a common cause of childhood injury and death in Bangladesh. The home and its surroundings can be a dangerous place for children. Poisoning has its greatest impact in rural populations that are socioeconomically disadvantaged. These populations have limited access to preventive information and strategies, as well as restricted access to immediate medical care.

As a result, each year many thousands of children in Bangladesh are injured because they have inadvertently consumed some type of household product, medicine, insecticide or pesticide. Most of these ‘accidental’ poisonings could have been prevented.

Objectives:

The objectives of the Child Poisoning Prevention in Rural Communities Project are:

- To increase parental/caregiver knowledge about the safe storage and use of household chemicals, pesticides, insecticides and medicines in the home and community.
- To design and deliver a sustainable, culturally appropriate Poisoning First Aid training module that is responsive to regional and local needs and sustainable for communities.
- To increase parent/caregivers’ knowledge of the correct first aid procedures for poisoning.
- To implement a supportive home visiting program providing preventative, promotional and poisoning first aid information.
- To build the capacity for the community to access emergency support and health-related information and advice from local Upazila health centres/district hospitals.
- To identify effective interventions that can be replicated in other rural areas of Bangladesh.

Key messages:

All evidence on effective interventions for poisoning prevention in developing countries with scarce medical resources shows that there are great advantages in implementing strategies that shift tasks to ‘informal’ first responders within the community.

With its first aid ‘train-the-trainer’ model this project will be completely self-sustainable into the future.

Discussion and conclusions:

It is important to design and deliver sustainable, culturally appropriate programs that are responsive to regional and local needs and sustainable for communities.
This project will result in increased employment opportunities for women through the formal training and employment of two female Community Poison Injury Prevention Promoters.

Effective interventions from this project can be replicated in other rural areas of Bangladesh.
The Use of Period of Birth in Assessment of Long-term Suicide Trends in Australia

Presented by: Mr Geoff Henley, Research Centre for Injury Studies

Abstract:

Background:

Statistics describing the occurrence of suicide in a population over time are usually presented as age-specific or age-adjusted rates of deaths that occurred in each year of a period. The same data can be organised to show rates for people born in particular periods (birth cohorts).

Aim:

To describe long-term suicide trends for all-causes suicides and selected methods of suicide according to age, period of death and period of birth.

Methods:

Australian death registrations indicating suicide for the period 1921 to 2010 were assessed. Cohort-specific case numbers were derived from unit record cause of death data for ABS reference years 1964 and later, and from published annual summary tables for earlier periods.

The periods of birth and terms used to refer to cohorts were as follows: 1886 to 1905 (Hard-timers); 1906 to 1925 (Frugal generation); 1926 to 1945 (Lucky generation); 1946 to 1965 (Baby boomers); 1966 to 1975 (Gen X); 1976 to 1985 (Gen Y) and 1986 to 1994 (iGen).

Deaths data and population data were organised into a form suitable for calculating rates in birth cohorts by use of the procedure –poprisktime– for Stata/SE 13. Age- and sex-specific rates per 100,000 person-years population risk time were calculated.

Results:

Suicide rates for males born in the Baby Boomer generation, Gen X and Gen Y rose more rapidly with age in their early adult years than occurred in the generations of their fathers and grandfathers. Rates for males in the iGeneration appear not to have risen as far or fast by about age 20 as the 3 preceding generations. For males born in the 20th century, suicide rates from about 50 years have been lower in each more recent generation. For females, there was no marked variation in age-specific rates between birth cohorts. The pattern of suicide by hanging changed dramatically between birth cohorts with rates from about 25 onwards more than 4 times the rates of the earlier generations at the same age. Rates for other methods of suicide suggested influential period factors.

Discussion and conclusions:

Presentation of Australian suicide statistics in terms of birth cohorts provides insights into trends that are not evident if statistics are presented only by period. It can reveal possible effects on suicide risk of changes in social factors and external causes.
An Analysis of Child Deaths by Suicide in Queensland Australia, 2004-2012: What are we missing from a preventative health services perspective?

Presented by: Dr Bridie Scott-Parker, Adolescent Risk Research Unit, School of Social Sciences, Faculty of Arts and Business

Co-Authors: Dr Florin Oprescu, University of the Sunshine Coast; Ms Jeanne Dayton, University of the Sunshine Coast

Abstract:

Background:

Child suicide is increasingly recognised as a problematic domain for injury prevention. Injury prevention efforts are hampered by an incomplete understanding of this sensitive issue.

Aims:

To understand the characteristics of child suicide, including mechanisms and risk factors.

Methods

Case descriptions of 69 child suicides (<18 years) in Queensland, Australia, were examined.

Results:

Three quarters of child suicides involved hanging; 81% of suicides occurred in or at the family home, and emergency services were noted as called in 41% of cases. In 16% of cases the child left a note, and mental health issues were mentioned in 14% of cases only; however there was evidence of planning noted in 54% of case descriptions. Triggering events most commonly were family conflict, and in 7% of cases it was noted that a member of the deceased’s social network (family, friend) had suicided previously.

Discussion and Conclusions:

Case descriptions were cursory in many cases (eg. gender was unable to be determined in more than 7% of cases), which hampers injury prevention efforts through an incomplete understanding of characteristics and important factors in child suicide. Multi-agency injury prevention efforts are required, with particularly attention paid to the unique capacity of parents and family to effectively intervene.
Injury Prevention Campaigns for Children, by Children: The Safekids NZ Creative Quest Competition

Presented by: Ms Ann Weaver, Safekids NZ

Abstract:
Effective collaboration with children, schools, families, communities and the media to promote a child injury prevention initiative, incorporating increased awareness and behaviour change.

Non-motorised wheeled objects child injury is a major health issue in New Zealand. Scooter-related injuries have doubled every year since 2008—from just 697 claims that year to 6,474 in 2012. Cycling related injuries are one of the top 10 causes of unintentional injury related deaths for children, with 12 deaths in 2003-2007.

Evidence shows that head and facial injuries are identified as the greatest risk for children who use non-motorised wheeled objects. For cyclists, head injuries account for one-third of emergency department visits, two-thirds of hospital admissions and three quarters of deaths.

Wearing a correctly fitted helmet is proven to reduce the number of head injuries. For cyclists, research shows that there is a 69% reduction in the likelihood of head or brain injury, and 74% reduction in the likelihood of severe brain injury. Helmet wearing also reduced the likelihood of head injury by 69% in cyclists involved in crashes involving cars.

Despite this, there are significant barriers. Helmet wearing appears to decrease among older children. Reasons for this included personal image and peer acceptance; children said they look and ‘uncool’ and would be teased.

In 2012 the Creative Quest competition was announced, which asked schools to help Safekids create radio ads, videos and illustrated stories that promote the importance of wearing helmets.

This presentation will describe the key components and context of this competition, evaluation findings and outcomes. Outcomes to date include broad engagement with 473 entries from 129 teachers at 108 schools.

Survey results showed that among those who participated: 83% learned how to fit and wear a helmet correctly; 89% developed a positive attitude towards the use of helmets; 89% were more likely to wear a helmet; 86% increased knowledge about the safety benefits of wearing a helmet; and 83% said they’d do the competition again.

In addition, Safekids acquired a collection of creative materials to use for future campaigns – creatives made for children, by children.

Measurable Objective:
• Effective engagement with children increased awareness and acceptance of a child injury intervention.
• Key concepts supported effective intersectoral collaboration between Safekids, schools, families, communities and the media to reduce the risk of injury to children.
• Outcomes and key learnings from this initiative, and future opportunities for effective child injury prevention
Ingestion of Disc Batteries - a Silent Killer - on the Increase

Presented by: Mrs Susan Teerds, Kidsafe Qld Inc

Abstract:

Context:

Disc (or button) batteries are a common product in Australian homes. They power a small number of essential items (hearing aids), a large number of everyday items (car keys, remotes) and an even larger number of cheap novelty items. They appear harmless, but if swallowed can silently kill.

They are highly attractive to toddlers and have a tendency, if swallowed, to lodge in the child's food pipe (oesophagus). Batteries with sufficient charge then produce a caustic chemical (sodium hydroxide) that eats a hole through the oesophagus and into nearby organs. If parents see their child swallow a battery or notice that a battery is missing, urgent diagnosis and treatment can save the child’s life.

For those children who swallow a battery without the parents’ knowledge, diagnosis is delayed and severe injury or death is likely. Children present with vague non-specific symptoms of poor feeding, fever, chest pain. Identifying these children amongst the thousands that present to Australian emergency departments is almost impossible.

Objectives:

A call for the adoption of a standard for secure disc battery compartments that applies to all products; for manufacturers to robustly screw down all battery compartments; for Australian retailers to avoid products containing disc batteries that do not have screw-down battery compartments; for parents to avoid products containing disc batteries

Key messages:

Children access batteries loose, from packaging and from a broad range of household products. At present, only toys (under the Australian toy standard) are required to have secured battery compartments (screw closure or dual mechanism to open). Some companies elect to manufacture secure battery compartments (e.g. most car keys). Most are waiting to be told by regulators if and when they need to upgrade. Generally people are unaware of the risks of disc batteries.

Conclusion and discussion:

Kidsafe Qld will argue that while regulations for battery compartments well covered in the Australian Standard for Toys, due to the increasing number of battery ingestions, can pressure be applied - via regulation - to manufacturers of products that are easily accessible to children? There are many products that are not ‘toys’ but are sold for children to use – eg flameless candles, flashing reindeer noses and other gimmicky Christmas items. Warning labels on disc or button battery packets and the manufacture and sale of child resistant packaging containing disc batteries should also be compulsory.
Grow Me Safely – Promoting safe and creative gardening with children

Presented by: Mrs Kay Lockhart, Kidsafe NSW Inc.

Abstract:
As a result of extensive enquiries to Kidsafe NSW regarding gardening with children, the use of potting mix and suitable plants to grow, Kidsafe NSW recognised a need to research and seek information regarding toxic plants, poisoning incidents to children from toxic plants and promoting safe gardening with children. Many toxic plant lists were available however were extensive. Research indicated that there were few or no recorded incidents of injury to children from poisoning from listed toxic plants.

In partnership with the Australian Institute of Horticulture and with the assistance of several individuals and organisations the ‘grow me safely’ website was developed.

‘Grow me Safely’ is an innovative, interactive website that Aims to provide information for parents, educators and anyone interested in child health and development. Kidsafe NSW encourages adults to get outside and engage children in gardening activities. This website delivers important safety tips and hints to help ensure that the gardening experience with children is enjoyable.

Kidsafe NSW recognises the importance of gardening with children to build life skills, inspire creativity, grow and harvest food, role model safe practices and develop a respect for nature.

This presentation showcases how gardening can support children’s development, plants to avoid, key safety aspects of gardening with children, and a Kidsafe NSW website resource easily accessible for information to support the community.
Long-term Effects on the Development of Children Who Experience a Near-drowning Episode

Presented by: Ms Patricia Manglick, Children’s Hospital at Westmead
Co-Authors: Mr Frank Ross, Children’s Hospital at Westmead

Abstract:

Background:

Over the last 7 years trauma follow-up clinics have been held at the Children’s Hospital at Westmead (CHW). The Aim is to assess post discharge progress and any ongoing morbidity. As part of this review process, it was identified that some of the Immersion children had experienced on-going morbidity.

Aims:

The Aims of this study were to identify the incidence and magnitude of any complications in this population of children.

Methods:

National Ethics Approval was obtained for the study. Children age 0 – 16 years admitted to CHW following an immersion episode in any body of water were recruited for the study. The study period was between January 2009 and December 2013. The study protocol consisted of a 3-6 month, 1, 3 and 5 year follow-up at the CHW. Initial information about the details of the incident including duration of submersion and whether CPR or EAR was required was collected at first contact. The parent and child were interviewed and the Behaviour Rating Inventory of Executive Function (BRIEF) questionnaire administered. The BRIEF was analysed by a Clinical Psychologist. A clinical evaluation to identify the physical and psychosocial factors was undertaken by a senior Clinical Nurse Consultant, at these clinic visits.

Results:

During the study period 95 cases of near-drowning were admitted to the CHW. Nine of these children died, 7 had severe neurological deficits, requiring intensive rehabilitation and 54 either declined to participate and provided summary information or agreed to participate but were unable to be contacted. Twenty Five (25) families consented to be part of the study. Five (20%) of these children exhibited mild neurological deficits in the areas of executive function; inhibitive impulse; memory; learning and motor skills. The remaining 20 children tested normally.

Discussion and Conclusions:

This study added a new dimension to the outcomes for children involved in this type of accident event. Children who die or suffer severe neurological deficits have been identified in many studies. This study, despite its small sample size, identifies this 3rd group of children who have previously not been considered at risk. It highlights the need for active follow-up of these children and provision of
parent centred resources that allow them to identify areas of potential problems during development and gain help early to minimise the problem with appropriate treatment.
**The NSW Study of Drowning and Near Drowning in Children (0-16)**

**Presented by:** Mrs Stacie Powell, *Kids Health at The Children's Hospital at Westmead*

**Abstract:**

Drowning is an important child health issue both nationally and internationally. Children still account for the highest rates of drowning, the most common age group being under five years. In Australia, non-fatal drowning is not included as part of the overall statistical reporting on drowning and a large bank of knowledge about the circumstances of immersion events is absent from the evidence base. This study Aims to address these gaps.

The NSW Study of Drowning and Near Drowning in Children (0-16) involved an in depth analysis of drowning and non-fatal immersions at the three paediatric hospitals in NSW. The investigator collected information by completing a questionnaire with the parent or carer of the child involved in the immersion event. Information obtained related to demographics, circumstances surrounding the incident, swimming ability of the child, CPR administration and in the case of an incident in a private swimming pool specific information related to the pool boundary was covered. Human Research Ethics allowed investigators to complete the questionnaire in hospital or retrospectively over the phone after potential participants had been discharged from hospital.

As of March 2015, 46 patients were consented and participated in the study. Males and females had similar proportion of being involved in in drowning incidents (52% and 48% respectively). Over three quarters of children involved in the incidents were four years of age or less with more than half occurring in private swimming pools. Most children gained access into the swimming pool area from their parent (62%) and in 23% of cases the child gained access to the swimming pool though a pool fence gate that had been propped open. Almost half of the incidents occurred while the children were unsupervised. Almost 2/3 of the children received cardiopulmonary resuscitation (CPR) immediately following the drowning incident and in 41% of cases, examination of chest radiographs revealed lung changes most likely indicating water inhalation. Cases where these changes were found included children with submersion of less than one minute.

This study will be ongoing until June 2018 and will continue to inform specific circumstances of non-fatal immersions which have previously gone unreported. The initial study results indicate a need for enhanced community education of direct adult supervision within arm’s reach, the importance of ensuring the pool barrier is fully closed at all times and the importance of CPR and subsequent medical attention.
**Closing the Gate on Backyard Pool Drowning**

**Presented by:** Mr Jason Chambers, *Kidsafe Victoria*

**Co-Authors:** Ms Melanie Courtney, Kidsafe Victoria

**Abstract:**

**Context:**

Drowning is one of the leading causes of death for Australian children under 5 years of age. On average, every year in Victoria 4 toddlers (aged 0-4 years) drown and another 40 are hospitalised but survive (non-fatal drowning incidents).

Backyard swimming pools are the most common location where child drowning incidents occur. Studies have shown pool fencing, particularly isolation fencing, to be effective in reducing the risk of drowning. However, evidence suggests that a large number of child drowning incidents occur as a result of pool barriers that are faulty or non-compliant with Australian Standards.

Kidsafe Victoria’s ‘Closing the Gate on Backyard Pool Drowning’ Campaign was based on the successful ‘change your clock, change your smoke alarm battery’ campaign that coincides with the end of daylight saving. The campaign involved a number of stakeholders including Life Saving Victoria, the Victorian Building Authority, Consumer Affairs Victoria, Aquatics and Recreation Victoria, SPASA Victoria, Ambulance Victoria, the Australian Institute of Building Surveyors and the Victorian Municipal Building Surveyors Group.

**Aims:**

- To implement an annual awareness campaign coinciding with the beginning of daylight saving.
- To remind pool owners to check and maintain their pool barriers.
- **Objectives**
  - To promote regular checks and maintenance of home pools and spas barriers to owners.
  - To increase water safety awareness and knowledge of parents and carers.

**Key messages:**

The campaign conveyed critical messages to pool/spa owners, parents and carers and the public on a range of pool safety issues including:

- The requirements for pool/spa barriers in Victoria.
- The importance of regular inspections and maintenance of pool and spa barriers (including common misuse issues and faults with barriers).
- The rights and responsibilities of landlords and renters.
- The importance of CPR and first aid training.
- The importance of active adult supervision of children around water at all times.

These messages were delivered utilising a range of resources and mediums, including a campaign launch, radio CSA, posters for pool and spa stores, video interviews with topic experts, social media posts and website pages.

**Discussion/conclusion:**
This paper will discuss all phases of the campaign including the development of taglines and imagery, engagement with stakeholders and evaluation results from 2014/15.
**SLSA Personal Protective Equipment (PPE) Project – Development of the Level 25 Lifejacket**

**Presented by:** Mrs Barbara Brighton, *Surf Life Saving Australia*

**Co-Authors:** Anthony Bradstreet, formally *Surf Life Saving Australia*

**Abstract:**

**Background:**

Surf Lifesavers and Lifeguards operate in an inherently hazardous aquatic environment. Recently, Surf Life Saving Australia (SLSA) has lost 3 lifesavers in surf sports competition and training, and in the United States there have been 2 lifeguards drown during operational service.

The risk remains that a lifesaver or lifeguard may become incapacitated in the water, become submerged and unable to be located to receive timely medical attention.

**Aim:**

The objective of the project was to deliver a specification for a lifejacket that would reliably return an incapacitated individual to the surface but also minimise impacts on performance to a level as low as reasonably possible.

**Methods:**

SLSA engaged James Cook University and SAI Global to conduct the assessment process and assist in development of a fit for purpose specification.

The first stage assessed and ruled out the Level 50 International Standard as having excessive buoyancy and adversely impacting exertion levels while conducting tasks such as duck diving. It was then hypothesised that a similarly designed slimline lifejacket with a lower level of buoyancy could feasibly fulfil the objectives.

The second stage assessed a variety of buoyancy aids that were not compliant with any standards. These devices were readily available in the international marketplace as impact vests, surface vests, and competition vests commonly used for individuals engaged in extreme sports such as wakeboarders, big wave surfers and kite boarders.

**Results:**

Testing of these non-compliant buoyancy aids indicated poor quality control over the production processes and varying rates of buoyancy that didn’t necessarily correlate to size. This inconsistency correlated to the performance of the devices and their ability to float a person where many devices failed. This raised concerns from a consumer perspective and any perception that these devices may provide sufficient flotation to remain on the surface despite the presence of disclaimers.

Despite the inconsistencies in performance, there was sufficient data collected to inform the development of a fit for purpose specification of low buoyancy lifejackets that could be used in high performance applications. This information has since informed the review and redevelopment of the Australian Standard AS4758 Lifejackets and delivered a new class of lifejacket, the Level 25.

**Discussion and conclusions:**
SLSA are currently trialling prototypes of these Level 25 Lifejackets to assess their possible use in Surf Life Saving activities to reduce injury and death. The final report includes policy recommendations and the necessary implementation plan.
Perceptions of Safety and Occupational Use of Quad Bikes in North West Outback Queensland

Presented by: Associate Professor Richard Franklin, James Cook University

Co-Authors: Dr Kristin E McBain-Rigg, College of Public Health, Medical and Veterinary Sciences, James Cook University, Townsville; Professor Sabina Knight, Mount Isa Centre for Rural and Remote Health, Mount Isa, Queensland

Abstract:

Background:
Quad bikes are increasingly popular vehicles, yet little is known about quad bike use in Outback Australia. Quad bike roll overs are a leading cause of deaths in the Australian agricultural industry, and while retrofitted crush protection devices are available, they are not in widespread use.

Aim:
To explore attitudes and perceptions of quad bike use, factors that influence purchase behavior and perceptions towards safety when using quad bikes amongst a sample of users.

Methods:
Focus group sessions and interviews were conducted between November 2011 and May 2012 with pastoralists, farmers, health care providers, regulators, retailers and repairers in North West Queensland. Questions about the type of terrain where the vehicles were used, tasks used for, perceptions of safety in occupational use, discussion of the occurrence and community impact of quad bike injuries and fatalities within the area facilitated discussion about perceptions of safety and use.

Results and Discussion:
Participants had high recall of local incidents of quad bike injuries and fatalities. There were a variety of opinions about the users most at risk; however, it was acknowledged that even experienced and careful riders can be involved in an incident. Quad bikes were used to complete a variety of activities including general transportation, carrying loads and mustering. Retailers identified the devices are popular with older farmers who use them to assist with on-farm mobility, and the purchase intention was situational and typically single motive i.e. work or recreation. Rider awareness and safety education campaigns were identified as acceptable methods to improve safety; yet existing campaign effectiveness appears to be limited (evidenced by low PPE use). There were strong negative opinions regarding the use of rider training programs; however, it was suggested the need for legislation and certification of skills on safe operation may be required. There were mixed reactions to modification of the devices to improve performance or safety and this included retrofitting crush protective devices.

Conclusion:
The results highlight mixed reactions to safety approaches for occupational quad bike use. The implications of these perceptions has direct impacts on the ways that safety promotion activity should be designed and implemented in agricultural communities such as those found in NW Queensland. Future research will address the safety culture of quad bike users, including conceptions of acceptable risk, and use by vulnerable user groups (including the ageing farming workforce).
The Australian Quad Bike Performance Project

Presented by:

- Prof. Raphael Grzebieta, Transport and Road Safety (TARS) Reserch Centre, UNSW
- Dr. George Rechnitzer, Transport and Road Safety (TARS) Research Centre

Co-Authors: Mr Keith Simons, Transport and Road Safety (TARS) Research Centre; Professor (Adjunct) Andrew McIntosh, Federation University Australia

Abstract:

Background:

Around 12 to 14 people are killed and more than 1400 seriously injured annually in Australia resulting from Quad bike and Side by Side Vehicle (SSV) incidents. Calls from safety stakeholders for vehicle design changes have met with considerable resistance from manufacturers’ representatives. To help overcome this ‘impasse’ in progressing Quad bike safety, the Heads of Workplace Safety Authorities (HWSA) commissioned the Quad Bike Performance Project in 2012 with significant funding provided by the WorkCover Authority of NSW with a contribution from the Australian Competition and Consumer Commission (ACCC).

Aims:

The main Aim of the project was to comprehensively test the stability, dynamic handling and crashworthiness for the 16 selected Quad bike and SSV models, and from these results establish a Star Rating system to inform consumers for safer vehicle selection. As a result this would create market demand for better designed and safer Quads and SSVs, similar to what has been achieved through the successful Australasian New Car Assessment Program (ANCAP), and thus start to mitigate the number of fatalities and injuries. The focus was on workplace use of these vehicle types.

Methods:

The Australasian Terrain Vehicle Assessment Program (ATVAP) consumer safety star rating system was developed based on a series of around 1000 tests assessing a vehicle’s static stability, dynamic handling and rollover crashworthiness, including consideration of Operator Protection Devices, which will be described in the presentation.

Results:

Test results show that Quad bikes have relatively low stability, and low inherent rollover crashworthiness, with little difference between the different brands of Quad bikes. However, in comparison, the SSVs outperformed the Quad bikes significantly, and were found to adhere in general to rollover crashworthiness principles, in that they are typically fitted with Rollover Protection System (ROPS), seatbelts and various degrees of occupant containment measures.

Discussion and Conclusions:

Results from over 1000 tests highlighted the notably lower level of stability, handling and occupant protection provided by Quad bikes compared with SSVs. The project demonstrates that it is possible to distinguish the safety performance levels of selected Quad bike and SSV models using testing protocols for stability, dynamic handling and crashworthiness. Moreover, a Star Rating system can
be developed that provides a basis for consumers to be able to choose between different model Quad bikes and SSVs that will most likely provide a lower risks of losing control, rolling over, and injury if the vehicle does roll.
In-depth Case Series Analysis Of Quad Bike And Side-by-Side Vehicle Fatalities From Australian Coronial Data

Presented by: Dr Andrew McIntosh, McIntosh Consultancy and Research

Co-Authors: Dr Declan Patton, Transport and Road Safety (TARS) Research Centre; Dr George Rechnitzer; Professor Raphael Grzebieta, Transport and Road Safety (TARS) Research Centre

Abstract:

Background:

An in-depth case series analysis of Quad bike and Side-by-Side Vehicle (SSV) fatalities was conducted as part of the UNSW Quad Bike Performance Project commissioned by the Heads of Work Place Safety and funded by NSW WorkCover with a contribution from the Australian Competition and Consumer Commission.

Aims:

The study Aimed to identify the operator, vehicle, environmental, and fatal injury characteristics of Quad bike and SSV incidents in Australia by activity (recreation and work) to be used as a basis for developing the TARS UNSW extensive test program (static stability, dynamic handling and rollover crashworthiness tests) carried out at the RMS Crashlab facility.

Methods:

A total of 141 Quad bike and SSV fatalities full closed case files were retrieved from all Australian Coroners for the years 2000 and 2013 and analysed in detail.

Results:

The initial review of the 141 cases identified 109 cases to be relevant, 55 were recreation use and 54 work related; 106 cases involved a Quad bike. On road cases were excluded. Fifty-three of the work cases occurred during farm work. The mean age for those killed during a work activity in the 15 to 74 years age group was 56 years compared to 31 years for recreational operators in the same age range. Two children under 16 years died while performing farm work and 14 children under 16 years during recreation. The analyses show a very clear pattern for farm work fatalities: of the 109 cases 85% of the work related fatal cases involved a rollover compared to 56% of recreational cases; 70% of workplace cases were pinned under the Quad bike and almost 50% of the farm work fatalities were caused by mechanical asphyxia, with approximately 77% of these estimated to have been survivable incidents if the rider did not remain pinned; for recreational riders, a smaller number were pinned under the Quad bike, about 33% of cases.

Discussion and Conclusions:

With regards to farm work, the analyses support the need to reduce the propensity of vehicles to roll, to improve the handling so that loss of control events are reduced, and to prevent crushing and pinning of operators by the vehicle during and after a rollover crash. These requirements are relevant for recreational use, in addition to age specific requirements and behavioural interventions, e.g. speed and intoxication. The findings from the in-depth case series analysis are set out in this paper.
Analysis of Quad-bike Loss-of Control Events Triggered by Bump-like Obstacles on Slopped Terrain

Presented by: Prof. Raphael Grzebieta, Transport and Road Safety (TARS) Research Centre, UNSW

Co-Authors: Mr David Hicks, Transport and Road Safety (TARS) Research

Abstract:

Background:

Quad-bikes, also known as all-terrain vehicles in the US, contribute to many fatal and serious injuries in Australia and many other countries, both in recreational use and the workplace. Over 220 fatal quad-bike incidents have occurred in Australia since 2000, with around 70 percent being attributed to rollovers. In 2011, quad-bikes overtook tractors as the leading cause of injury and death on Australian farms.

A significant portion of quad-bike fatalities are identified as being caused by riding over a raised obstacle (i.e., bump, log, etc.) with one wheel track, ultimately causing loss-of-control and rollover. Several of these fatalities occurred whilst riding the quad-bike on a slope with either left or right wheels over a raised obstacle. The authors have published research identifying the mechanism that causes quad-bike control loss when riding over a raised obstacle on flat terrain. However, research that combines such mechanism with riding on a slope, where the likelihood of rollover is exacerbated, has yet to be presented in open literature.

Aims:

The study Aimed to use a fully validated finite-element (FE) computer model of a quad-bike and an Anthropomorphic Test Device (ATD) rider travelling on sloped terrain and riding over a bump with the uphill wheels, to determine at what bump heights and slopes the quad-bike rolls over and compare these values to flat terrain scenarios.

Methods:

The model’s kinematic response to riding over a raised obstacle was initially calibrated against experimental results. The ATD FE model was then used to determine the combination of slope angle and bump-height required to cause the quad bike to rollover.

Results:

Detailed results will be provided of sloped compared to flat terrain showing percentage increase in rollover propensity for a range of particular bump heights and slopes.

Discussion and Conclusions:

Analysis of FE simulation results clearly demonstrate the increased propensity associated with riding over a raised obstacle on a slope compared to flat terrain. Analysis of the FE simulation results are presented, demonstrating how a quad-bike loss-of-control event, leading to rollover, can be readily triggered by even a small bump-like obstacle on slopped terrain. The margin for error for the rider is thus smaller on slopped terrain compared to flat terrain.
Development of Dynamic Handling Assessments for Quad Bikes and Side-by-Side Vehicles

Presented by:

- Prof. Raphael Grzebieta, Transport and Road Safety (TARS) Research Centre, UNSW
- Dr. George Rechnitzer, Transport and Road Safety (TARS) Research Centre

Co-Authors: Professor Raphael Grzebieta, Transport and Road Safety (TARS) Research, UNSW; Associate Professor (Adjunct) George Rechnitzer, Transport and Road Safety (TARS) Research, UNSW; Mr Ross Dal Nevo, Roads and Maritime Services, NSW; Mr Drew Sherry, Roads and Maritime Services, NSW; Dr David Renfroe, The Engineering Institute; Mr David Hicks, Transport and Road Safety (TARS) Research, UNSW

Abstract:

Background:

Crashes involving Quad Bikes or Side-By-Sides involve a high risk of death or serious injury. More than 220 people have died in quad bike incidents in Australia since 2001. Around 50% of these involved a rollover. Quad Bike manufacturers recommend administrative controls (training, PPE) to address known safety risks. Engineering improvements will require regulatory intervention or will need to be led by consumer demand.

Aims:

Research was undertaken by Transport and Road Safety (TARS) Research of UNSW for WorkCover NSW and the ACCC to develop a methodology for a consumer focussed, star based safety rating system for quad bikes and SSV, modelled on the popular ANCAP rating system.

This study sought to answer three core questions about each vehicle:

- How likely is the vehicle to go out of the rider’s control? (measure dynamic handling)
- If out of control or inclined, how likely is a rollover? (measure stability), and
- If it rolls over, how likely is the rider to be seriously injured? (measure crashworthiness)

This paper details how the dynamic handling tests were developed, how they are conducted and what the results imply, in terms of rider safety.

Methods:

Dynamic handling characteristics were assessed using three separate test regimes. The tests and their objectives were:

- Steady State Circular Driving Behaviour; measures understeer (or oversteer) characteristic and point of transition between them (if that occurred),
- Lateral Transient Response; measures time delay between steering input and vehicle yaw response, and
- Bump Obstacle Response; measures resultant acceleration experienced by rider when the quad strikes an asymmetric bump obstacle.
The first two tests are modelled on universally accepted SAE / ISO road vehicle tests. The bump obstacle test is a new procedure developed in response to research showing riders were occasionally involved in a rollover crash after striking a bump obstacle.

Results:

The results of each test are scored and weighted, to produce a Dynamic Handling rating, which is added to Stability and Crashworthiness scores to produce an overall safety score for the vehicle. Vehicle results are discussed in terms of their effect on rider safety.

Discussion and Conclusions:

The research demonstrated that Quad Bikes and SSV can be tested and rated for safety and that some individual vehicles are inherently safer than others, making a consumer based, safety star rating system worthwhile.

Further research is required to confirm the relationship between dynamic handling characteristics and crash involvement and to finesse the test protocols.
FALLS PREVENTION AND AGEING

Ageing Safely and Maintaining Independence with the 4 E’s

Presented by: Mrs Judy Coates, Hunter New England Local Health District

Abstract:

Context:

One third of people aged over 65 years fall each year, with 10% experiencing more than one fall event. Falls are the leading cause of hospitalizations and death from injury in this age group with major impacts on health and well-being. The ageing process increases vulnerability to falls from decreasing strength and balance, slower reactions, diminished insight and increasing frailty.

There is a large evidence base identifying falls risk factors and management. Governments and health organisations at many levels have developed appropriate plans, policies and best practice guidelines. However translating research and recommendations into falls prevention programs that engage clients remains challenging for many reasons; including community and professional attitudes and knowledge and a lack of resources.

Objectives:

The Get Active New England (G.A.N.E.) program Aims to reduce the risk of falling in frail older people using a range of interventions, based on a responsive client-centred approach, and increased participation in functional activity, strength and balance exercises.

The program focuses on regaining, retaining and maintaining independence and mobility with falls prevention strategies utilizing empowerment and enablement. It also challenges ageism and older peoples’ perception of the inevitability of falls, with relevant information and education.

G.A.N.E conducts holistic multi-faceted falls risk assessments to identify appropriate physical and multidisciplinary interventions.

Key Messages:

Improving the safety of older people through falls prevention strategies and interventions necessitates increasing community understanding that falls can be prevented.

Falls prevention for older people requires patience and flexible thinking outside the square! This requires different approaches for each individual, community and situation and is definitely NOT a tick box approach. GANE includes liaising with health professionals, relevant organisations and governments on issues that are important to older people in the provision of falls prevention strategies.

Discussions and Conclusions:

The (G.A.N.E.) program operates in a large rural area of north-western NSW; where community based allied health professionals are particularly scarce. The service delivery model requires local partnerships to build sustainable falls prevention programs, capable of engaging high risk clients in each community. For participants, the programs are responsive to the needs of each individual by
identifying personal attainable and relevant goals in order to maximise independent living. Acknowledging that each participant is the key component of his/her own program is integral to addressing the physical, mental and emotional needs of falls prevention in the environment in which they live.
Sensorimotor, Psychological, Cognitive, and Health Correlates of Daily Walking Patterns in Older People

Presented by: Dr Matthew A Brodie, NeuRA

Co-Authors: Dr Kim Delbaere, NeuRA; Professor Stephen Lord, NeuRA; Mr Andreas Ejupi, AIT Austria; Ms Milou Coppens, NeuRA

Abstract:

Background:

Impaired gait in older people is associated with disabilities in daily life and increased risk of falling, but knowledge is still limited on what underpins the quantity, quality, and intensity of walks in daily life. Advances in wearable accelerometers enable the remote monitoring of daily activities in older people providing new insights into the complex problem of age-associated health decline. Recent research suggests that walks performed during activities of daily life are both less vigorous and more variable than walks performed in a clinical setting. Activity monitoring over several days has revealed important associations between reduced gait quality during daily life and increased falls in both healthy and demented people. However, it is not certain if the gait of older people during daily life can be modified, or even which physiological, psychological, cognitive, and health characteristics should be targeted by future interventions.

Aims:

In the current study, we therefore investigated which clinical factors were most associated with the quantity, quality, and intensity of walks performed by thirty-eight independent living older people over two weeks of continuous monitoring.

Methods:

Thirty-eight participants (mean age: 82 years) wore a small pendent accelerometer in their home environment, from which several accelerometer-derived gait measures were calculated over a period of two weeks comprising: 1) Number of steps. 2) Number of walks. 3) Gait vigour. 4) Cadence. And 5) Step time variability. A comprehensive battery comprising of health, psychological, sensorimotor, cognitive, and physiological tests was also conducted in the laboratory.

Results:

Better functional mobility, reduced fear of falling, and increased physiological capacity were all correlated (r-values between 0.50 and 0.78) with the three domains of the gait assessment (quantity, quality and intensity). Age and depressive symptoms were primarily correlated with a reduced number of walks (quantity). Processing speed, executive functioning, and health factors were primarily associated with increased gait variability (quality).

Discussion and Conclusions:

The study confirms that older people with better performance on clinical tests are also more likely to perform more walks of higher intensity and with less step time variability in daily life. Our findings support previous contentions that impaired attentional and executive function primarily affects gait quality, which may increase fall risk. This insight into which clinical factors influence different aspects
of gait performance in daily life may help in tailoring more individualized interventions and so reduce the global burden of increasing morbidity in older people.
Evaluation of a Home Exercise Program for Chinese Speakers

Presented by: Mrs Brenda Leung, South Eastern Sydney Local Health District

Co-Authors: Mrs Philippa Eccleston, South Eastern Sydney Health Promotion Service; Mrs Susan Sullivan, South Eastern Sydney Health Promotion Service

Abstract:

Background:
The risk of falls injury in older people has been shown to be reduced by strength and balance exercises performed at least twice per week. However, many older people are reluctant to attend regular group based exercise classes and there are few falls prevention exercise classes for older people who do not speak English. In a home exercise program for Chinese-speaking older people, participants attended three workshops where strength and balance exercises were demonstrated and practised. They were asked to complete the strength and balance exercises three times per week and to increase their physical activity, particularly walking. Participants were encouraged to continue the exercises and walking beyond the 12 weeks of the program.

Aims:
The Aim of the research was to evaluate the effectiveness of the program, by determining whether there had been changes to participants’ strength, balance, levels of physical activity and number of falls. It also Aimed to determine how acceptable the program was to participants and whether they complied with the program instructions.

Methods:
Participants’ strength and balance was assessed by a physiotherapist at the start and finish of the program. This assessment included the use of items from the Berg Balance Scale. Self-completion questionnaires were used at the start and finish of the program to determine details of participants’ physical activity, falls, number of medications, demographic and program satisfaction data. Participants were asked to record on a calendar when they had performed the strength and balance exercises, when they had walked and if they had fallen.

Results:
Two hundred participants enrolled in the program. Statistically significant increases in participants’ strength and balance were found between the start and the finish of the program. There was also an increase in participants’ physical activity levels and a decrease in the percentage of participants that fell. Analysis of the data from the calendars indicated that the participants had performed the strength and balance exercises on average 3.1 times per week and walked for 1.7 times per week. Over 91 % of participants indicated that they would recommend the program to someone else.

Discussion and conclusions:
The home exercise program increased strength and balance in older Chinese-speaking people living in the community. The program may serve as a model for delivering falls prevention exercises to non-English speaking older people where relevant exercise classes are not available in their language.
While we Waited: Falls risk in older Australians with cataract during the surgery waiting period

Presented by: Ms Anna Palagyi, The George Institute for Global Health, Sydney Medical School, University of Sydney

Co-Authors: Professor Lynn Meuleners, Curtin Monash Accident Research Centre, Faculty of Health Sciences, Curtin University; Professor Peter McCluskey, Save Sight Institute, Sydney Medical School, University of Sydney; Dr Andrew White, Westmead Millennium Institute for Medical Research; Dr Jonathon Ng, School of Population Health, The University of Western Australia; Dr Nigel Morlet, Curtin Monash Accident Research Centre, Faculty of Health Sciences, Curtin University; Dr Kris Rogers, The George Institute for Global Health; Associate Professor Lisa Keay, The George Institute for Global Health

Abstract:

Background:
There is strong evidence of an increased falls risk associated with cataract, a primary cause of vision impairment in older Australians. Although cataract surgery can restore sight, public hospital wait times are frequently lengthy and the impact of surgical delays on falls risk remains unclear.

Aims:

i) To clarify the risk and determinants of falls in older people with cataract during their surgical waiting period, and

ii) To characterise falls and fall-related injury occurring during this time.

Methods:

Data from a prospective study of falls in patients aged 65 years and over on public hospital cataract surgery waiting lists in Sydney, Melbourne and Perth were analysed. Participants underwent assessment of vision and physical activity on referral for cataract surgery and recalled falls in the 12-months prior. Falls were then self-reported during the study period using monthly calendars and their context and outcomes determined by interview.

Results:

Of 308 participants, mean age was 76 years and 54% were female. Participants’ habitual vision at Baseline was an average of 6/12 (6/5-6/48) and 9% were vision impaired (<6/18). A total of 179 falls were reported by 78/297 (26%) participants during the pre-surgery period, equating to an annual falls rate of 1.2. There was a trend for falls in those with poorer vision (incidence rate ratio 1.11, 95% confidence interval[CI] 0.98-1.25), though not statistically significant. Compared with participants who fell once during their surgery wait, participants falling multiple times (n=39 [50%]) were more likely to be taking 10 or more medications (odds ratio [OR] 3.11, 95%CI 1.27-7.61) and to have poorer contrast sensitivity (measure of ability to discriminate between object and its Background; OR1.24, 95%CI 1.03-1.50). There was no association between falls and use of multifocal spectacles or level of physical activity. Over one half (53%) of pre-surgery falls were injurious, including 4 fractures and 11 head injuries; 7% of falls resulted in emergency department presentation and 3% in hospital
admission. Median wait from participants’ initial referral to first eye cataract surgery ranged 5-26 months, depending on public hospital site.

Discussion and conclusions:

Older patients with cataract who are waiting for surgery at Australian public hospitals have substantial vision impairment leading to an increased rate of falls and injury. With limited resources to shorten public cataract surgery waiting lists, understanding the mechanisms of increased falls risk during surgery wait time is crucial for identifying high-risk individuals and informing strategies to minimise fall-related harm.
Are Older Australians with Bilateral Cataract on Our Roads? An investigation of patients on public hospital waiting lists for cataract surgery

Presented by: Associate Professor Lisa Keay, The George Institute for Global Health

Co-Authors: Ms Anna Palagyi, The George Institute for Global Health; Mr Vu Do, The George Institute for Global Health; Dr Andrew White, Westmead Millennium Institute for Medical Research; Professor Ecosse Lamoureux, National University of Singapore; Professor Rebecca Ivers, The George Institute for Global Health; Professor Konrad Pesudovs, Flinders University; Professor Fiona Stapleton, The University of New South Wales; Dr Soufiane Boufous, Transport and Road Safety, University of New South Wales; Professor Peter McCluskey, Save Sight Institute, Sydney Medical School, University of Sydney

Abstract:

Background:

Cataract is prevalent in older people and causes blurring of vision and reduced contrast sensitivity. Although cataract surgery can restore sight, lengthy waiting times are common in public hospitals and crash risk is associated with reduced contrast sensitivity. We are conducting a detailed evaluation of the impact of cataract vision impairment for older people during their surgical waiting period and have included investigation of driving status.

Methods:

Baseline data from two prospective cohort studies of patients aged 55 years and older on Australian public hospital cataract surgery waiting lists were analysed. Participants underwent assessment of vision and completed the Driving Habits Questionnaire (DHQ) on referral for cataract surgery. Comparisons were made between current drivers and former drivers.

Results:

Data were available for 414 public hospital patients with bilateral cataract. Participants were on average 73±8 years of age and approximately half were women (216/414, 52%). Habitual vision was 6/12+2 with a standard deviation of 2.1 lines of Snellen letter acuity. There were 251 (61%) current drivers, 97 (23%) former drivers and 65 participants (16%) who had never driven. Amongst the drivers, 171/251 (68%) met visual acuity requirements for a private vehicle drivers’ license (6/12 acuity in better-seeing eye or with both eyes). The former drivers had worse visual acuity than the current drivers (between group difference 5.7±10.1 letters, p<0.0001) and worse contrast sensitivity (between group difference -0.16±0.22 log units, p<0.0001). Both high contrast visual acuity and contrast sensitivity were independently predictive of being a current driver. The drivers reported driving an average of 18±25 km per week. More than half (133/251, 53%) believed that their cataract had affected their driving and 22 participants (9%) reported a crash in the last 12 months.

Conclusion:

We report a significant level of visual impairment amongst older drivers waiting for cataract surgery. Approximately one-third did not meet the required visual acuity standard for driving and hence would require further ophthalmic assessment and a conditional license to continue to drive. Approximately one quarter of the surgical candidates were no longer driving and this was associated
with greater vision impairment. These findings support a need for timely access to cataract surgical services.
The Importance of Implementing the P.A.R.T.Y. Program Throughout Regional/Remote NSW

Presented by: Ms Maura Desmond, Royal North Shore Hospital

Abstract:

Background:
The Royal North Shore Hospital (RNSH), ‘Prevent Alcohol & Risk Related Trauma in Youth Program or P.A.R.T.Y. is the first in-hospital one day trauma prevention program to be implemented in New South Wales (NSW), targeting senior high school students throughout NSW. The long term goal is to reduce the gross over-representation of youth in trauma statistics.

Methods:
RNSH offers three program models; a ‘Metropolitan Program’, ‘Half Day Program for Disadvantaged Groups’ and a newly developed ‘Regional/Remote New South Wales Program’. All programs have been developed to ensure as many students as possible have the opportunity to attend irrespective of their demographic. All programs convey the P.A.R.T.Y. Program’s main message of ‘Choice, Risk and Consequence’.

Objectives:
To describe the processes involved in implementing and developing the P.A.R.T.Y. Program within Regional and Remote areas throughout New South Wales whilst allowing local hospitals to take ownership of the program under the guidance of the RNSH Trauma Service.

Conclusion:
The P.A.R.T.Y. Program has shown that it has significant impact to youth perceptions surrounding risky behaviour especially in Regional areas of NSW where youth populations are x4 times more likely to be involved in road trauma compared to their metropolitan counterparts. We conclude that the RNSH P.A.R.T.Y. Program is an extremely valuable primary prevention strategy which can easily been adopted in other regions of NSW.
Using Administrative National Data to Estimate Injury-related Effects of Lowering the Alcohol Minimum Purchase Age in NZ

Presented by: Ms Gabrielle Davie, Injury Prevention Research Unit, University of Otago

Co-Authors: Professor Kypros Kyprı, University of Newcastle; Professor Patrick McElduff, University of Newcastle; Professor Jennie Connor, University of Otago; Professor John Langley, University of Otago

Abstract:

Background:

In December 1999 New Zealand lowered the alcohol minimum purchasing age from 20 to 18 years. Previous NZ research showed deleterious short-term effects on traffic crash injury but long-term effects for this outcome and for other outcomes such as assault have not been assessed.

Aims:

We tested hypotheses that compared to an age group control this law change was associated with long-term increases in 1) police-reported traffic crash injury attributable to 15-19 year olds and 2) hospitalised assault of 15-19 year olds. In keeping with Treaty of Waitangi principles we sought to estimate the impact of the law change on Māori.

Methods:

The design was a controlled before-and-after comparison with three age groups: the target group (18-19 year-olds), a younger group whom we hypothesise were affected by “trickle down” (15-17 year-olds), and an age control group (20-21 year-olds). The pre-change period was 1995-1999. Post-change periods were 2000-2003, 2004-2007, and 2008-2011. Poisson regression was used to examine each injury outcome, separately by gender.

Results:

Traffic crash injuries: Compared with the change in injury rates attributable to alcohol-impaired 20-21 year-old male drivers, injuries attributable to 18-19 year-old male drivers increased in all post-change periods and significantly so in the second post-change period (IRR 1.3, 95% CI: 1.1 to 1.5). For 15-17 year-old male drivers, rates increased in all post-change periods compared with 20-21 year-olds. There was a short-term relative increase in harm attributable to 18-19 year-old female drivers (IRR 1.5; 1.1 to 2.0).

Hospitalised assaults: Compared with 20-21 year-old males, weekend assaults increased significantly among 18-19 year-old males in the second and third post-change periods relative to the pre-change period (IRR: 1.2; 95% CI: 1.1 to 1.4 and IRR: 1.2; 95% CI: 1.1 to 1.4 respectively). For 15-17 year-old males assaults increased significantly in the first and second post-change periods. There were no statistically significant effects for females. There was no evidence to suggest weekend assault hospitalisations increased significantly more among 15-19 year-old Māori in the post change periods compared with increases observed in 20-21 year-old Māori.

Discussion and conclusions:
Reduction of the alcohol minimum purchasing age in NZ was followed by long-term increases in increased weekend assaults resulting in hospitalisation of 15-19 year-old males and in long-term increases of the incidence of traffic injury attributable to male 15-19 year-old alcohol-impaired drivers.

Strengths and limitations of routinely collected data for assessing the impact of the law change will be discussed.
Web-based Alcohol Screening and Brief Intervention for Hospital Outpatients: Randomised Trial

Presented by: Professor Kypros Kypri, University of Newcastle

Co-Authors: Dr Natalie Johnson, University of Newcastle

Abstract:

Background:

A third of hospital outpatients in Australia are hazardous or harmful drinkers. Electronic alcohol screening and brief intervention (e-SBI), in which patients are screened for their drinking and receive personalised feedback and advice on a computer or tablet, is acceptable to patients and staff in the hospital outpatient setting but has not evaluated in an efficacy trial.

Aims:

We tested the hypothesis that e-SBI would result in lower consumption six months later relative to a screening only control group.

Methods:

We conducted a participant and assessor blinded, parallel-group, individually randomised trial with 1:1 allocation in the outpatient department of a large tertiary referral hospital in Newcastle, Australia, in 2012. Patients likely to have alcohol dependence (AUDIT-C score > 9) were excluded. Co-primary outcome measures, assessed six months after randomisation, were grams of ethanol patients consumed per week and their Alcohol Use Disorders Identification Test score. The trial was powered to detect a difference of 3.5 standard drinks (35 g ethanol).

Results:

Of 837 hospital outpatients who consented and screened positive for hazardous or harmful drinking (AUDIT-C score 5-9), 442 were randomised to electronic screening alone (control) and 395 to electronic screening and brief personalised feedback (intervention). Follow-up assessments were obtained for 693 participants (83%), with no evidence of differential attrition. There were no significant differences between the treatment groups on the pre-specified primary or secondary outcomes (Rate Ratios ranged from X.X to X.X).

Discussion and conclusions:

e-SBI did not reduce hazardous or harmful drinking among hospital outpatients. The results require replication because they contrast with findings from trials of a similar intervention for university students in the primary healthcare setting.
The Scourge of Ice

Presented by: Dr Eva Saar, National Coronial Information System (NCIS)

Abstract:

Context:

‘98% of Australians don’t use methamphetamine’, according to a report released by the Alcohol Tobacco and Other Drug Association (ATODA) in May 2015. Yet the Commonwealth government has recently launched a high profile national taskforce to combat the ‘scourge’ of Ice and epidemic that is sweeping the nation. The emotive language used by the media and the reactive political response is a familiar framework when discussing illicit drug use in Australia. Beyond the rhetoric, how do we gather evidence to inform treatment and prevention strategies to ensure community safety?

Objectives:

The purpose of data collection is to provide credible evidence and inform understanding to ultimately generate new knowledge. The NCIS provides access to longitudinal coronial data from Australia and New Zealand. The NCIS contains a context for all drug-related deaths including toxicological results and can contribute collected evidence to inform the methamphetamine conversation. Considered in conjunction with other data sources, researchers have the tools necessary to fact check the rhetoric and provide considered recommendations based on scientific knowledge.

Key Messages:

Data sources such as the NCIS are obliged to analyse collected data and provide understanding upon which knowledge can be built. To gain a really in-depth understanding of methamphetamine use, its impact and the burden of injury, a multi-disciplinary approach is required to bring together several data sources such as; drug use and manufacture, crime statistics including violent crime and domestic violence, medical records including emergency department presentations and coronial data.

Discussion and Conclusion:

Preliminary research using the NCIS has determined that there has been an increase in methamphetamine-related deaths in recent years, with three-quarters (75.9%) of all fatalities involving male individuals. Over one-third of cases involved deceased between 30 and 39 with two-thirds of relevant cases comprising unintentional deaths. The deceased was a victim of assault in 2.1% of cases. Methamphetamine was combined with other drugs in over two-thirds of cases (68.0%), most frequently with both licit and illicit opioids.

The NCIS can provide valuable context for drug-related deaths over time and geographic regions. In-depth analysis of data from various data sources has the power not only to inform the issues but help to form the response. In the same way various service providers must work cooperatively to treat the symptoms, so too must data sources work together to build the value of evidence and ensure the success of our community response.
The Journey of the Pan Pacific Safe Communities Network

Presented by:

- Ms Meegan Brotherton, Australian Safe Communities Foundation Inc
- Ms Tania Peters, Safe Communities Foundation NZ

Abstract:

Context:

The Pan Pacific Safe Communities Network (PPSCN) operating as a regional network since 2010 and in 2013 registered as an NGO, represents 100 accredited Safe Communities in Australia, Canada, New Zealand and the United States. The PPSCN promotes evidence based programming; provides leadership, sustainability, evaluation training, mentors communities during the application process, undertakes accreditations, supports national Safe Community movements and provides networking opportunities for the regional network.

Objectives:

1. to outline key objectives and functions of the PPSCN in supporting the national development and sustainability of safe communities
2. to describe the journey of establishment as an international NGO and key achievements to date.

Key Messages:

Each country in the PPSCN is structured differently but dedicates human resources and project funding to supporting the movement. The PPSCN Board meets at least quarterly and holds an Annual General Meeting.

Through the Memorandum of Understanding (MoU), each country has agreed to take the lead on specific deliverables and all have agreed to share resources and expertise and jointly support PPSCN conferencing/networking opportunities as well as to maintain international accreditation standards.

PPSCN is strongly committed to being a primary resource for the further development of the Safe Communities programme nationally, regionally and globally through providing timely and effective mentoring, policy advice, advocacy, programme assessments and accreditations.

Discussion and Conclusions:

In many ways social issues such as improving community safety are not like fixing a poorly designed road. Communities are not entities that maintain a single stable stationary state, but rather they are constantly in the process of change. This makes collaboration challenging but not impossible.

Perceptions of community safety, real or perceived, impact the way people feel and interact in their community. Community safety is not only about reducing and preventing injury and crime. It is
about building strong, cohesive, vibrant, participatory communities. Safe Communities focus on the adoption of an integrated approach to planning and delivery based on the available evidence.

The PPSCN represents 15.3 million people who live in an accredited Safe Community in this part of the globe. The PPSCN is well-placed to steer the growth of the Safe Communities movement now and in the future. From the collective experience, the benefits of having all sectors working together in a coordinated and collaborative way, forming partnerships to promote safety, manage risk and develop safer environments leads to an increase in the overall safety of members.
A Model for Promoting Collaboration Between Community Organisations in New Zealand Working Toward Injury Prevention and Safety Promotion

Presented by: Dr Kate Osto, Palmerston North City Council

Abstract:

A community’s services and agencies often share similar goals, such as injury prevention, a reduction in domestic violence or child well-being. The challenge that many communities face, however, is maximising the efficiency, output and resource allocation of these organisations to promote the well-being and safety of their citizens. Organisations may be aware of other agencies working toward the same ends, or compatible ones, but unaware of ways in which collaboration could enhance service delivery, maximise funding allocation and achieve organisational goals. The key to achieving these targets lies in how effectively collaboration can take place across organisations and sectors.

There is little documented New Zealand-specific research into collaboration between community organisations. Yet collaboration can and does already occur in forms ranging from informal networking between individuals to contractual agreements between organisations.

Our city of Palmerston North, New Zealand, recently became accredited as a Safe City. We are the 333rd city in the world to receive this award. One of our strategic goals for our present accreditation term is to introduce a model for collaboration which is relevant to our society.

Therefore, this paper introduces our model for collaboration which policy makers, safe city coordinators, managers of agencies and organisations and field workers can use to guide individuals and organisations toward multi-agency collaboration.

Our model for collaboration is based on existing examples of successful collaboration between community organisations, occurring formally or informally in our community and internationally; it forecasts projected outcomes for Palmerston North should the model be adopted long-term and it constitutes a conscious collective effort to work toward collaboration as an integrated solution to the complex challenges our community faces.

The steps and success of this project to promote collaboration in our community will be documented and evaluated over the next four years with the Aim of providing the basis for much needed research into the challenges faced by people promoting injury prevention and safety wishing to enter into collaborative relationships within Palmerston North. It will also outline the advantages conferred onto organisations as they enter into collaborative relationships and serve as a case study to communities wishing to move to a more collaborative approach to working in the area of injury prevention, safety and beyond.
Function, Health Related Quality of Life and Cost After Injury in a City of North India

Presented by: Dr Jagnoor Jagnoor, The John Walsh Centre for Rehabilitation Research and The George Institute for Global Health

Co-Authors: Dr Shankar Prinja, School of Public Health, Post Graduate Institute for Medical Education and Research, Chandigarh, India; Professor Rebecca Ivers, The George Institute for Global Health, Sydney

Abstract:

Background:

There are no comprehensive studies in existence that document the burden of non-fatal injuries in India. The burden of traumatic injury in India is certainly high, but remains ill-defined and poorly quantified.

Aims:

The research works aims to measure the impact of traumatic injuries on functioning and health-related quality-of-life (HRQoL) and to identify predictors of poor outcomes post-injury.

Methods:

A prospective observational study was conducted at three hospital sites for all ages admitted with an injury. Consent was sought and participants were followed at 1, 2, 4 and 12 months after injury collecting information on socio-demographics, circumstances of injury, cost associated with injury, disability, function and health related quality of life.

Results:

The results presented here are based on interim-analysis. 2950 (90%/3255 eligible) participants were recruited, with a follow-up rate of 74% (2180) at 4 months. 12 months follow up is under way. Road traffic injuries (55%/1622) followed by falls (31%/914) and burns (13%/383) were the leading cause of injury; 86% were males, 79.5% were in paid employment at the time of injury. At the first interview, most participants were experiencing worse health status (EQ5D a mean difference of -0.679; <0.0001); and whilst high disability proportions were reported on GOSE (73% upper or lower extremity) at 4 months follow up. Return to work was reported by 71% (1526) with the prevalence of catastrophic expenditure was 30% (95% CI 26.95–31.05), which was significantly associated with lower income quartile (OR 23.3 [95% CI 5.7–73.9]; p <0.01), inpatient stay greater than 7 days (OR 8.8 [95% CI 3.8–20.6]; p<0.01), major surgery (OR 4.9 [95% CI 2.7–8.4]; p<0.01), and occupation as wage labourers (OR 8.1 [95% CI 1.6–24.6]; p=0.01).

Discussion and conclusion:

This is one of the first research works reporting health related quality of life after injury in India. The health services expenditure in India is not well documented however with a health budget of less than 1% of GDP most of the expenses are out of pocket. As has been reported in the study it has a catastrophic effect on the injured and the family. The implication is further amalgamated with little public health insurance schemes and issues relating to rehabilitation, carers time and loss of income.
Niu Population Lens: Bi-culturalism, multi-culturalism and equity

Presented by: Ms Natia Tucker, Auckland Council

Co-Authors: Ms Kathryn Martin, Auckland Council

Abstract:

Context:

Health promotion organisations and local government acknowledge inequities in health outcomes, however they often struggle with equity, bi-culturalism and multi-culturalism in practice.

Objectives:

The Niu Population Lens is a visual interpretation of equity within New Zealand’s population. It is a simple tool to challenge and enlighten practice and representation within initiatives that Aim to enhance community health and wellbeing in New Zealand.

Key messages:

The Niu Population Lens clears and claims equitable space for indigenous leadership and solutions to bring balance to mainstream work in health and wellbeing. It combines three concepts from Canada, New Zealand and the Pacific islands. The first is Pasifika Injury Prevention Aukilana’s adaptation of a population model from Rod Jeffries of Ancestral Visions, the second is the Treaty of Waitangi (New Zealand’s founding document), and the third is a coconut tree.

Discussion and conclusions:

In 2014 the author developed the model and has since presented it to regional injury prevention leaders and local government managers. It has been successfully used to challenge and change work distribution, recruitment and consultation processes in a number of Auckland organisations.
A Public Policy Framework: Complimentary to the public health approach to fatal injury prevention in resource constrained settings

Presented by: Dr Chebiwot Kipsaina, Monash University- Department of Forensic Medicine

Co-Authors: Professor Joan Ozanne-Smith, Monash University, Department of Forensic Medicine; Dr Virginia Routley, Monash University, Department of Forensic Medicine

Abstract:

Context:

Traditionally, injury prevention has worked within the paradigm of the public health approach; seeking to prevent injuries at the population level by identifying risk factors through surveillance and research; and preventing injuries through limiting exposure to known risks through implementation of policy and programs. This approach is important as it identifies the compositional elements associated with injuries and their prevention but it falls short in two ways. Firstly, it presumes that the existence of data compels application to policy. Secondly, it fails to identify the contextual elements or conditions associated with fatal injuries which are amenable to injury prevention policy and programs in low-middle income countries (LMICs).

Objectives:

To describe the proposed complimentary public policy framework for addressing injury in resource constrained settings by combining and adapting some of the features of the Streams model and the public health approach.

Key messages:

The conventional public health approach to injury does not suffice within resource constrained contexts with limited injury data and research evidence to inform the decision making process.

Public policy seeks to address the research-policy (or practice) implementation gap; a prevalent issue in LMICs.

Injury prevention efforts in LMICs should avoid becoming paralysed by evidence gaps, rather, use existing evidence and recognize the ‘policy window’, when opportunity arises for injury issues to reach the policy agenda for contextual consideration by decision makers.

Discussion and conclusions:

Within the context of injury in LMICs, additional to the public health approach, two considerations must be weighed by injury practitioners in response to the burden of injury: (i) public policy is instrumental to the solution of injuries in LMIC, through continued improvement of injury data quality to quantify the problem and matching data with solutions and the political context. (ii) that for evidence and policies developed for LMICs to be effective, complex contextual issues (economic, cultural, political and social) must be taken into account and the approaches to injury prevention decision making process be adjusted accordingly.