

**Results** Study is ongoing with 53/70 studies assessed. Early results suggest bicycle helmets were associated with reduced odds of head and facial injuries, with the strength of association greater for more severe head injuries. Stratification by injury type and severity reduced heterogeneity. Early analyses do not suggest publication bias and no time effects were found from 1998 onwards.

**Conclusions** A systematic search of the literature is essential for meta-analysis, especially when assessing publication bias. Inadequate assessment of heterogeneity among included studies partly accounts for discrepancies in previously reported results. We found helmets were associated with significant reductions in head injury for cyclists injured in a crash.

249

#### ALASKA YOUNG DRIVER SAFETY: DISTRACTED DRIVING, SEAT BELT USE AND DRINKING AND DRIVING INTERVENTIONS

<sup>1</sup>Shannon Savage, <sup>2</sup>Marcia Howell, <sup>3</sup>Brian Saylor, <sup>1</sup>Rhonda Johnson, <sup>1</sup>Elizabeth Hodges Snyder. <sup>1</sup>University of Alaska, Anchorage, USA; <sup>2</sup>Alaska Injury Prevention Centre, USA

10.1136/injuryprev-2016-042156.249

**Background** United States teenagers have the highest crash rate of any group in the nation. Alaska data tell a similar story. Leading causes of crashes for Alaska teen drivers are: driver inattention, unsafe speed, failure to yield and driver inexperience (Alaska Injury Prevention Centre, 2012). In partnership with the Alaska Injury Prevention Centre, a resource guide was created, listing best practices in Alaska teen driving interventions connected to three areas: distracted driving, seat belt use and drinking and driving.

**Methods** Guide content was evaluated for alignment with best practice through a multi-step filtering process. Available literature was distilled down to a final collection of safe teen driving intervention strategies based on best-available evidence. Results were categorised into a taxonomy of approaches, and were classified into levels of promise associated with certainty of effectiveness and potential population impact.

**Results** Strategies found to be most promising included public policy efforts surrounding graduated drivers' licensing programs, a minimum legal drinking age of 21, cell phone restrictions while driving and seat belt requirements. In addition, community and parental roles of partnerships, boundary setting and monitoring teens' driving behaviours, were found to have equal levels of promise. Of significance was the importance of intervention strategies with diverse influences, including all levels of the Social Ecological Model.

**Conclusions** The developed process can be used as an effective model when synthesising large amounts of data, and can work in a variety of study areas to help practitioners understand complex research and guide them in their intervention choices. Resulting

recommendations included multiple public policy enhancements in the state of Alaska, including graduated driver's license program modifications, enhancement of the state's zero-tolerance policy and broad scale restrictions of driver cell-phone use.

250

#### PEDESTRIAN-VEHICLE INTERACTIONS: EARLY RESULTS FROM THE AUSTRALIAN NATURALISTIC DRIVING STUDY (ANDS)

<sup>1</sup>Garrett Mattos, <sup>1</sup>Raphael Grzebieta, <sup>1</sup>Ann Williamson, <sup>2</sup>Jake Olivier, <sup>1</sup>Jan Eusebio, <sup>1</sup>Wu Yi Zheng, <sup>3</sup>John Wall, <sup>4</sup>Jude Charlton, <sup>4,5</sup>Mike Lenné, <sup>6</sup>Jack Haley, <sup>7</sup>Ben Barnes, <sup>8</sup>Andry Rakotonirainy, <sup>9</sup>Jeremy Woolley, <sup>1</sup>Teresa Senserrick, <sup>4</sup>Kristie Young, <sup>7</sup>Narelle Haworth, <sup>1</sup>Mike Regan, <sup>10</sup>Samantha Cockfield, <sup>11</sup>David Healy, <sup>11</sup>Antonietta Cavallo, <sup>11</sup>Marilyn Di Stefano, <sup>12</sup>Hee Loong Wong, <sup>13</sup>Iain Cameron, <sup>14</sup>Michael Cornish, <sup>15</sup>Christine Baird. <sup>1</sup>Transport and Road Safety (TARS) Research, University of New South Wales, Australia; <sup>2</sup>School of Mathematics and Statistics, University of New South Wales, Australia; <sup>3</sup>Centre for Road Safety, Transport for NSW, Australia; <sup>4</sup>Monash University Accident Research Centre (MUARC), Australia; <sup>5</sup>Seeing Machines, Braddon, ACT, Australia; <sup>6</sup>National Roads and Motorist Association (NRMA), Australia; <sup>7</sup>Centre for Road Safety, Transport for NSW, Australia; <sup>8</sup>Centre for Accident Research and Road Safety – Queensland (CARRSQ), Australia; <sup>9</sup>Centre for Automotive Safety Research, University of Adelaide, Australia; <sup>10</sup>Transport Accident Commission, Victoria, Australia; <sup>11</sup>Vicroads, Australia; <sup>12</sup>Hyundai Australia; <sup>13</sup>Office of Road Safety, Main Roads Western Australia; <sup>14</sup>Motor Accidents Commission, Adelaide; <sup>15</sup>Motor Accidents Authority, Australia

10.1136/injuryprev-2016-042156.250

**Background** Typologies have been defined previously for pedestrian-vehicle interactions and are primarily based on retrospective analysis of crash data. The naturalistic driving study currently underway in Australia makes it possible to study pedestrian-vehicle interaction events that would not otherwise be identified in the crash data. This work evaluates the feasibility of using automated, manual, and semi-automated methods to identify pedestrian-vehicle interaction events.

**Methods** Sensors and cameras were installed on the vehicles of volunteers in and around two major Australian cities which recorded their natural driving behaviour for 4 months. Forward video from select vehicles was reviewed independently by two reviewers to identify potential pedestrian-vehicle interaction events from which a typology of behaviours was formulated. These events served as the gold standard against which select automated and semi-automated methods of identification were assessed.

**Results** A prototype typology of pedestrian-vehicle interaction events was formulated using naturalistic driving data and categorised in terms of risk of being struck. Some case scenarios will be discussed. The feasibility of using select automated, semi-automated, and manual methods to identify these events was also evaluated.

**Conclusions** This work provides a first look at using Australian naturalistic driving data to study the interactions between vehicles and pedestrians. These findings will assist in the development of

methods that can be used to most effectively answer research questions pertaining to interactions between vehicles and pedestrians as well as other vulnerable road users in the future.

## Interpersonal Violence

Parallel Tue 1.4

### 251 STRENGTHENING HEALTH SYSTEM RESPONSE TO GENDER-BASED VIOLENCE – ENVIRONMENTAL SCAN IN 6 EU COUNTRIES

<sup>1</sup>Diana Rus, <sup>1</sup>Elena Bozdog, <sup>2</sup>Lodewijk Pas, <sup>3</sup>Ulrike Janz, <sup>3</sup>Marion Steffens, <sup>4</sup>Marc Nectoux, <sup>4</sup>Mathilde Sengoelge, <sup>5</sup>Kelly Blank, <sup>5</sup>Maria Rösslumer. <sup>1</sup>Center for Health Policy and Public Health, Babes-Bolyai University, Romania; <sup>2</sup>Academic Centre of General Practice, University of Leuven, Belgium; <sup>3</sup>GESINE-Netzwerk Gesundheit Germany; <sup>4</sup>Psytel, France; <sup>5</sup>Austrian Womens Shelter Network, Austria

10.1136/injuryprev-2016-042156.251

**Background** Health care systems remain a key entry point for support and care for survivors of gender-based violence (GBV), yet their involvement in disclosure and referral remain low. Some of the reasons may be lack of referral systems and/or lack of training and resources.

**Methods** An environmental scan was conducted as part of the EU funded IMPLEMENT project in six European countries (Austria, Bulgaria, France, Germany, Italy, Romania) to orient the implementation of health system capacity building seminars aiming to empower health care providers in increasing specialised support to survivors of GBV. The environmental scan focused on identifying baseline information on leadership, infrastructure and capacity of the health care system where the seminars were to be implemented, i.e. in one setting (emergency departments and obstetric clinics) in each participating country.

**Results** In France, Italy and Germany, certain health providers already receive some training on GBV and victim protection during their residency or medical/nursing school, but in Austria and Bulgaria there is no specific training. In Romania, only resident doctors receive 1–2 hours training on risk assessment of GBV victims, as there is a referral system that allows early identification and rapid response to GBV. In Austria, Bulgaria and Germany there is no referral system in place yet, while in France and Italy, similar to Romania, there is a system but only for cases participating in the project. Networks of GBV prevention practitioners that could provide support for implementing referral systems were identified in all participant countries.

**Conclusions** The implementation of a direct referral system between health professionals and specialised GBV services creates the link needed to strengthen the health system response to gender-based violence in the EU. Examples of effective referral system are well needed in order to reduce the burden of GBV.

### 252 NATIONAL FRAMEWORK FOR COLLABORATIVE POLICE ACTION TO INTIMATE PARTNER VIOLENCE (IPV) IN CANADA

<sup>1</sup>Carmen Gill, <sup>2</sup>Leanne Fitch. <sup>1</sup>University of New Brunswick, Canada; <sup>2</sup>Fredericton Police Force, Canada

10.1136/injuryprev-2016-042156.252

**Background** The Canadian Observatory on the Justice System's Response to Intimate Partner Violence (IPV) is an international network of academics, governments, and community-based organisation providing enhanced understanding of how justice responses to IPV operate. Since 2007 the Canadian Observatory conducted policy reviews; engaged governments in dialogue to share data collection strategies and facilitate research collaborations; and developed mechanisms to mobilise knowledge. In 2012, the Canadian Observatory initiated a reflection on police intervention in IPV situations that led to create a national dialogue on police practices and to provide evidence-based research on police response to IPV. In this perspective a national think tank was held in June 2014 with 35 ranking police from across Canada to discuss best practices implemented in different Canadian communities in regards to intimate partner violence. The event led to the creation of a working group of experts that is developing a national framework on police proaction and intervention to IPV.

**Description** In June 2015, the group of experts comprised of researchers, communities and police agencies met to determine the different steps for the development of a national framework. The creation of a national framework will provide: A foundation for consistent language, standards and policy for Canadian Police Agencies, to guide police *proaction* and intervention on IPV; Resources for collaborative education, prevention, intervention, and supports for victims, abusers and communities; The creation of visual and narrative reference model on proactive IPV response to be used by all Canadian police. The group of experts is to complete their work by the end of March 2016.

**Results** The development of a national framework encompasses a dialogue with police forces, communities and academics, including working sessions with the group of experts, consultations with community stakeholders, police forces and other professionals involved in the area of IPV intervention. In this presentation, we will discuss the process that led to the development of a national framework on Proactive Community-Policing Responses to IPV in Canada and how such process led to a supported dialogue among police agencies on the issue.

### 253 NEW LEGISLATION IN FINLAND – STATE FUNDING FOR SHELTERS FOR VICTIMS OF DOMESTIC VIOLENCE

Helena Ewalds. National Institute for Health and Welfare, Finland

10.1136/injuryprev-2016-042156.253

**Background (issue/problem)** The roots of the shelter movement in Finland are strongly connected to child protection. Federation of Mother and Child Homes and Shelters opened the first Shelters in 1979. The service was primarily targeted for women with children.

**Description of the problem** Earlier it was up to the municipality if they had money to send a victim of domestic violence to a shelter or not. It was not an obligation for the municipality because we had no legislation on shelter services. Many of the shelters had financial problems to run the services. Because the services were targeted for women with children the entry of single women into shelters was not possible or was complicated.

**Results (effects/changes)** In 2014 the Government decided that the responsibility for the shelter services belongs with the state instead of the municipalities. The Act on reimbursement out of State funds for providers of shelters for victims of domestic violence (1354/2014) took effect on 1 January 2015. The