

enforcement of legislative related to the five key risk factors for road traffic injuries which was investigated in GSRRS: speed, drink-driving, failure to use motorcycle helmets, seat-belts and child restraints. Since 1994, Croatia has implemented the National Road Safety Program, and in April of 2011 the same national draft program was adopted for the 2011–2020 period. The primary objective of the National Road Safety Program is to halve the number of road deaths by 2020.

Conclusions Though significant progress has been achieved in road safety, more systematic work will be dedicated to elevating the level of road safety in line with international initiatives and national guidelines.

889 AN ANALYSIS OF CAR CRASHES FATALITIES INVOLVING YOUNG DRIVERS IN QUEENSLAND AUSTRALIA

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Background The road safety of children and young adults is an important topic across the globe due to the significant loss of life in this population due to road crash fatalities. To inform preventative interventions directed at high risk population it is important to explore the characteristics of fatal accidents involving young passengers and drivers.

Methods In Queensland, Australia, the Commission for Children and Young People and Child Guardian collects data pertaining to every registered child death (<18 years), including deaths due to road crashes. Data for the period 1 July 2004 to 30 June 2012 was analysed with regards to demographic factors and variables such as age, gender, driver licence status and socioeconomic status, in order to provide insights into risk factors associated with traffic related child deaths where a driver 21 years or younger was involved.

Results Between 2004–2012, 100 children aged <18 years died in a road crash in Queensland where the driver was 21 years or younger, 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. Ninety percent of fatalities were in the 15–17 years group and 68% of fatalities were male, suggesting gender-focused interventions that target male children, youth, and their parents deserve additional resourcing, especially in low resource areas. There is a clear need to engage youth and parents more broadly to reduce the risks associated with unlicensed driving, and to ensure that these youth have access to and are engaged with relevant programs in order to gain the maximum road safety benefits for themselves, their passengers, and other road users.

Conclusion Knowledge regarding contributors to and characteristics of crashes are vital for intervention efforts that prevent crash involvement of young people. For children to be safe on the road, the wider system which supports, regulates, and encourages their safety needs to operate effectively. Additional attention should be focused on environmental factors such as socio economic status and other social determinants of health in addition to driver-specific factors.

890 "SEE ME SAVE ME" – IMPROVING THE SAFETY OF CYCLISTS

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Background Cyclists are hard to be seen on the roads during night, rain, fog and hazy weather. Mostly these vehicles do not have any lights which could alert the other drivers to feel their presence on roads. They especially cyclist became almost invisible during the night when head lights from other side makes driver almost blind.

Description Most of the Indian population lives in rural areas and small cities. Walking and cycling remain the dominant modes of transport in small cities and rural areas.¹ The pedal bicyclist constitutes a significant share of total traffic on Indian roads accounting for 15–35% of total trips.² The incidence of head injuries in cyclists ranges from 14–36% of the total injuries.

Method We have chosen one district to make the cyclists visible on the roads. The focus is on the labour class especially and the students riding it to schools. We involved traffic police and media to make it success. We choose the spot where the labour and workers with cycles are stationed. We fix high quality reflective on the cycles to make it visible on roads. And also we guide them about the driving precautions to be observed on roads riding at night and during fog.

Results Aids to improve pedestrians and cyclist visibility have been used to avert potential collisions. Visibility aids have the potential to increase visibility and enable drivers to detect pedestrians and cyclists earlier. "Fluorescent materials in yellow, red and orange colours improve detection and recognition in the daytime. Retroreflective materials enhance recognition.

Conclusions Policy making and its enforcement is most important part of any project and which bring success to the project finally. Indian cycle industry have clear directions on reflective issues under Bureau of Indian Standards. Despite several submissions to Government we are finally moving to the Court of Justice to make it mandatory for cycle manufacturing industry to maintain the standards of reflectors.

NOTES

- 1 Gururaj G. Bangalore: Aditi Enterprises; 2011. Road safety in India: A frame work for action copyright: NIMHANS.
- 2 Mohan D. Delhi: Indian institute of technology; 2004. The Road ahead traffic injuries and fatalities in India.

891 ANIMAL-DRAWN VEHICLES: ESTABLISHING A NATIONAL 'RECOMMENDED PRACTICE' TO IMPROVE THEIR VISIBILITY ON ROADS

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Background The horse is the main mode of transportation for Anabaptist populations and as a result, horse-drawn vehicles are involved in a high percentage of injury crashes with the motoring public. Members of the American Society of Agricultural and Biological Engineers established an Engineering Practice for animal-drawn buggies and wagons, and recently updated this Practice to include low-profile pony carts in 2014. The recommended

practice was created as a consensus document to establish a unique and consistent identification system for animal-drawn vehicles on public roads. Many outreach efforts engage the Anabaptist communities to adopt these national practices with varying degrees of compliance depending upon the geographic region and local culture.

Methods The process relied on a social marketing framework. Social marketing techniques are used to influence a target audience to voluntarily accept, reject or modify a behaviour for the benefit of individuals, groups, or society as a whole. The study was directed by safety staff at The Ohio State University and utilised a five-step approach including: a needs assessment, identification of potential lighting and marking schemes, consensus among the various stakeholders, revision of an existing engineering practice, and dissemination of the standard to encourage adoption of a uniform lighting and marking pattern.

Results Nearly two years was needed to develop consensus among Anabaptist stakeholders and members of the professional engineering society. The lighting scheme incorporated elements from each group, and was evaluated for its practical application, affordability, and visibility.

Conclusions The revised Engineering Practice enhanced the previous national standard for animal-drawn vehicles and created a consistent lighting and marking pattern. Building consensus between the two groups proved to be a challenging task, yet their collective efforts identified plausible solutions for a roadway safety issue.

892 HEALTH SECTOR'S ROLE IN ADDRESSING GAPS IN THE PREVENTION OF TRAFFIC INJURIES

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Background Despite substantial progress in some countries in traffic injuries prevention enormous gaps remain which the health sector can play a critical role addressing.

Description of the problem Road traffic injuries claim the lives of over 1.2 million people and seriously injure millions more each year. These largely preventable injuries lead causes of death worldwide of people ages 15–29.

Governments play a critical role improving road safety through leading multisectoral responses. However, overcoming the current achievement plateau, with injury numbers rising mainly in low- and middle-income countries, requires the health sector to increase its leadership role. Since 2004, world leaders have passed six resolutions at the UN General Assembly on *Improving Road Safety*, working to increase the holistic response. Although Ministers of Health last passed a resolution at the World Health Organisation on traffic injuries prevention over ten years ago, the health sector has played a critical role establishing injury data systems and the evidence base for effective interventions. The Sustainable Development Goal (SDG) target to reduce road traffic deaths and injuries by 50% by 2020 offers an opportunity for countries to work multilaterally to organise around key recommendations for actions to address current gaps. National governments would benefit from having a multisectoral strategy, including a strong health presence, to prevent and respond to traffic injuries.

Results We know what works to prevent traffic-related injuries; now is the time to implement those strategies, worldwide, for

example, improving data collection and analysis for decision making; and public education on emergency response. Beyond the technical knowledge, there is also a critical role for health ministries to bring increased visibility to the public health aspects of road safety and to how health can better integrate into the multisectoral response. Countries should capitalise on the SDG targets agreement and convene various sectors—health, transportation, education, justice—to strengthen implementation of contextually-relevant best practices. The health sector can play a leading role in this process, applying its health systems and health promotion expertise.

Conclusions Road traffic injuries exert an enormous toll on national health systems. Strong health sector involvement and leadership can galvanise action on global and national health agendas. The UNGA resolutions, the Decade of Action on Road Safety Plan, and the 2015 Brasilia Declaration on Road Safety can all be leveraged to mobilise accelerated multisectoral approaches to save millions of lives.

893 THE MAXIMUM ABBREVIATED INJURY SCALE AS A PREDICTOR OF SEVERE/FATAL INJURIES IN BELGIAN ROAD VICTIMS

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Background In 2013, the EC (European Commission) adopted a new definition of seriously injured road victims. All road victims with a MAIS score of 3 or more (MAIS3+) are considered as severely injured. This new definition will coexist along with the conventional definition of severely injured, namely persons who stay at least 24 hours in hospital.

Most EU countries will calculate the number of MAIS3+ victims on the basis of (national) hospital data. In Belgium, the Belgian Road Safety Institute and the Vrije Universiteit Brussel have been granted jointly access to national hospital data with detailed injury information for three consecutive years (2009–2011). Consequently, Belgium is able to express the severity of injuries in terms of MAIS, but also in terms of other severity scales such as ISS (Injury Severity Scale) , NISS (New Injury Severity Scale) and ICISS (ICD-9- Based Injury Severity Score). The purpose of this project is to make a mutual comparison of these scales.

Methods The different injury severity scales will be tested and compared as predictors of severe and fatal injuries, based on a dataset of approximately 70.000 road victims. The comparison between the different injury severity scales will be achieved both by exploratory analyses (i.e. descriptive tables and scatterplots) and by fitting generalised linear models with in-hospital mortality as dependent variable and each severity scale separately as a predictor variable. Other independent variables such as age, gender, road user type will also be investigated. The estimates, discrimination ability and calibration of the model containing the MAIS scale will be compared to models containing the other severity scales.

Results Preliminary results show little differences in the predictive performance of the different severity scales. The accuracy of the model improves significantly when age is added as a predictor.

Conclusions Conclusions will be drawn on the final results.