

purposive sampling. The cross-sectional survey explored the musculoskeletal degenerative changes and costs of treatment and productivity loss. The qualitative inquiry (FGDs and interviews) explored the determinants of reduced access and reasons of disabilities and fatalities.

**Results** Out of 350, around (315) 90% date tree climbers sustained major to fatal injuries with almost all having vertebral and foot deformities. As for treatment (292)83% considered the expenses incurred in consultation fee, medicines, and travel as high. Around (297) 85% rendered meager earnings, unavailability of cheaper medicines and rehabilitative treatment coupled with persistent poverty negatively affected the prognosis and quality of life and paved way for preferring quitting the profession. The qualitative inquiry augmented these findings with all the stakeholders.

**Learning Outcomes** The paucity of cost-effective rehabilitative services amid socioeconomic burden lead to poor occupation health and preference to quitting of profession.

## 5D – Road – Motorcycles, March 24, 2021

### 5D.001 E-SCOOTERS: WHAT DO THEY MEAN FOR THE SAFETY OF CYCLISTS AND PEDESTRIANS?

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**Background** Like in many large cities around the world, the popularity of electric micro-vehicles and in particular e-scooters is rapidly growing in Austrian cities. Many new questions with respect to road safety arise, e.g. ‘What measures can be taken to increase the road safety of e-scooter users themselves and of other road users?’ Thus, the KFV (Austrian Road Safety Board) carried out an extensive e-scooter study in 2019.

**Methods** The following methods were applied:

1. analysis of existing data on e-scooters, in particular on accidents and legal regulations
2. online and face-to-face-surveys among 500 e-scooter users and almost 600 non-users on personal experiences, knowledge about legal regulations and user attitudes and behaviour
3. on-site observations among 1.500 e-scooter users with focus on speed behaviour, usage of infrastructure, helmet wearing and conflicts with cyclists and pedestrians

**Results** Results showed that...

1. ... people are not sufficiently informed about the applicable legal regulations on e-scooters
2. ... 34,4% of all surveyed e-scooter-users drove illegally on the sidewalk
3. ... conflicts occur frequently because of carelessness and distraction, disregard of traffic rules, violations of priority and excessive speed

**Conclusion** There is an ongoing process on discussing measures in the following areas:

1. legislation for e-scooter users (e.g. reduction of speed limits, changes in technical requirements),
2. awareness raising and training in order to reduce risks,

3. improvement of infrastructure of all road users (e.g. own parking spaces),

**Learning Outcomes** This relatively new topic requires further attention and studies in the future.

### 5D.002 INVESTIGATION OF NON-STANDARD MOTORCYCLE HELMET USE AND RELATED FACTORS IN VIETNAM

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**Background** Following Vietnam’s 2007 helmet law, helmet-wearing rates are high, at 81% for drivers and 60% for passengers (WHO, 2018), but standard helmet-use is low (WHO, 2013). This study examines characteristics of helmets and rates of quality helmet-use and related factors.

**Method** This study uses a cross-sectional design with a sample size of 540 drivers and passengers in HCMC and Thai Nguyen. Data on helmet use was collected using structured questionnaire. Both child and adult helmets were exchanged and tested in two stages: the first test assessed basic required components, size, weight, protection areas. Helmets passing the first stage proceeded to a second test on impact absorption.

**Results** Significant proportions of respondents wear substandard helmets, with the wearing-rate of poor-quality ‘cap-helmets’ without lining at 25.6%. 41.5% of surveyed helmets had been used over three years, exceeding the recommended maximum age.

Of surveyed helmets, 37.6% passed the first test, and 10.6% of all surveyed helmets also passed the impact absorption test.

Although 48.9% of participants demonstrated willingness-to-pay >250,000VND, the average price of a standard helmet, substandard helmets were widely used as consumers prioritized appearance and comfort.

**Conclusion** Though helmet-wearing rates in Vietnam are high, the quality of helmets used by motorcyclists remains poor. Only 10.6% of surveyed helmets met technical standards, though participants demonstrated willingness-to-pay for a standard helmet.

**Learning Outcomes** Further research is needed to understand detailed needs and barriers in implementing actions to increase standard helmet-use. Improving enforcement and awareness of helmet quality on the market is also crucial.

### 5D.003 REGULATING COMMERCIAL MOTORCYCLE FLEETS – A SURVEY IN TANZANIA

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**Background** In Tanzania, the number of registrations for two- or three-wheeled vehicles has been climbing since 2006. In 2016, more than 50% of registered vehicles were motorised two- or three-wheelers; 23% of the deaths caused by traffic accidents were riders of this kind of vehicle.

One of the great challenges for countries like Tanzania is to produce and enforce policy and regulation to improve road safety indicators. Understanding the behaviour of road users like commercial (called 'Bodaboda') and recreational African motorcycle drivers is an important step towards this goal.

**Methods** This study is the second part of a traffic psychology project for Bodaboda drivers of the Arusha city in Tanzania. The questionnaire, written in Swahili, was distributed to 513 Bodaboda drivers in December 2016.

The 513 subjects replied to 46 questions to investigate seven different aspects: demographic information, protective equipment, passengers, motorcycle maintenance, police fines and bribes, and driver's crash history.

**Results** Forty-eight per cent of the respondents had been involved in a crash since they started driving. Perceived crash factors were external: the most frequent cause mentioned was the poor driving skills of other drivers (56.1%). For 10.5% of the subjects, crash-avoidance was impossible because crashes are predestined, thus unavoidable.

**Conclusion** This data gives us important insights into road safety experience and perceptions of professional motorcycle drivers in Arusha, Tanzania. This data, combined with other observational data, is useful to design better policies and regulations in the sector.

#### 5D.004 AN UNHELMETED MOTORCYCLIST NOT HOLDING HANDLEBARS – A PHOTOGRAPH IDEA FOR EDUCATION

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**Context** A manuscript in the Aust. NZ J of Public Health [2004] by Ozanne-Smith reported that in 2000, 1.2 million deaths resulted from road traffic injury [RTI] with 10 times this number injured. The author states that high income countries have the knowledge, expertise and responsibility for assisting low income countries to counter the growing burden of RTI.

Campaigns in Australia typically have simple, hit home messages with captions overlaid on photos. [Stop, Revive, Survive] is well-known, with accompanying photos displaying red fatigued eyes with the words; tired eyes, yawning, driver fatigue: wake up to the signs.

**Process** The author noted that in Thailand few motorcyclists wear helmets. Photographs were selected from an array taken by Stephen Hilton, whom won the 2019 Asia Pacific Academic Consortium for Public Health early career network photo competition. A photograph of a young motorcyclist with no helmet, holding one handlebar, while smoking a cigarette was utilised with words overlaid on the image including; Helmet, Handlebars, Headlights.

**Analysis** A systematic statistical analysis is not possible. Instead the design will be shown to potential travellers being mostly young folk planning travel to Thailand, Bali, Vietnam or Indonesia. Their comments will be gathered and collated with themes identified.

**Outcomes** Changes in RTI rates are impossible to measure from viewed photographs with overlaid text. Impact on behaviour change being helmet usage maybe ascertained by questioning upon return to Australia.

**Learning Outcomes** Education may alter behaviour for travellers, while local residents may continue to face barriers such as cost.

## 5E – Data, March 24, 2021

### 5E.001 IDENTIFYING LOCATION-SPECIFIC INJURY CASES FROM ELECTRONIC MEDICAL RECORD NARRATIVES: THE 'WIPEOUT METHOD'

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**Background** Free text narratives in the Electronic Medical Record (EMR) provide rich information, but extracting data is difficult. For emergency department (ED) surveillance and to inform a prevention program for beach-related injury and illness (BRIL), we developed and tested the 'Wipeout Method' to query ED EMR narratives in EPIC.

**Methods** The first of this five-step process involved identifying a cohort of ED BRIL cases via lifeguard reports and generating an initial set of search terms based on their EMR narrative. The next four iterative phases involved using the set of search terms, updated for each phase, to query ED EMR records from sequential sample time periods. In each phase, we manually verified BRIL cases and analyzed true and false positives of the search using a combination of single word, bi-gram and tri-gram frequencies; gold standard review of high activity days; deep word search of false positive terms; and text classification regression. The set of terms was refined at the end of each stage with the goal of minimizing false positives without compromising precision.

**Results** The 'Wipeout Method' generated a set of 49 query terms with 75.2% precision over all available ED EPIC records in our hospital, a 19-month period. We verified 1,605 BRIL cases from 2,134 flagged records.

**Conclusion** This novel method allowed identification of the majority of cases in medical records with the use of minimal resources. The technique is widely applicable to other injury and public health areas for case identification for surveillance and study purposes.

### 5E.002 FEASIBILITY OF HOSPITAL-BASED INJURY SURVEILLANCE IN NEPAL: A PROSPECTIVE STUDY

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**Background** Injury surveillance is important for national injury control and prevention initiatives and enables monitoring of progress towards Sustainable Development Goals 3.4 and 3.6. In the absence of a national injury surveillance system in Nepal, we evaluated the feasibility of a model of hospital-based surveillance.