Methods Study population: All drivers involved in a fatal motor vehicle crash in MD January 1, 2001 to December 31, 2013: 126 monthly data points from police reports pre-intervention and 30 post-intervention. Using an interrupted time series analysis we examined the effect of the tax on all alcohol-involved drivers in fatal crashes and fatally injured alcohol-involved drivers. Rates were calculated per 100,000 population, 100,000 licensed drivers, and 100 million vehicle miles travelled.

Results 6,967 crashes involving 10,777 drivers resulted in 4,642 driver fatalities. Unadjusted analysis found a significant 15% reduction in rate of alcohol-impaired drivers with BAC >0.08 g/dL per vehicle miles travelled after the tax increase. Significant reduction was also observed for alcohol-positive drivers and for fatally injured BAC positive drivers. After adjusting for linear trend, seasonality, and unemployment, the immediate effect of the 2011 alcohol sales tax increase in was not significant. However, we did observe a significantly larger decline in the rates of alcohol-impaired drivers and alcohol-related fatalities with BAC > 0.08 g/dL as indicated by the significant gradual decline in the slope after the introduction of the 2011 alcohol sales tax increase.

Conclusions: While there was no immediate reduction in the rate of alcohol-impaired drivers following a 3% increase in alcohol sales tax, there was a significantly larger decline in the rates of alcohol-involved fatalities at BAC > 0.08 g/dL following the intervention, suggesting a gradual delayed effect. Other studies find an effect with excise taxes but this is the first study to evaluate the impact of sales taxes.

Trauma Care and Rehabilitation

Parallel 2.5

304 "THAT'S WHAT YOU DO FOR PEOPLE YOU LOVE": A QUALITATIVE STUDY OF SOCIAL SUPPORT AND RECOVERY FROM MUSCULOSKELETAL INJURY

Khic-Houy Prang, Sharon Newnam, Janneke Berecki-Gisolf. *Monash Injury Research Institute, Monash University, Australia*

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Background Social support has been identified as a key factor in facilitating better health outcomes following injury. However, research has primarily focused on the role of social support from the perspective of the person experiencing an injury. Limited research has examined the experiences of the family members/friends to a person with injury. This study aims to explore the perceptions and experiences of social support and recovery following a transport-related musculoskeletal injury (MSI) in a population of injured persons and their family members/friends.

Methods This study was conducted using a phenomenology qualitative research design. In-depth semi-structured interviews were conducted with ten persons with MSI, recruited via the Transport Accident Commission (TAC) in Victoria, Australia. Seven family members/friends were also interviewed. Interviews were audio-recorded and transcribed verbatim. The data was analysed using thematic analysis.

Results Several themes were identified including: (i) key sources of support, (ii) types of support received, (iii) relationship development and (iv) challenges of providing and receiving support. The presence of social support was perceived as fundamental to recovery. Different members of the social network provided

different types of support. Iterative changes in relationships and barriers in providing and receiving support following the injury were noted.

Conclusions This study provides valuable insights into the perceptions and experiences of social support and recovery from MSI. The study revealed complexities in the interactions between persons with MSI and their family members/friends, in particularly related to caregiving demands. The findings of this study have implication for involving and supporting family members/friends in the planning and implementation of treatment plan.

305 TRAUMA CARE SYSTEM MATURITY IN INDIA: EVALUATION USING WHO MATURITY INDEX AND GEOSPATIAL ANALYSES

¹BM Asheel, ²K Beebi, ²K Jayeshlal, M Nambiar. ¹National Health Mission, Kerala, India; ²Directorate of Health Services, Kerala, India

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Background In the context of recent emphasis on developing trauma care systems globally, a Pan-India trauma care system is getting ready. Given the well known regional disparities in health systems in India, evaluation of its parts (states) becomes important if the sum of the parts (the Nation) needs to develop a system in an equitable way. Trauma System Maturity Index (TSMI) and other guidelines by WHO, along with Geographical Information System (GIS) provides an opportunity for such evaluation and evidence based policy making.

Methods A cross sectional analytical study was done to grade trauma care system maturity of 10 representative states in India. Four major components of trauma system were assessed, including pre-hospital care, education and training, facility based trauma care and quality assurance; using a structured schedule prepared in line with WHO TSMI and 7 major guidelines for trauma care by WHO. In addition to this, GIS based analyses were done to assess the geographical distribution of trauma care facilities. The GIS data was analysed using ArcGIS version 9.1 and data for TSMI analysed using SPSS version 17.0.

Results While most of the state trauma care systems were graded level 2 for prehospital care and quality assurance, almost all systems graded 1 for facility based trauma care. Host of variables within the components were analysed and critical areas were identified where in small initiatives would evolve the trauma system to next level of maturity grading. GIS based analyses showed that even with in the states the access to trauma care services is alarmingly inequitable. Better grade in TSMI translated as better outcome in terms of trauma related mortality.

Conclusions The trauma care systems in different states are in diverse phases of evolution and their TSMI grade reflects their system performance. Study also projects successful examples which can be adapted by other states and countries with similar policy environment.

306 PRE-HOSPITAL CARE IN OMAN: RESULTS FROM HOSPITAL BASED TRAUMA REGISTRY

¹Amber Mehmood, ¹Katharine A Allen, ¹Joseph Salami, ²Ammar Al Kashmiri, ²Ali Al Busaidi, ¹Kent Stevens, ¹Adnan A Hyder. ¹Johns Hopkins Bloomberg School of Public Health, USA; ²Ministry of Health, Sultanate of Oman

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Background Many injury victims die before reaching a hospital due to inadequate pre-hospital care and transport. Prompt emergency care can save lives and prevent disabilities but the inconsistent availability of formal Emergency Medical Services (EMS) makes it challenging. This is the case even in some high-income developing countries like Oman. For this study we analysed the trauma registry data from two large hospitals of Oman to understand the pre-hospital and hospital based emergency care in a rapidly developing country in the Arab Gulf.

Methods The data was collected from Khoula and Nizwa hospitals between November 2014 and April 2015. All patients admitted through the emergency department with a history of trauma were included. Information about mechanism of injury, mode of transport, time interval between injury and hospital, pre-hospital care and emergency department (ED) disposition was collected.

Results 2,340 patients were received in the ED during the study period. The majority (74%) were males, with a mean age 27 years. Transport injuries and falls accounted for 70% of all injuries. The most common mode of transport was private car (43%); only 13% of patients were transported via EMS. Only 30% of cases were transported to the hospital within an hour of injury; median transport time was 2.53 hours. Only 27% of patients received some form of pre-hospital care. Twenty-three ED deaths were recorded. Mean ED length of stay was 16.35 hours. In the study population, injury severity score in 85% of cases was ≤ 9 , mean revised trauma score was 7.6382 and overall mortality ratio was 2.35%.

Conclusion Despite rapidly developing health care services in the urban parts of Oman, EMS utilisation is low. Patients presenting to the hospital are those who have less severe injuries and thus have better chances of survival. A better-organised EMS system may provide a prompt transport and appropriate triage to patients with severe injuries.

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RECOVERY AFTER SERIOUS TRAUMA—OUTCOMES, RESOURCE USE AND PATIENT EXPERIENCES (RESTORE) STUDY: 3-YEAR OUTCOMES FOR ADULTS

¹Belinda Gabbe, ¹Peter Cameron, ²Ronan Lyons, ³James Harrison, ⁴Shanthi Ameratunga, ¹Jennie Ponsford, ¹Alex Collie, ⁵Mark Fitzgerald, ⁶Rodney Judson, ⁷Andrew Nunn, ⁸Nicola Christie, ¹Sandy Braaf, ⁹David Attwood, ¹⁰Helen Jowett, ¹⁰Warwick Teague. ¹Monash University, Australia; ²Swansea University, United Kingdom; ³Flinders University, Australia; ⁴University of Auckland, New Zealand; ⁵The Alfred, Australia; ⁶Royal Melbourne Hospital, Australia; ⁷Victorian Spinal Cord Service, Australia; ⁸University College London, United Kingdom; ⁹Transport Accident Commission, Australia; ¹⁰Royal Children's Hospital, Australia

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Background There is a worldwide shortage of population data about non-fatal injury burden. The aim of this population-based, nested, longitudinal study was to quantify patient outcomes in the first 5 years after injury.

Methods Adult (>17 years), major trauma patients registered by the population-based Victorian State Trauma Registry, injured between July 2011 and June 2012, were followed up by telephone at 6-months and 1, 2, 3, 4 and 5 years post-injury to collect function (GOS-E), health status (EQ-5D), return to work, environmental impact (CHIEF-SF) and post-traumatic stress disorder (IES-R) data. Data from the 3-year time point are presented.

Results Of 2,757 patients, 333 died in-hospital and 99 opted-out of follow-up. Of the remaining 2,325 patients, 10% died before 3 years. The mean (SD) age of surviving patients was 49 (21) years, 73% were male, 89% were unintentional cases. Road traffic injury (37%) and falls (32%) were common causes. 62% were working/studying before injury. 84% were followed up at 3 years. 29% reported upper good recovery on the GOS-E, and 69% of those working/studying before injury had resumed work/study. Prevalence of problems on the EQ-5D items varied; 37% for mobility, 21% for personal care, 47% for usual activities, 50% for pain/discomfort and 41% for anxiety/depression. Mean CHIEF-SF scores indicated greater problems than the CHIEF norms for the transport (0.77 vs 0.48), natural environment (1.26 vs 0.63), physical structure of other surroundings (1.00 vs 0.44), home help (0.51 vs 0.35) and health care (0.49 vs 0.34) items. IES-R scores for 43% showed no symptoms; 21% had some symptoms and 18% scored >33 which is indicative of a clinical diagnosis of PTSD.

Conclusions At 3-years post-injury, ongoing problems were prevalent. The data provides valuable information about the time course for recovery and key problems faced by patients in their recovery.

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EPIDEMIOLOGICAL TRENDS IN THE SWISS REHABILITATION SETTING FOR TRAUMATIC SPINAL CORD INJURY

^{1,2}Jonvica Chamberlain, ^{1,2}Martin WG Brinkhof. ¹Swiss Paraplegic Research, Nottwil, Switzerland; ²University of Lucerne, Switzerland

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Background Dynamics of incident traumatic accidents, a case in point being traumatic spinal cord injury (TSCI), have changed over the past forty years in many high income countries due to changes in demographic structure, lifestyle and policy. Rehabilitation following a TSCI can result in significant improvements and prolongation of life and reduced societal and personal burden. Monitoring contemporary and historical trends can help inform future projections for targeted interventions towards prevention and resource allocation.

Methods TSCI cases admitted for first rehabilitation between 1970 and 2014 were identified in four specialised rehabilitation centres in Switzerland included in the Swiss Spinal Cord Injury (SwiSCI) cohort. Multinomial logistic regression was used to determine relative risk ratios (RRR) of admission to first rehabilitation. Incidence rate ratios (IRRs) were calculated using Poisson regression with reference to the Swiss general population.

Results There were 4,095 incident cases of TSCI. Between 1971–2000 there was an overall 2.1% increase in patient admission, followed by a 1.2% decrease in 2000–2014. The relative proportion of the elderly patient population increased from 1990 onwards in comparison with 1970–1974 (RRR range compared to the youngest: 4.2–14.6). Relative to the youngest patients, the oldest patients had a nearly 18-fold increase in odds for falls in comparison with transport-related accidents. Assessment of IRRs revealed an increase in risk of admission for sports-related accidents TSIs among the youngest ages; risk of falls among older ages appeared to increase, especially after 2000.