

and extended hospital stays. Non-serious complications included formation of a hematoma, discoloration, oozing, swelling, or bleeding at the entry site.  $P$  values  $< 0.05$  were considered significant.

**Results:** An independent  $T$ -test indicated a significant ( $p < .001$ ) increase in the mean percentage in the number of reused SUDs at BBH. There was no difference in the number of complications that developed after surgery between the hospitals, despite the significant difference in the number of SUDs per procedure. When analyzing length of stay, the results showed significant ( $p < .001$ ) increase in the average mean stay for patients in BBH which may be attributed to the initial health status of patients. No significant differences were found between hospitals in the severity of complications was analyzed (serious vs. non-serious).

**Conclusion:** There was no significant correlation between the reuse of single use medical devices and adverse outcomes for PTCA at either of the two hospitals in which the study took place.

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### Osteoporosis-Related knowledge, self-efficacy and health beliefs among Chinese women with breast cancer

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**Background:** Women with breast cancer (BC) are at increased risk for fracture, particularly in resource-limited settings where infrastructure for osteoporosis screening and treatment is fragmented. Understanding behavioral factors that influence adoption of fracture prevention measures in this population is critical. Utilizing concepts from the Health Beliefs Model, we sought to evaluate osteoporosis-related knowledge, self-efficacy, and health beliefs among a cohort of breast cancer survivors in China.

**Methods:** From April 2013- August 2014, BC survivors receiving care at the Cancer Institute and Hospital of the Chinese Academy of Medical Sciences were invited to participate in this cross-sectional study. Women were eligible if they were 50-70 years of age, had initiated treatment for BC at least 5 years prior to enrollment, and had no history of prior osteoporosis or metabolic bone disease. Volunteers completed a mandarin-language questionnaire that included sociodemographic and fracture risk assessment, the International Physical Activity Questionnaire, a calcium and vitamin D intake scale, the Osteoporosis Knowledge Test (OKT), Osteoporosis Self-Efficacy Scale (OSSES), and Osteoporosis Health Beliefs Scale (OHBS).

**Findings:** 200 women were enrolled with a mean age of  $57.5 \pm 4.9$  years, and BMI of  $24.9 \pm 3.7$  kg/m<sup>2</sup>. 78% of women had high school level education or beyond. Smoking (ever; 3%) and alcohol use (current; 5.5%) were rare. Rates of parental fracture history, personal fracture history, fall within the last year, and calcium supplement use were 10.6%, 10.5%, 15.7%, and 51% respectively. 53% engaged in high levels of physical activity and on average women reported consuming calcium/vitamin D rich foods more than once per week. Mean OKT score was  $11.9 \pm 3.8$  (scale: 0 to 26). OSSES scores (scales: 0 to 100) indicated greater confidence

regarding adopting dietary calcium intake behaviors ( $89.3 \pm 12.8$ ) compared with exercise-related behaviors ( $66.8 \pm 15.2$ ). OHBS scores (scales: 6 to 30) showed neutral levels of perceived susceptibility to ( $18.2 \pm 2.9$ ) and seriousness of osteoporosis ( $20.1 \pm 3.3$ ), high levels of health motivation ( $26.7 \pm 2.9$ ), high perceived benefit to exercise and dietary calcium intake ( $25.9 \pm 3.6$  and  $23.6 \pm 3.3$ , respectively) and relatively low perceived barriers to these activities ( $14.0 \pm 3.9$  and  $14.0 \pm 3.5$ , respectively). Logistic regression adjusted for age and BMI showed that high dietary calcium/vitamin D intake was associated with fewer perceived barriers to dietary calcium intake (OR 0.84, 95%CI 0.77-0.93,  $p=0.001$ ), and high physical activity level was associated with fewer perceived barriers to exercise (OR 0.92, 95%CI 0.84-0.99,  $p=0.04$ ) and higher self-efficacy ( $1.02$ , 95%CI 1.01-1.05,  $p=0.02$ ).

**Interpretation:** Despite high risk for fracture, women in our study demonstrated only moderate levels of knowledge regarding osteoporosis. Perceived barriers to dietary calcium intake and physical activity, as well as self-efficacy regarding physical activity may influence uptake of these behaviors. Understanding these associations can aid development of targeted fracture prevention measures for women with BC.

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### Patterns and predictors of early mortality in the Tikur Anbessa hospital emergency department in Addis Ababa, Ethiopia: a prospective study

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**Background:** Ethiopian emergency department (ED) patients have a high burden of illness and injury for which mortality rates have not been previously published. This study sought to characterize the burden of and to identify predictors for early ED mortality among patients presenting to the Tikur Anbessa Specialized Hospital ED (TASH-ED) in Ethiopia.

**Methods:** Data was prospectively collected from the records of all adult ( $\geq 15$  yrs. of age) patients who died within 72 hours of ED admission to the Tikur Anbessa Specialized Hospital in Addis Ababa, Ethiopia. Pearson's chi-square and Fisher's exact tests were used to investigate associations between time to death and cause of death in addition to demographic and clinical factors. Time from ED admission to death was dichotomized as 0-6 hours and 6+ hours and logistic regression was used to assess the adjusted impact of these variables on the probability of dying within 0-6 hours of ED admission. This study was approved by the Research Ethics Boards at Tikur Anbessa Hospital, Ethiopia and the University Health Network in Toronto, Canada.

**Findings:** Between October 2012 and May 2013, 16,056 patients visited the ED and 220 patients died within 72 hours of admission. After excluding patients dead on arrival ( $n=34$ ), the average age of death was 43.1 years and the overall mortality rate was 1.2%. Head injury (21.5%) and sepsis (18.8%) were the most common causes of death. Relative to medical patients, trauma patients were younger

( $p=0.009$ ), comprised more males ( $p=0.05$ ), died faster ( $\leq 6$  hours;  $p=0.03$ ), and were less likely to present during the day ( $p=0.05$ ). The sole significant predictor of death within 6 hours was symptom duration less than 4 hours (4.48hrs vs.  $< 4$ hours: OR=0.21, 95% CI=0.08-0.54,  $p=0.0014$ ;  $> 48$  hours vs.

**Interpretation:** The mortality burden of trauma and sepsis in the TASH-ED is high, and mortality patterns differ between these groups. As emergency medicine develops as a specialty in Ethiopia, reduced mortality among these otherwise young, previously well patients could occur through targeted trauma prevention advocacy and the development of context-specific ED clinical care protocols. The generalizability of these study findings are limited by being a single-center study but hold great importance for informed improvements in ED care at Tikur Anbessa Hospital and likely approximate overall early ED mortality patterns in similarly-resourced ED settings in Ethiopia and other African countries.

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### The road safety experiences and perspectives among technology sector employees of a US multinational corporation in urban India

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**Background:** There is urgent need for a multi-sectoral response to reduce the dangerously high road traffic injury and fatality rates in India. The purpose of this study was to understand the road use experiences and perceptions of road safety and hazards among employees of major multi-national corporation (MNC) in India to inform a globally enacted and locally-relevant employee road safety platform.

**Methods:** Self-report surveys and focus group interviews were used to elicit the road safety perceptions, attitudes and behaviors of employees in MNC's offices in Bangalore and Pune. A convenience sample of employees was recruited through an office-wide email solicitation. Eligible participants: used a roadway to commute to work, were at least 18 years old, and were proficient in written and spoken English. Approval was secured through the University of Pennsylvania Institutional Review Board and participants provided written informed consent. Six focus group interviews (lasting 1.5 hours) took place at 4 different MNC offices during daytime working hours. A research team member used a focus group guide to elicit participants' perspectives about traveling on roads in their city of residence, perception of road safety and hazards, experiences with road traffic injury, and opinions about programs that would enhance their self-efficacy as a road user. Study team members coded focus groups transcripts to develop categories and themes that describe interview content. Focus group findings were interpreted within the context of the demographic, vehicular and road use features, and road safety behaviors, identified in descriptive analysis of survey data.

**Findings:** Seventy-five employees (34 in Bangalore and 41 in Pune) participated in six focus groups. The demographic and road use variables for both cities were comparable. The majority of participants were 31-40 years of age, male, and used both personal 4-wheel and 2-wheel vehicles in daily road use. Participants considered daily road use to be a dangerous and stressful experience. Roadway danger was attributed to vehicle mix, non-adherence to

traffic laws, and local transportation infrastructure unequipped for the rate of population and commercial growth. Comparing interview and survey data uncovered a mismatch between employee knowledge of safety strategies and self-reported road safety attitudes and behaviors.

**Interpretation:** Although the findings of this research cannot be generalized beyond MNC employees in Bangalore and Pune, this study illuminates an important public health role for MNCs with workforces in high-risk road traffic environments. MNC employers should target locally relevant policies and safety interventions which acknowledge features of the local road traffic environment like poor infrastructure and unenforced traffic law, as part of corporate health promotion platforms developed to decrease road traffic injury among employees.

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### Differing rates of severe flame and electrical injury in severely burned children from Mexico and the united states

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**Background:** While scald burns are the most common burn in children in the United States (US), we hypothesized that flame and electrical injuries, were more highly represented in patients from Mexico and would carry increased morbidity. The Shriners Hospital for Northern California (SHNC) receives transfers of pediatric burn patients from Mexico, and provides an opportunity to assess the etiology of burns in children from separate countries in a common environment.

**Methods:** Retrospective data was reviewed on children ages 0-21 years with burns involving total body surface area of burn injury (TBSA) of 20% or greater, admitted to SHNC from 2006-2014. Children admitted locally classified as being from the US. Patients from Mexico were transferred from Mexico. Outcomes included mortality, TBSA, mechanism of injury, length of hospital stay (LOS), ventilator dependent time (VDT), number of operations required, and need for blood component resuscitation. Analysis was completed using R-statistical package ([www.r-project.org](http://www.r-project.org)). All values are represented as mean  $\pm$  standard deviation. Statistical significance was set for at  $p < 0.05$ . The study was approved by the institutional review board of the Shriners Hospital of Northern California.

**Findings:** Over the period reviewed, 382 patients met entry criteria, of which 66% were transferred from Mexico and 34% were from the U.S. Mean TBSA ( $36 \pm 19\%$  vs.  $34 \pm 23\%$ ,  $p=0.4$ ) and incidence of inhalation injury ( $21\%$  vs.  $16\%$ ,  $p=0.29$ ) did not differ between Mexican and U.S. children. There was also no difference in overall LOS ( $p=0.33$ ), VDT ( $p=0.78$ ), number of operations ( $p=0.18$ ), or the amount of blood ( $p=0.9$ ) or FFP ( $p=0.4$ ) transfused. Compared to U.S. children, Mexican children had a significantly higher incidence of flame injuries ( $62\%$  vs  $49\%$ ,  $p=0.001$ ) and accounted for a significantly higher incidence of electrical injuries ( $6.7\%$  vs.  $0\%$ ,  $p=0.0001$ ). Patients from either country with flame or electrical burns had significantly higher TBSA ( $p < 0.0001$ ) and fresh frozen plasma in the ICU ( $p=0.001$ ) compared to patients with scald burn injuries. Intraoperative transfusion needs