

676 **IS NETWORKING BEYOND BORDERS POSSIBLE? EVALUATION OF CONNECT.ED: A SECTOR-WIDE NETWORKING STRATEGY**

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Background Networking is an essential element of practice and developing partnerships, which often requires a significant investment of time, resources and skills.

Description of the problem Research revealed that injury prevention practitioners face complex challenges that can hinder their capacity to network and build partnerships. Challenges like restrictive budgets, heavy workloads, confidence in networking and sector diversity, which are amplified when geographically isolated, working in regional and remote Australia.

CONNECT.ed is an innovative network for people with an interest in preventing injury and creating safer communities. Designed to overcome some networking challenges, this paper describes the implementation and evaluation findings of CONNECT.ed.

Results CONNECT.ed's aim was to support regionally-based Western Australian injury prevention practitioners enhance their partnership building skills by increasing access to networking opportunities. Since inception in 2015, it is now a network without borders, spanning multiple countries and engaging practitioners from a diverse array of safety topics.

CONNECT.ed pairs practitioners randomly across the network, inviting them to participate in a short mutually beneficial conversation with a peer without a set agenda.

Differentiating itself from other networking and mentoring programs, CONNECT.ed is built upon the concept that all practitioners, regardless of position, experience or background, have something to share and learn from others.

CONNECT.ed utilises technology for connecting participants, removing status, providing legitimacy and permission for people to talk with others they would not normally meet.

Conclusion CONNECT.ed's format challenges the convention that networking can only occur face to face and is time and resource intensive. CONNECT.ed is playing an active role as an enabling structure in the injury prevention sector and provides an innovative opportunity to network without borders.

677 **ASSOCIATION BETWEEN HEALTH INSURANCE AND LONG-TERM INJURY-RELATED DISABILITY IN VIETNAM**

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Background Health insurance is an important social protection mechanism to insure vulnerable populations against health shocks caused by injury. This study aims to examine the association between health insurance and long-term injury-related disability in Vietnam.

Methods We are conducting a prospective cohort study of 1200 moderate to severe injury patients recruited from a public hospital in Ninh Binh, Vietnam. We administer a baseline and four follow-up surveys (at 1, 2, 4, 12 months after discharge) to participants about health insurance, socio-demographic and

injury characteristics, and self-assessed disability (using WHO disability assessment schedule 2.0 (WHODAS)). The outcome measure is WHODAS score.

Results We have recruited 1094 injury patients at baseline; 611 (44%) had health insurance and 483 (56%) did not. Insured subjects were on average 48 years in age, 64% male, and 40% farmers; while uninsured patients were on average 37 years in age, 77% male, and >50% were farmers. Road traffic and falls were the top two causes of injury for the insured (59% and 27% respectively) and uninsured (71% and 14%, respectively). Insured patients had significantly higher WHODAS global average score, 1.86 (SD: 4.8), on a scale of 0–48 (0 for no functional limitation and 48 for extreme limitation) than the uninsured patients (0.49, SD: 2.1) ($p < 0.001$). We will use propensity score matching methods with mixed-effects models to examine the association between insurance status and average WHODAS score over time.

Conclusions Health insurance may be associated with health care access prior to injury, and may influence the medical care and rehabilitation services throughout the functional recovery. This study will provide empirical evidence on how health insurance status is associated with disability related to injury over time in Vietnam.

678 **INTEGRATING INJURY PREVENTION AND CARE INTO THE BACHELOR OF NURSING SCIENCE PROGRAM OF PRABOROMAJCHANOK INSTITUTE, THAILAND**

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Background The training injury prevention and care for nursing students is important as they will graduate with knowledge and skills to prevent injury and provide optimal care for people suffering from injuries in the future. This study was conducted to develop the injury prevention and care courses integrating into the bachelor of nursing science program and to train nursing instructors to be able to implement the courses.

Methods The study was conducted in 2 phases; Phase 1 developing the injury prevention and care courses, and phase 2 training nursing instructors. Participants in the first phase composed of 6 nursing instructors and 30 directors of nursing colleges. Selected experienced nursing instructors and researchers developed the injury prevention and care courses. The meeting among 30 directors of nursing colleges was set to distribute a policy of implementing the integrating injury prevention and care courses in 30 nursing colleges. In Phase 2, 51 nursing instructors from 28 nursing colleges were recruited to attend a four-day workshop. Knowledge and attitude on injury prevention and care of nursing instructors, as well as satisfaction were assessed using questionnaires developed by researchers. The scores of knowledge and attitude were compared between before and after training using paired *t*-test.

Results Four modules of injury prevention and care were developed to flexibly integrate into the bachelor of nursing science program. After the workshop, mean scores of knowledge and attitude of the nursing instructors were significantly higher than those before training ($p < 0.01$). The participants also reported their satisfaction in a high level (Mean = 4.58, S.D. = 1.10).

Conclusions The four-module of integrating injury prevention and care into the bachelor of nursing science program has been

developed and used to train the instructors with satisfied outcomes.

679 ECONOMIC IMPACT AND CARE-SEEKING PATTERNS OF INJURIES IN BANGLADESH

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This study aims to provide an understanding of the economic hardship of individuals with unintentional injuries and economic recovery options in rural Bangladesh by assessing the variation in mortality and morbidity due to injuries and estimating the economic burden of injuries by type of injury.

Data were obtained from an annual demographic and injury surveillance system conducted in 7 sub-districts in rural Bangladesh during fiscal year 2014–2015. We tabulated injury prevalence and care-seeking patterns by injury type, age group and socioeconomic status (SES) and applied Chi square tests. A two part model of spending applied a generalised linear model to estimate the probability of any spending and amount of out-of-pocket costs per injury type. Lastly, a Markov model was developed to estimate the probability and cost for each type of injury.

There were 1,163,290 individuals and 119,669 self-reported injuries. The most common injuries were from falls (38%), cuts (22%), blunt objects (10%), and transport (9%). Drownings and violence injuries were more common among low SES, while electrocution were more common among high SES. Most injuries (88%) sought treatment, 81% used village doctors, 3% were hospitalised for a median of 5 days, and 25% of the hospitalised had surgery. Of those treated, 4% reported no improvement in health. The mean and median cost for treated injuries, in 2015 BDT, was \$1,302 and \$250, respectively. Most treatments incurred expenditures on medicines (95% median \$250), 31% on transport cost (median \$100) and 15% on consultation fees (median \$220). The most expensive injury treatments were other (\$6,125), attempted suicide (\$2,000), violence (\$680), and unintentional poisoning (\$600). Other results will be shown later.

Data highlights injuries common among lowest or highest SES, treatment outcome patterns, and most common and most expensive health care services and injury types. This new evidence can improve understanding on health care use, the economic hardship and recovery options of individuals with injuries in rural Bangladesh.

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Brain Injuries

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680 MULTI-FUNCTIONAL DRUG APPROACH FOR THE TREATMENT OF BRAIN INJURY

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Background Traumatic brain injury (TBI) is one of the main causes of mortality among military personnel, children, young adults and athletes. Medicortex Finland has adopted a novel approach to attenuate secondary damages related to traumatic brain injury and stroke. TBI is manifested by early events and delayed secondary alterations. The latter include: mitochondrial dysfunction, lipid degradation and peroxidation and blood-brain barrier (BBB) disruption. This is followed by raised intracellular calcium influx and activation of proteases, resulting in axonal swelling, disconnection and degeneration. Pro-inflammatory factors are produced and secreted by local and infiltrated immune system cells, promoting the development of the inflammatory process. This series of events results in various neurological deficits. Since the degenerative process is mediated by multiple biological reactions, agents that target a single pathway are ineffective.

Method Medicortex presents a novel family of new chemical entities that cross the BBB, each possessing a penetrating head with a chemical spacer and two or more of the following properties: binding of free metal ions, anti-oxidation, anti-inflammation, and/or anti-bacterial. The lead compounds will be selected according to their solubility, stability and toxicity. In vitro and in vivo studies are conducted in order to explore the efficacy of the molecules as neuroprotective agents under different insults and to attenuate neural damage, utilising animal models of cortical impact brain injury.

Results The first compound, TBI-466, was tested by repeated injection at different concentrations and was found to be safe.

Conclusions Taken together, Medicortex's multi-functional drug agents will target biochemical pathways occurring at different time points post-injury, thereby attenuating and even preventing secondary TBI-associated neurological dysfunction and neuronal cell death.

681 EPIDEMIOLOGY OF TRAUMATIC BRAIN INJURIES BASED ON HOSPITAL REPORTS IN METROPOLITAN FRANCE: WHICH ICD10 CODES SHOULD BE SELECTED?

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Background Traumatic brain injuries (TBI) result most often from injuries which could have been avoided through preventive measures. They have very costly human and financial consequences. To contribute to the epidemiological surveillance of TBI, the objective of this project was to analyse hospitalizations for TBI in France.

Methods Each hospitalisation results in a report containing information on the diagnosis, the treatment, the health condition upon discharge, etc. This database, called the Programme for the Medicalization of Information Systems (PMSI), is comprehensive. The main hospital diagnosis (MD) and associated diagnosis (AD) are coded in the International Classification of Diseases, 10th Revision (ICD10). The selections were made from different ICD10 code lists used in the literature: "Intracranial injury" (S06 codes) always selected for TBI analysis; "Fracture of vault of skull, etc." (S02.0, S02.1, S02.3, S07.1) often retained (OR); "Fracture of skull and facial bones, etc." (S02.7, S02.8, S02.9, S07.0, S07.8, S07.9, S09.7, S09.8, S09.9) sometimes retained (SR). The selection must be made on all diagnoses (MD and AD), since the TBI can be coded as an AD in case of multiple injuries.