

for domestic work and caretaking work. Animal husbandry was divided more evenly between males and females with their relative work contributions of 56% and 44%, respectively. Animal husbandry-related injuries were divided correspondingly between the genders (males 57% and females 43%) but all other types of injuries occurred mostly to males.

Conclusions While many studies have shown that male farmers have a much greater risk of injury than females, our study shows that given equal work time, the risk of injury was also equal. Therefore, rather than a risk factor, gender is an indicator of different work exposures in farming. This finding suggests that targeting interventions to males is still appropriate, but it is more important to target the underlying hazardous work tasks and exposures as they increase the injury risk of both males and females.

363 USING THE SOCIO-ECOLOGIC MODEL AS A GUIDE FOR AGRICULTURAL SAFETY INTERVENTIONS

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Background Agriculture is a dangerous industry that allows children in the worksite. Each day about 38 children are seriously injured on farms. The culture of agriculture resists advice from outsiders. Farm operators/parents prefer receiving information from familiar sources, not safety professionals. The Socio-ecologic Model (SEM) demonstrates how spheres of increasing influence have higher degrees of impact on individual behaviour.

Methods We modified the SEM to have farm children as the focal point, with adults/parents the first line of protection. Increasing spheres of influence are family and friends, followed by the community, organisations, and businesses. Public policy has the greatest influence but in agriculture rarely applies. Key farm business contacts are property and liability insurance providers. We conducted a study to assess if and how insurers could influence farmers regarding childhood farm safety. Surveys were distributed at a farm risk management training with 96 (55%) insurers responding.

Results Agricultural insurers reported 55% currently send general safety information and 38% provide financial support of safety events. Regarding child-specific information, 79% want to increase their focus on children and 63% need guidance for this. Furthermore, 76% believe customers would be pleased if they added a focus on childhood farm safety. Using these results, an illustrated report was sent to 150 agricultural insurance companies. It highlighted safety topics of concern, including ATVs and children operating tractors. Details were offered on insurance providers' strategies, such as co-branding farm safety posters, updating farm policies on young workers, and website links to and evidence-based programs.

Conclusions This new approach may influence farmers to protect children from preventable injuries. The project impact, including numbers and types of actions taken by insurance companies, will be shared at the Safety 2016 World Conference.

364 DISABLING FARM INJURIES AND SAFETY INTERVENTIONS: AN INDIAN STUDY

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Background 260 million persons are associated with farm activities in India. According to Census 2011, a total of 26.8 million persons are disabled. There is an increase of 5 million in last 10 years, indicating an addition of 1400 disabled individual every day. In agricultural "acquired disability" because of unsafe farm machine injuries is an added dimension to rural disability.

Methods: Compensation data of agricultural injury victims (156 cases) were collected from the Sonapat District, Haryana, India to assess kind of injuries and disabilities along with machines associated for the years 2008 to 2014. The most common machines associated with disabling injury was fodder cutter, safety interventions were developed and retrofitted in 50 households and feedback was collected.

Results Total bodily injuries were 105 out of 156 cases, out of which 84 cases (80%) pertain to amputation of fingers, 13 cases involved wrist (12%), 5 cases (5%) had leg injury, one person (1%) injured his eye and four cases (4%) injuries sustained on upper body. Machines associated with injuries were chaff cutters (74 cases), electric motors (20 cases), tube wells (6 cases), threshers (12 cases), tractor/trolley (9 cases), harrows (2 cases), and one each of reaper, sickle, winnower, and seed drill. The causal factor associated with fodder cutter injuries were; accessibility of children to machine, get injured while playfully interacting with this machine; hands injuries while feeding the fodder as entrapped in the rollers; diverted attention; loose clothes, get entangled in the gears and belt.

Conclusions Simple safety gadgets consisting of blade guard, fly-wheel lock, warning roller were developed and retrofitted in rural households and feedback suggested that it prevents injuries but some farmers of the opinion that warning roller hinders feeding of fodder quickly.

365 BATTLEFIELD TO FARM FIELD: RISK PERCEPTIONS OF US MILITARY VETERANS TRANSITIONING INTO AGRICULTURE

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Background Prompted by wars in the past two decades largely in the Middle East, the United States veteran population in the United States often struggles with unemployment. America is increasingly occupied by the mental health ramifications of deployment. Domestically, the United States grapples with securing a healthy and abundant food source to support a large food insecure population in the midst of decreases in the number of farms and increasing food imports. The veteran-to-farmer (V2F) movement converges within these two concerns to provide jobs and potential therapeutic benefits to veterans through food production.

Methods The project combines a grounded theory approach with epidemiology to understand a broad range of implications for the V2F movement. Grounded theory will be utilised to conduct semi-structured interviews and participant-observation to explore

veteran's safety behaviours and construct an understanding of how knowledge, attitudes, and beliefs about safety result in health or injury. Veteran's health and safety outcomes will be measured using existing US Veterans Affairs' mental and emotional health analysis tools.

Results Outputs will include modified quality of life and reintegration assessment instruments specific to V2F. This project will also explore if the unique experiences and training of veterans creates a worldview that puts them at particular risk and so establishes V2Fs as a new vulnerable worker population. Results pending and will be available by September, 2016.

Conclusions The study offers a new and emergent means to implementing research into practice by deriving hypotheses from a grounded theory approach and testing them through traditional epidemiological methods. While the V2F movement continues to expand, the unique risks posed to veterans through agriculture should be explored, recognised, and prevented for veterans as an at-risk population.

366 INJURIES IN RURAL QUEENSLAND, AUSTRALIA: A 17 YEAR EPIDEMIOLOGICAL ANALYSIS

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Background People living and working in agricultural regions experience higher than average rates of injury. The purpose of this epidemiological study was to examine the incidence and patterns of injury, as well as trends over time, in an agricultural region within SouthWest Queensland, Australia, in order to inform targeted injury prevention strategies. The primary land use is agricultural (sheep and cattle farming).

Methods Data on all patients resident in the study region within SouthWest Queensland who were hospitalised for treatment of an injury (defined as ICD9 codes 800–999, or S00–T98) between 1st January 1995 and 31st December 2011 (17 years), were extracted. ICD codes (including external cause code), age, gender, and length of stay were obtained. Estimated Resident Population data for each year of the study were obtained from the Australian Bureau of Statistics. Cause-specific, age-standardised rates were calculated, as well as age-, gender- and cause-specific rates. Descriptive analyses were completed using SPSS; trends over time were analysed using STATA.

Results There were 60466 hospital admissions during the 17 year data collection period; 7740 of these were injuries (12.8% of all hospital admissions; 557 per 10000 per annum). Injury hospitalisation rates increased over the study period (432.7578 to 539.5637 per 10000). Hospitalisation due to injury among males decreased over time (645 to 546 per 10 000 pa), but increased among females (238 to 445 per 10000 pa). Decreases in injury hospitalisation rates were seen in children (0–4 yr olds, and 5–9 yr olds), and adults (45–74 yrs), but rates increased in adolescents (10–14 yrs), young adults (20–44 yrs), and older adults (75 + yrs). Falls and poisoning were the leading causes of injury hospitalisation in young children (28% and 21% respectively). Falls and injuries due to transport incidents were the leading causes of injury for 5–9 yr olds (32% and 24%). Transport incidents were the leading cause of injury for all other age groups (10–14 yrs: 35%, 15–19 yrs: 42%, 20–24 yrs: 32%, 25–64 yrs:

28%,) except older adults, where falls were the leading cause of injury hospitalisation (65–74 yrs: 40%; 75 + yrs: 62%).

Conclusion Injury Hospitalisation rates in this agricultural region of QLD are almost double the Australian average. Trends over time in relation to specific injury mechanisms by age group and gender will be presented at the conference. While there is some evidence of injury reduction in this agricultural region during the 17 yr study period, injury prevention strategies specifically targeted toward recreational and work activities in agricultural regions are required to make further reductions. Adolescents, young adults and older adults warrant careful attention.

Child and Adolescent Safety

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367 TRANSPORT SAFETY – CHILD MOTOR VEHICLE PASSENGER SAFETY, USING RESEARCH TO BUILD A CAMPAIGN

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Background New Zealand's rate of child motor vehicle occupant injury is high by international comparisons. A plethora of research and science has repeatedly stated the safety benefits of keeping children in booster seats until they reach 148cm in height. In New Zealand (prior to 2013) there was no legislation that mandated the use of child restraints beyond the fifth birthday; consequently children were prematurely graduated to adult safety belts and exposed to unnecessary injury risk.

Description of Problem In July 2009, Safekids launched a multi-pronged, two year campaign to promote regulation change, education and public awareness of the safety benefits of booster seats up to 148cm tall. Key activities included:

- The creation of a solid base of evidence

- The instigation of a national advocacy project to influence government strategy

- The delivery of a series of capacity building workshops

- The development of creatives to support a nation-wide public awareness campaign.

Results Key findings included:

- Utility and value of the Safekids Campaign: 95 percent of e-survey respondents utilised the Campaign to support local action, 83 percent found the key message effective to very effective and 96 percent of respondents found the resources effective to very effective.

- Reaching communities: of 100 e-survey respondents, 64 percent primarily worked with indigenous peoples. 360,000 child vehicle passenger safety resources were distributed to areas identified as 'communities at risk'.

- Shifting attitudes: 77 percent of e-survey respondents felt that the Campaign had supported the adoption of safer practices. One third of parents interviewed reported that they would prolong their child's use of a booster seat.

- Organisational engagement included health services, educators, government and local government, Police and social support services.

- Media responsiveness: 34 percent of all recorded media referred to Safekids' NZ child passenger safety information and messaging.