Administrative changes could improve completeness and quality and make it a better tool for surveillance of risk. The CDR is potentially the most complete source of information. If death certificates for accidental deaths have incomplete data, the certifier could more often be asked to provide missing information. Validation by casewise comparison between NLIA and CDR with regular intervals is recommended.

476 INCIDENCE, IMPACT, MEDICAL CONSEQUENCES OF UNINTENTIONAL CHILDHOOD INJURIES IN A RURAL BLOCK IN SOUTH INDIA

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Background Unintentional childhood injury is a major cause of mortality and morbidity among children (upto 18 years) across the globe and contributes to over 875,000 deaths annually worldwide. Global Childhood Unintentional Injury Surveillance estimates that nearly 50% of children under 12 years suffered severe unintentional injuries leading to some form of disability. Unintentional childhood injury is an under-reported public health problem in India. This study was undertaken to estimate the incidence and assess economic impact and medical consequences of unintentional childhood injuries among children between 0–14 years.
Methods This is a non-concurrent cohort study, conducted in 13 clusters of a rural block in Vellore. Double stage cluster sampling method was used to screen 1600 children with injury. Information regarding the impact and consequences of injury was obtained.
Results Childhood injury related morbidity was 292.5/1000/year. Children between 10–14 years (4.6%) and boys (4.5%) had a higher rate of injury. Majority of injuries occurred at home (44.8%) and most commonly on the lower extremity (51.7%). Falls (43.1%) was the most common cause of injury followed by RTIs (27.6%). The direct medical and non medical cost of treatment ranged from $US0.14 to $US74. The wages lost by the primary caregiver ranged from $US1.4 to $US90 and absenteeism from work ranged from 1–60 days. Sick absenteeism ranged from 0–45 days with a mean of 5.17 days. 50% of children missed school after an injury. The days spent with temporary disability ranged from 1–60 days with a mean of 4.08 days and 7.73% had permanent disability.
Conclusion Unintentional childhood injuries is an emerging public health problem which leads to significant injury related sickness absenteeism and disability. Boys and older children are the most common victims of injury. Prospective trials on the economic impact and medical consequences will help to gain a clear understanding of DALY and loss of productivity.

477 INJURY RISK IN FINNISH YOUTH FLOORBALL: A ONE-YEAR PROSPECTIVE FOLLOW-UP STUDY

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Background Floorball is a popular team sport in Finland. Previous studies have revealed that injuries are a significant problem in adult floorball. However, epidemiological studies of injuries in youth floorball are lacking. The aim of this study was to investigate the incidence, type, and severity of injuries in young floorball players.
Methods One-hundred-fifty-six female (n = 57) and male players (n = 99) (mean age 17.1 ± 1.6 years) from nine floorball teams participated in the study. Injury data as well as practice and game exposures were collected over the 12-months period (from May 2013 to April 2014). An injury was defined as having occurred in an organised floorball practice or game, and having resulted in the inability to participate in floorball training or playing for one or more days. Severity of injury was measured by number of days lost from floorball training and playing.
Results The players reported a total of 136 injuries, of which 63% were traumatic and 37% were from overuse. The overall incidence of injuries in female and male players per 1000 practice and game hours was 4.5 (95% CI: 3.48 to 5.79) and 3.0 (95% CI: 2.41 to 3.76), respectively. Incidence of traumatic game-related injuries in females was 45.1 per 1000 game hours (95% CI: 30.98 to 65.67), and 19.9 (95% CI: 12.87 to 30.65) in males. The majority (76%) of injuries occurred in the lower extremity, and the most commonly injured body part was the ankle (24%), followed by the knee (23%) and the lower back (13%). Thirty-three percentages of all injuries resulted in less than 1 week time-loss, 30% in 1 to 4 weeks time-loss, and 37% in more than 4 weeks time-loss from sports. Thirty-one players had over 8-week absence from training due to a severe injury.
Conclusions The injury risk in youth floorball is high. The lower limb is the most commonly injured body area. Rather many of the injuries are severe resulting in long-term absence from sports.

478 INJURIES IN CHILDREN WITH AUTISM SPECTRUM DISORDER: STUDY TO EXPLORE EARLY DEVELOPMENT (SEED)

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Background Studies of injury risk in children with autism spectrum disorder (ASD) have shown conflicting results. We examined medically-treated injuries in children with ASD vs. population (POP) controls.
Methods The Study to Explore Early Development (SEED) is a multi-site ASD case-control study of children aged 30–68 months. ASD cases (n = 693) were determined using established ASD-specific diagnostic instruments. POP controls (n = 882) were ascertained from birth certificates. Each child's primary caregiver reported if the child ever had a medically-treated injury and described each such injury. Injuries resulting in emergency department visit or hospitalisation were defined as "serious." We describe the nature and cause of each child's first reported injury. Associations between ASD and having at least one medically-treated injury and serious injury were examined using logistic regression, adjusted for child sex, age, and IQ; maternal race/ethnicity and education; and family income.
Results Among children with ASD, 33% ever had a medically-treated injury and 25% ever had a serious injury; the most commonly specified injuries were laceration (41%), fracture (22%) and abrasion/contusion (12%). Among POP children, 30% had a medically-treated injury and 22% a serious injury; the most commonly specified injuries were laceration (46%), fracture (23%)

and dislocation/sprain (12%). In both groups, the cause most often specified was a fall (56%). ASD cases and POP controls had similar odds of injury (crude odds ratio [cOR] = 1.1 [95% CI: 0.9, 1.4]; adjusted OR [aOR] = 1.2 [0.9, 1.7]) and serious injury (cOR = 1.1 [0.9, 1.4]; aOR = 1.2 [0.9, 1.6]).

Conclusions Children with ASD and population control children had similar odds of any medically-treated injury and serious injury. Sociodemographic and IQ differences did not influence these results. We plan to further explore and compare specific injury types and causes, and additional injury outcomes, between the two groups.

479 THE DYNAMICS IN LEADING CAUSE OF INJURY MORTALITY BY DEMOGRAPHIC TRAITS IN NINGBO, CHINA: 2004–2013

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Background Injuries have emerged as a crucial public health concern in China, accounting for about 10% of total mortality.

Methods Data from the death registry system in Ningbo in the period 2004–2013 were analysed to explore the tendency of injuries, using linear regression model on a log and absolute scale of mortality rate respectively.

Results The average crude injury mortality rate was 56.37/100,000/year, accounting for 9.09% of all deaths, and showed a substantial downturn (−73.28% of Annual Percent Change). The ratio of male to female was diminishing and the injury-related deaths were ageing significantly. MV traffic crashes, drowning and suicide had mainly contributed 50.87%, 18.18% and 10.52% for decrease of all-cause injury mortality rate respectively, instead, only fall had contributed 100% for increase. The greatest reduction occurred in rural-man, with the annual rate changes of −2.19/100,000/year, followed by urban-man (−1.96/100,000/year), urban-woman (−0.75/100,000/year) and rural-woman (−0.58/100,000/year) respectively. Alarmingly, women were disproportionately suffering from fall with a sharp increasing trend, especially in urban-woman. The average crude mortality in adults age 65 and older was 255.98/100,000/year and displayed a increasing trend ($\beta = 0.0143$, $p = 0.0299$) .

Conclusions This study provides a comprehensive overview of the dynamic in injury-related mortality rate in a developed city in China, where some injury patterns are becoming similar with some high-income countries. Appropriate preventive strategies should be urgently initiated to control this aggressive evolution, basing on the successful experiences.

480 EXERCISE IN TREATMENT AND REHABILITATION OF HIP OSTEOARTHRITIS – A 12-WEEK PILOT STUDY

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Background Osteoarthritis (OA) is a chronic joint disease with the hip and knee being commonly affected lower limb sites. There is evidence supporting that aerobic and strength training is beneficial for reducing pain and improving physical function in older adults with mild-to-moderate knee and hip OA. Good physical function is crucial in preventing fall-induced injuries in OA patients.

Methods The aim of this pilot study is to test the safety and feasibility of a tailored exercise program with particular emphasis on maintaining appropriate training intensity while minimising adverse events and injuries.

The self-reported disease-specific pain and physical function will be assessed using the pain and functioning subscales of the WOMAC questionnaire (range 0–100 mm) at baseline and at 12 weeks. The maximal leg-extensor strength, dynamic balance, Timed-up and go (TUG), Short physical performance battery (SPPB; includes tests of balance, 4-metre walking speed and 5-time chair stand) will be used in assessing physical functioning objectively. In addition, hip range of motion and stair-climb-test (step height 20 cm) will be used.

Thirteen women with diagnosed hip OA were recruited and received the exercise program 3 times a week. Main inclusion criteria were age ≥65 years, pain experienced in the hip region and living at home independently.

Results The pilot study started in September 2015, and the end point measurements will be done in December 2015. Dimensions such as intensity progression, individual tailoring of exercises and suitability for varying pain levels and functional ability will be evaluated. In assessing the treatment outcomes, each participant will function as her own control.

Conclusions Training intensity needs to be optimal to insure safety as well as progression in physical function and pain relief. The larger randomised controlled trial will be planned according to experience and feedback received from this pilot study.

481 THE INJURY MORTALITY MODEL IN SHENZHEN CITY FROM 1994–2013, A RAPIDLY DEVELOPING CITY

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Background In the 20 years, with the rapid development of economy in Shenzhen City, mortality model has been changed. However, we are still not sure the change tendency of injury mortality model, proportion of injury related death, and the main leading injury causes (such as road traffic injury, suicide, and fall). The study is aim to figure out these problems, and teen promote scientific advices for injury prevention.

Methods The injury mortality data of 1994–2006 wwre collected from the Funeral Parlour, and other data of 2007–2013 were collected from the death surveillance system in China. The cause of injury related death was coded from V01 to Y99. All the data were cleaning by uniform standards, and analysed by SPSS 20.0.

Results Injury mortality rate has been reduced from 3.19/10000 to 1.30/10000 in the 20 years. Injury ratio of all deaths has decreased from 52.1% in 1994 to 14.8% in 2013. The majority of the injury mortality was man, about 70%. The floating population accounted for about 90% of injury related deaths. Although the ratio of injury death has been descended from 43.5% to 27.9% in 20 years, road traffic injury was the first leading cause of injury related death. Suicide and fall were increased from 6.6% to 27.0%, 8.3% to 11.8% respectively in 20 years.