



**Figure 6.** Epidemic Curves for Proportion of Flu Cases for State of Michigan and Sick Child Care: Year 3, 2015-2016.

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### Vulnerable Population Study of Household Injuries: A Case Study in Hong Kong

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**Study/Objective:** This study is primarily aimed to investigate the relationship among different types of household injuries with socio-demographic attributes in Hong Kong (an urban Chinese setting).

**Background:** Injury is a major global disease burden for the 21<sup>st</sup> century. However, there is little research about unintentional household injury, especially in Asian urban areas.

**Methods:** A cross-sectional retrospective recall study was conducted in 2009 using a random telephone survey with a modified Chinese version of the World Health Organization Injury and Violence instrument. Ethics approval and participant's verbal consent were sought. The study samples included 6,570 non-institutionalized Cantonese-speaking Hong Kong residents of all ages and genders. Descriptive analysis and incidence rates were calculated for seven specific injuries, including dislocation and sprain, fracture, external injury, bruise, poisoning, burn and scald, and animal bites.

**Results:** In the previous 12 months upon the time of survey, 2,577 out of 6,570 respondents experienced household injuries. Among the seven types of injuries, bruise was reported with the highest incidence rate (25.3%). Moreover, the probability of household injuries generally decreases with the increasing age from 40 years old. Gender was also confirmed to have influence in the household injuries. Females have a 17.1% higher rate than males when household injuries occur. There were district disparities of the household injury occurrence pattern.

**Conclusion:** Age, gender, and geographical location had strong relation with the incidence rate of household injuries. Further studies with a prospective longitudinal design should include injuries that happen outside of a household setting.

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### The Disaster Risk Landscape for Small Island Developing States (SIDS)

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**Study/Objective:** To examine disaster vulnerability of Small Island Developing States through a public health/socio-ecological lens.

**Background:** In contrast to continental nations, the world's 52 Small Island Developing States (SIDS) form a collective of countries that experience disproportionate challenges for sustainable development related their geography, small size, and physical isolation. SIDS also face elevated risks for disaster incidence and consequences, particularly in the realms of climate change, sea level rise, natural disasters (tropical cyclones, earthquakes, tsunamis, volcanoes), and marine hazardous materials spills. Cyclone Winston's impact on Fiji in 2016 and Cyclone Pam's landfall over Vanuatu in 2015 illustrate the special vulnerabilities of the SIDS.

**Methods:** The novel Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM); challenges faced by SIDS were reviewed in light of United Nations guidance, the Sendai Framework, and the Sustainable Development Goals.

**Results:** For SIDS, the disaster risk landscape is shaped by several unique features: 1) small size and correspondingly limited resources; 2) elevated disaster frequency and severity based on geography (tropical latitude/longitude), geophysics (seismicity, volcanic activity, proximity to tectonic plate boundaries), and topography (sea level elevation, 360° coastal perimeter, steep terrain on some islands); and 3) physical isolation from other nations - precisely because SIDS are individual islands or clusters of islands. For SIDS, the trifecta of natural disaster vulnerability, climate change, and rising ocean levels act synergistically to exacerbate disaster risks.

**Conclusion:** Dispersed broadly throughout the oceans of the world, the SIDS act inadvertently as an early warning network for detecting the initial signs of insidious global threats. Given these realities, DRR and DRM strategies must be tailored to the unique constellation of disaster hazards, and vulnerabilities that characterize the SIDS. The ability of SIDS to form robust alliances among counterpart island nations, is an urgent imperative as is the need for infusion of international support to enhance disaster resilience.

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### Reducing Non-communicable Disease Exacerbation after a Disaster

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**Study/Objective:** To develop a framework for reducing the risk of Non-Communicable Disease (NCD) exacerbation after a disaster.

**Background:** Worldwide, there has been a “disease transition” to NCDs, creating challenges for governments, health care, and service providers. Prominent NCDs are cardiovascular diseases, cancers, diabetes, respiratory conditions, and renal diseases. NCD treatment and care is reliant on Public Health Infrastructure (PHI), such as medications, equipment, housing, water, and sanitation. A breakdown of PHI places people with NCDs at increased risk of disease exacerbation or death.

**Methods:** Qualitative and quantitative research methods were used to complete the research. Participants included people with a NCD, environmental health professionals, and disaster service providers in Queensland, Australia. The qualitative component included six focus groups and 42 interviews with 105 participants. A thematic analysis was conducted to analyze the data. A modified Delphi process was then completed, which included a consultative forum and a survey. Descriptive statistics, bivariate, and logistic regression modelling were used to analyze survey data.

**Results:** A breakdown of PHI can result in an exacerbation of NCDs after a disaster. Mitigation strategies include: tailoring advice to the most vulnerable, maintaining a register of people at risk, providing patients with disaster packs, locating health services in disaster resilient locations, early evacuation, and providing health services at shelters and evacuation centers. These findings were integrated into a framework for reducing the risk of NCD exacerbation following a disaster.

**Conclusion:** This framework allows disaster service providers to prepare people with NCDs for a disaster. Implementation will require a multidisciplinary and inter-sectoral approach. The framework shifts the focus to prevention and preparedness activities and, most importantly, provides a sustainable approach for protecting the health and well-being of people with NCDs before, during, and after a disaster.

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### Knowledge and Awareness of HIV/AIDS Infection among Patients with Sexually Transmitted Infections (STIs) at the Komfo Anokye Teaching Hospital (KATH) Polyclinic

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**Study/Objective:** To determine the level of knowledge on HIV/AIDS among patients with STIs. To determine measures taken by patients with STI's against HIV/AIDS. To determine views on HIV/AIDS against pregnancy.

**Background:** Ghana has an overall HIV prevalence of 1.3%. Like other developing countries, it is still considered a high-risk country for several reasons: the presence of covert multi-partner sexual activity, a low level of knowledge and low condom use, unsafe professional blood donation, high incidence of self-reported sexually transmitted infections (STIs) among vulnerable groups, infected expatriates who infect their sexual partners when they return to Ghana, and high levels of HIV/AIDS in the bordering countries - all contribute to the spread. This study was conducted to describe the knowledge and awareness of HIV/AIDS among patients with sexually transmitted infections at KATH.

**Methods:** A cross-sectional study was carried out at the Family Medicine Directorate of KATH for three months. We interviewed participants using a structured questionnaire. Patient consent was obtained before being interviewed. After the interview, patients were then educated on HIV/AIDS and its relatedness to other STIs, using educational material that was developed by investigators. Analysis was done using SPSS16.0.

**Results:** A total of 112 participants were recruited, (4 participants refused to consent), therefore, 108 were interviewed over the study period. The average age at which participants became sexually active was 19 years. Two-thirds of the participants had had up to 4 lifetime sexual partners, and 16% had had between 5 and 25 lifetime partners. Males had more lifetime partners compared to females. Participants were generally aware of HIV/AIDS and admitted that HIV/AIDS more than pregnancy and other STIs was going to significantly change their lives, change their career goals and affect their social lives.

**Conclusion:** Most participants had knowledge about STIs and HIV/AIDS but exhibited risky sexual behaviour and practices. Frequent education for this high risk group will be useful in changing behavior and reducing the transmission of STIs and HIV/AIDS.

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### Designing a County-wide Crisis Care Plan

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**Study/Objective:** To create a practical, stakeholder-approved, crisis care plan for a county health care system.

**Background:** Riverside County, California is the state's 4th largest county with a population of 2.3 million. Although the county had pre-existing medical surge plans, no plan existed for managing the allocation of critical medical supplies and pharmaceuticals during a large-scale, county-wide crisis.

**Methods:** A plan was needed to formalize the distribution of limited, centrally controlled medical resources in a multi-site, county-wide disaster. To that end, the county's public health and emergency management departments partnered to review prevailing best practices, develop an ethical framework for decision making with respect to limited resource allocation during crises,