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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 STIs 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,

formalize the plan's lifecycle, identify the decision making team, and determine a deliberative process for decisions during the event. After an initial draft of the plan was prepared, a first stakeholders meeting was held with local law enforcement, the local emergency services agency, and physician and hospital professional organization representatives, who provided valuable feedback. A revised plan is being circulated to county physicians in preparation for the second round of stakeholder review. Following this round, the plan will be finalized and made publicly available.

**Results:** To date, the plan has been well received; most stakeholders are well aware of the need for such a plan. Recognizing the sensitivity regarding reallocation of limited resources during times of crisis, key stakeholders were involved at multiple levels, which we believe has added to its general acceptance. We are confident the plan will launch successfully after the second round, once clinical decision makers have had an opportunity to provide input. **Conclusion:** Detailed crisis care planning is feasible at the local jurisdictional level, even with a large population base. Stakeholder involvement and public transparency is essential for the development and implementation of a crisis care plan at the county level.

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### Women and Children at Risk for Disasters and ZIKV Victims in Brazil

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**Study/Objective:** To identify health conditions and care for women and children at risk in disasters, and ZIKV victims in selected Brazilian municipalities.

**Background:** Since the International Health Regulations were re-edited in 2007, four Public Health Emergencies of International Concern (PHEIC) were declared. The most recent was due to the ZIKV outbreak in Brazil. This proposal is based on the assumption that poverty-stricken populations are most vulnerable and especially susceptible to different disasters (epidemics, floods, mud slides etc). Women and children constitute the most vulnerable among the vulnerable, and need close attention and care. PHEICs indicate a need for measures to enhance national preparedness and response capacities, including risk detection and prevention.

**Methods:** Women in disaster-prone areas or recently affected by disasters, will be identified through their status as beneficiaries of social programs. Each woman will be interviewed as to the nature, possible determinants and consequences of the disaster they experienced, ongoing risks and difficulties faced by them and by children under their care.

**Results:** We hope to collect relevant information for development and implementation of measures for disaster preparedness and response, regarding these vulnerable groups and especially in relation to PHEIC. This proposal is in line with the perspectives of social inclusion and access to essential rights, thus contributing to reduction of vulnerabilities.

**Conclusion:** This proposal aims at detecting health care measures for affected and vulnerable groups at-risk for disasters in Brazil, and may establish a benchmark for preparedness and necessary response measures in order to react to present and future PHEIC.

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### The Effect of Earthquake Hazards Induced by Natural Gas Mining on Medically Unexplained Physical Symptoms and Psychosocial Problems: A Longitudinal Analysis

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**Study/Objective:** To determine whether the chronic threat of exposure to mining-induced earthquakes in the northern part of the Netherlands, is accompanied by a higher prevalence of medically Unexplained Physical Symptoms (MUPS) and psychosocial problems.

**Background:** The Groningen natural gas field is among the largest in the world and uniquely located in a populated area. Decades of mining activities burdened the region with increased earthquake hazards, several times higher than 3.0 on the Richter scale (one 3.6, in 2012). Inhabitants were confronted with ground shaking, damaged houses, loss of livelihood, social unrest, and public anger towards the mining company and authorities. In 2013 future earthquakes with a magnitude over 5.0 were considered likely, contributing to lack of positive prospects and chronic stress: factors that are not beneficial from a public health perspective.

**Methods:** Data covering a five-year period (2011-2015), was extracted from electronic patient records of general practitioners. Two dependent variables were constructed: MUPS (physical symptoms clustered per organ system) and psychological and social problems (mood and anxiety disorders, suicide and problems in personal relations or work). Statistical analysis was conducted in steps to test differences in prevalence in health issues in the earthquake region and a comparison group; and to determine the predictive value of gender, age, socioeconomic status, and earthquake magnitude and depth, considering the cross-classified data structure with patients nested in general practices and postal codes.

**Results:** Results: The results indicate whether the prevalence of MUPS and psychosocial problems was significantly higher in the earthquake region regardless of gender and age, after controlling for socio-economic status and earthquake magnitude and depth.

**Conclusion:** The health impact of chronic stress linked to earthquake-threat could be determined apart from other relevant explanatory factors.

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