

managers and patients' charts. Patients were uniformly distributed across the four hospitals, and the hospital capabilities were able to cope with this mass influx of casualties. The Modified Utstein Template for Hospital Disaster Response Reporting is a valid tool for hospital disaster management reporting. This template could be used for a better comprehension of hospital disaster reaction, debriefing activities, and revisions.

## References

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## Examining the National Profile of Chronic Disaster Health Risks in Australia

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**Introduction:** Despite a longstanding focus on examining acute health impacts in disaster research, only limited systematic information is available today to further our understanding of chronic physical health risks of disaster exposure. Heterogeneity of studies and disaster events of varying type and scale compounding this challenge highlight the merit of a consistent approach to examining nationally representative population data to understand distinctive profiles of chronic disaster health risks.

**Aim:** This epidemiological study examined the full spectrum and national profile of chronic physical health risks associated with natural and man-made disaster exposure in Australia.

**Methods:** Nationally-representative population survey data (N=8841) were analyzed through multivariate logistic regression, controlling for sociodemographic variables, exposure to natural and man-made disasters, and other traumatic events. Key outcomes included lifetime national chronic health priority conditions (asthma, cancer, stroke, rheumatism/arthritis, diabetes, heart/circulatory) and other conditions of 6 month or more duration (based on the World Health Organization's WMH-CIDI chronic conditions module).

**Results:** Natural disaster exposure primarily increased the lifetime risk of stroke (AOR 2.06, 95%CI 1.54–2.74). Man-made disaster exposure increased the lifetime risk of stomach ulcer (AOR 2.21, 95%CI 1.14–4.31), migraine (AOR 1.61, 95%CI 1.02–2.56), and heart/circulatory conditions (AOR 2.01, 95%CI 1.07–3.75). Multiple man-made disaster exposure heightened the risk of migraine (AOR 2.98, 95%CI 1.28–6.92) and chronic back or neck conditions (AOR 1.63, 95%CI 1.02–2.62), while multiple natural disaster exposure heightened the risk of stroke (AOR 3.28, 95%CI 1.90–5.67). No other chronic health risks were elevated. Despite the relatively greater chronic health risks linked to man-made disasters, natural

disasters were associated overall with more cases of chronic health conditions.

**Discussion:** The analysis of nationally-representative population data provides a consistent method to examine the unique national imprint of disaster exposure and distinct profile of disaster health risks to inform future detection, prevention measures, disaster health preparedness, and response planning.

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## Resurgence of Vector-Borne and Vaccine-Preventable Diseases in Venezuela in Times of a Complex Humanitarian Health Crisis: A Regional Menace

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**Introduction:** Venezuela has plunged into a humanitarian, economic, and health crisis of extraordinary proportions. This complex situation is derived from dismantling of structures at the institutional, legal, political, social, and economic level affecting the life and wellbeing of the entire population.

**Aim:** This study aims to assess the impact of Venezuela's healthcare crisis on vector-borne and vaccine-preventable diseases and the spillover to neighboring countries.

**Methods:** Since October 2014, there is a paucity of official epidemiological information in Venezuela. An active search of published and unpublished data was performed. Venezuela and Latin America data were sourced from PAHO Malaria Surveillance and from Observatorio Venezolano de la Salud. Brazil and Colombian data were accessed via their respective Ministries of Health.

**Results:** Economic and political mismanagement have precipitated a general collapse of Venezuela's health system with hyperinflation rates above 45,000%, people impoverishment, and long-term shortages of essential medicines and medical supplies. In this context, the rapid resurgence of previously well-controlled diseases, such as vaccine-preventable (measles, diphtheria) and arthropod-borne (malaria, dengue) diseases has turned them into epidemics of unprecedented magnitudes.

Between 2000–2015 Venezuela witnessed a 365% increase in malaria cases followed by a 68% increase (319,765 cases) in late 2017. The latest figures have surpassed 600,000 malaria cases with a prediction to reach 1 million by the end of 2018. Measles and diphtheria have recently re-emerged after a progressive interruption of the national immunization program, with vulnerable indigenous population being particularly affected. In response to Venezuela's rapidly decaying situation, a massive population exodus is ongoing towards neighboring countries causing a spillover of diseases.

**Discussion:** Action to halt the spread of vaccine-preventable diseases within Venezuela is a matter of urgency for the country and the region. Global and hemispheric health authorities should urge the Venezuelan government to allow establishing a humanitarian channel to bring relief.

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### Surge Capacity Planning to Inform the Need for International and Domestic Emergency Medical Team Deployments Following a Severe Wellington, New Zealand Earthquake

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**Introduction:** Wellington, New Zealand has a significant earthquake risk with unique response challenges posed by its geography and limited road, rail, and sea access. In 2014, the World Health Organization (WHO) Emergency Medical Team (EMT) initiative published minimum and technical standards for EMTs in response to failures by responding teams to deliver appropriate and ethical clinical care during a number of disasters (Norton, 2014). The initiative has evolved to develop national and International EMTs in addition to a support capacity building within Ministries of Health to better coordinate clinical capacity during an emergency.

**Aim:** Over the last two years, the WHO EMT Coordination Cell (EMTCC) course has trained over 300 health personnel globally to coordinate clinical surge capacity using a three-step Impact Assessment, Needs Assessment, and Tasking process informed by disaster epidemiology and mass casualty ratios.

**Methods:** EMTCC planning methodology was applied to the "Wellington Earthquake National Initial Response Plan" (MCDEM, 2017) to develop a Health Action Plan for a significant Wellington earthquake. Known earthquake impact modeling for injuries was applied against predicted capacity in receiving hospitals in the affected region, and the ability to transfer patients nationally to determine unmet response needs. EMT minimum standards and operational insights from recent disasters were then used to determine the number of EMTs required for optimal tasking.

**Discussion:** The surge planning methodology provided a theoretical framework for national and local health emergency

management staff to engage with clinical colleagues. This allowed likely EMT assistance to be pre-planned, which facilitates further planning with national and local emergency management, border, and registration agencies for rapid entry into NZ, including onward transport and logistical support. While injury treatment ratios had to be refined to reflect NZ context, the methodology proved useful for Ministries of Health to pre-identify the need for international assistance in national emergencies.

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### The Importance of Enforcing Road Safety Laws to Reduce Road Traffic Collision (RTC) Occurrence and Fatalities in Nigeria

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**Introduction:** Road Traffic Crashes (RTC) are one of the most preventable causes of death worldwide, yet are the number one cause of death in Nigeria. In March 2010, the United Nations General Assembly launched "The Decade of Action for Road Safety (2011–2020)" to "reduce road traffic deaths and injuries by 50% by 2020."

**Aim:** To analyze trends in RTC and deaths in relation to current road safety laws in Nigeria, and possible future interventions.

**Methods:** Annual reports from 2013–2017 were obtained from the Federal Road Safety Corps (FRSC) of Nigeria. These reports were analyzed for trends in RTC, deaths, and reported causes to find areas of possible improvement.

**Results:** The number of RTC and deaths declined yearly from 2013–2017. Crashes decreased from 23.4% in 2013–2014 to 6.2% in 2015, to 0.4% in 2016, and then increased to 3.2% in 2017. Results showed that fatalities from RTC in 2013–2014 decreased by 8.4%, then by 9.3% in 2015, and by 7.1% in 2016, but had a 1.3% increase in fatalities from 2016–2017. Analysis showed that speed violations (SPV) were the top cause of RTC. These had a decrease in the number of crashes from 5,495 (32% of RTC) in 2013, to 3,496 (29%) in 2014, to 3,195 (26.5%) in 2015. They then increased to 3,848 (33.9%) in 2016 and to 4,840 (44.1%) in 2017. There was a decline in reports of RTC caused by driving under the influence (DAD) from 1% in 2013, to 0.8% in 2014, and 0.5% in 2015 and 2016.

**Discussion:** Current road safety laws have been effective in decreasing the total number of RTC and deaths. While certain laws such as those regarding DAD have been effective, other laws such as speed limits have been less successful and may require further changes in legal codes and/or enforcement.

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