

Introduction: Accidental hypothermia occurs very rarely. Japan experienced hypothermic victims in the 2011 earthquake and tsunami disaster. In northern Japan, where the largest class of earthquakes and tsunamis are estimated, study for countermeasures has been advanced. The progression of hypothermia varies significantly by individual differences and environmental factors, and it is considered to be challenging to assess its damage. We present the findings that can be the basis for damage estimation from the data of hypothermia victims experienced in mountain rescue.

Method: From 2002 to 2020, we examined ten fatal cases of hypothermic witnessed respiratory arrest (HWRA) by companions, which led to subsequent cardiac arrest among 164 cases from mountain rescue. We collected the time course of the deceased from rescue records and calculated the time from cold exposure to symptom, exposure to incapable, and exposure to HWRA. Temperature and wind speed data were extrapolated from nearby AMEDAS and upper-air weather records, and the wind chill index (WCI) was calculated.

Results: We obtained the time course data in seven cases of ten, five males and two females between 21 and 67 years old. The weather conditions where the seven cases were placed were -5 to -30°C of WCI. The shortest time from cold exposure to incapacity was 65 minutes, 42.9% (3/7) within 180 minutes, and the fastest time to HWRA was 90 minutes, with 57.1% (4/7) between 10 and 12 and half hours.

Conclusion: For disaster evacuation measures, both evacuees and rescuers need specific indicators to refer to. From very little but valuable data, we consider that rescue within 10 hours is necessary for lifesaving in similar conditions. Additionally, increasing the number of cases that become incapacitated within 1-3 hours can be valuable information for considering the location of the evacuation shelter and evacuation plan.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s68-s69

doi:10.1017/S1049023X23002054

Development of an Enhanced Surveillance and Epidemiology Program to Support the Birmingham 2022 Commonwealth Games in England: Outcomes and Lessons Learned

Helen Hughes PhD, Reece Jarratt, Melissa Harrison, Sophie Logan, John Mair-Jenkins, Carol Chatt, Alex Elliot
UK Health Security Agency, Birmingham, United Kingdom

Introduction: The 2022 Commonwealth Games (B2022) was hosted by Birmingham, United Kingdom (UK) from July, 28 2022 to August 8, 2022. As a major global sporting event and mass gathering, B2022 included over 4,500 athletes (from 72 countries and territories) and attracted 1.5 million spectators. Robust public health surveillance and support for health protection incidents was required from the UK Health Security Agency (UKHSA) to protect the health of both those directly involved in B2022, and the local population.

Method: UKHSA surveillance activities in the UK West Midlands region were enhanced, utilizing lessons learned from the response to the London 2012 Olympic and Paralympic Games and the 2021 G7 Summit (hosted in England).

Enhancements included: adaptation of existing and development of new methods for the identification of increased activity of a range of pathogens/diseases/conditions of particular concern to a mass gathering; standardized daily situation reporting to inform both public health action and the B2022 organizing committee. Three streams of routine UKHSA surveillance data were assessed each day: a UKHSA health protection/clinical management system, statutory laboratory reports of infection, and syndromic surveillance. Bespoke surveillance was also implemented using B2022 health data sources.

Results: Enhanced daily surveillance activities successfully met the need for next-day public health surveillance and reporting during B2022. No outbreaks or incidents of public health significance to the Games were identified. Syndromic surveillance reported an increased impact on local health services due to periods of extremely hot weather before and following the competition period, although these impacts were not unique to the Birmingham area.

Conclusion: Surveillance and epidemiology reporting for B2022 provided reassurance there were no incidents/outbreaks of public health significance to the Games. The enhancements made will inform future routine surveillance and reporting activities and will be employed for similar activities during future mass gathering events.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s69

doi:10.1017/S1049023X23002066

Required Functions of Information Gathering and Processing for Health, Medical, and Welfare Coordination Headquarters for Disasters in Japan

Toshiyuki Ojima¹, Tomo Takasugi², Tomoko Haraoka², Shuji Tonai³, Shoko Miyagawa⁴, Manabu Ichikawa⁵, Kiyoko Hattori⁶, Hiroko Okuda⁷, Tai-young Yi⁸, Jun Tomio⁷

1. Hamamatsu University School of Medicine, Hamamatsu, Japan
2. Matsumoto College of Nursing, Matsumoto, Japan
3. Health and Welfare Department, Oita Prefectural Government, Oita, Japan
4. Keio University, Fujisawa, Japan
5. Shibaura Institute of Technology, Saitama, Japan
6. Hitoyoshi Public Health Center, Kumamoto Prefectural Government, Hitoyoshi, Japan
7. National Institute of Public Health, Wako, Japan
8. National Research Institute for Earth Science and Disaster Resilience, Tsukuba, Japan

Introduction: The Ministry of Health, Labor, and Welfare of Japan have suggested local governments establish Health, Medical, and Welfare Coordination Headquarters at the time of disaster. Gathering and processing information is one of the key functions of the headquarters. The study aims to clarify the required functions of information for the headquarters.

Method: A series of interview surveys and observations were conducted, including for local governments and experts in disaster response. The contents were analyzed and required standard functions and procedures had been extracted.

Results: The most important aspect of information gathering is its use in decision-making in matching needs and demands with resources. Needs and demands are based on damage and



situation of the casualties. Resources can be categorized into human, material, financial, and informational. Because the headquarters have to process much information, it is important to clarify the objective and strategy of disaster response. The headquarters gather various quantitative and qualitative information using information and communication technology, telephone, meeting and other methods. Qualitative information can be categorized as: expected, surprising (unexpected), and unusual (rare) contents. For expected contents, quantification or estimation of needs from information in normal time or limited information immediately after the disaster and displaying or further analyzing by geographic information systems is useful. By surprising contents or case reports, additional responses or strategies will need to be reviewed.

Conclusion: The procedure, including information gathering and decision-making, follows the OODA (observe, orient, decide, act) loop. According to our mail survey of all 47 prefectural local governments in 2019, 89% were planning to establish the headquarters. However, only 36% had prepared a manual. Using the results of this study, a standard strategic manual for the operations of the headquarters is being developed and brushed up.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s69–s70

doi:10.1017/S1049023X23002078

Chemical Industry Disaster Risk Assessment During Complex Emergencies in Ukraine.

Rick Kye Gan MD^{1,2}, Rafael Castro Delgado MD, PhD¹, Emanuele Bruni PhD, MSc, MA³, Pedro Arcos González MD, PhD, DSc¹, Carlos Alsua, PhD⁴

1. Unit for Research in Emergency and Disaster, Public Health Area, Department of Medicine, University of Oviedo, Oviedo, Spain
2. Department of Global Public Health, Karolinska Institutet, Stockholm, Sweden
3. World Health Organization Ukraine, Kiev, Ukraine
4. University of Arizona, Tucson, Arizona, USA

Introduction: The war in Ukraine has not only led to complex emergencies and humanitarian crises but also other severe consequences, such as the chemical industry disaster. The chemical industry is one of the principal sectors of Ukraine's economy, and it is estimated that Ukraine has a total volume of hazardous chemical accumulation of more than 5.1 billion tons. An attack on chemical industrial facilities will lead to catastrophic consequences. This thesis aims to study the disaster risk of chemical industrial facilities and its consequences on public health and the environment during complex emergencies in Ukraine.

Method: Observational cross-sectional risk assessment method was utilized to assess hazard, vulnerability, and exposure of the chemical industry in Donetsk Oblast, Luhansk Oblast, Kherson Oblast, Zaporizka Oblast, and Kharkiv Oblast, Ukraine. Data on chemical factories in Eastern Ukraine was collected on Google Maps and Google Earth in May 2022. Lastly, the semi-quantitative risk assessment method was utilized to describe the risk from the perspective of consequences for life and health, the environment, property, and speed of development.

Results: Chemical industry disaster risks in Ukraine during complex emergencies in Donetsk Oblast, Luhansk Oblast,

Kherson Oblast, Zaporizka Oblast, and Kharkiv Oblast are high in terms of likelihood and consequences to life and health, environment, property, and speed of development.

Conclusion: This risk assessment enables potential chemical disaster risks in Ukraine during complex emergencies to be understood and communicated by the local community, the first responder, and till policy makers. Therefore, enable a whole-of-society approach involving risk management, disaster preparedness, and response. Further detailed risk assessment on the type of chemical and their hazards should be conducted once the situation permits.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s70

doi:10.1017/S1049023X2300208X

The UNDRR/ISC Hazard Definition and Classification Review and Hazard Information Profiles and Links to the Sendai Framework, the SDGs, and the Paris Agreement

Virginia Murray FRCP

on behalf of the UNDRR/ISC Technical Working Group members and the many authors and reviewers, London, United Kingdom

Introduction: The 'all hazards' approach that the Sendai Framework on Disaster Risk Reduction calls for 'to strengthen technical and scientific capacity to capitalize on and consolidate existing knowledge and to develop and apply methodologies and models to assess disaster risks, vulnerabilities and exposure to all hazards;' (paragraph 24 j) needed clarification.

Method: Following extensive scientific consultation, the United Nations Office for Disaster Risk Reduction (UNDRR) and the International Science Council (ISC) published in 2020 the UNDRR/ISC Hazard definition and classification review. This was followed by the UNDRR/ISC Hazard Information Profiles: Supplement to UNDRR-ISC Hazard Definition & Classification Review–Technical Report (2021). This Supplement consists of a description of each of the 302 hazard information profiles (HIPs), which was developed using a consultative process by scientists and experts across the globe.

Results: The UNDRR/ISC Hazard Information Profiles (HIPs) provide a common set of hazard definitions and other information relevant to informing the strategies and actions of governments and stakeholders, and for managing the risks associated with hazards. They can be used whenever and wherever for assessment, planning, and action related to hazards. As such, they relate to the design, implementation, and monitoring of disaster risk reduction and risk-informed investments at all levels.

Conclusion: The science-based structure of the HIPs serves to avoid confusion and duplication in the classification of hazards. It also promotes up-to-date information derived from the 'data revolution, rigorous accountability mechanisms and renewed global partnerships'. The HIPs support the implementation of not only the Sendai Framework for Disaster Risk Reduction 2015-2030, but also the Sustainable Development Goals of Agenda 2030, the Paris Agreement and International Health Regulations (2005). In 2022 an International Science Council Policy Brief was published