improve students' knowledge, risk perception, awareness, and attitudes towards preparedness. Further work is required to determine the frequency of re-education required and appropriate age groups for educational interventions.

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Learning Lessons during Recovery from Disasters

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Introduction: The Fort McMurray Alberta wildfire was one of Canada's largest natural disasters in history, burning 589,995 hectares of land until being controlled on July 5, 2016. In responding to the fire, Alberta Health Services (AHS) prompted a province-wide coordinated response. Through a combination of pre-emptive strategies and responsive activities, the AHS response has been considered a success. Underlying the successful response is the collective experiences and contextual knowledge of AHS staff members acquired from past events. While the frequency and severity of risks associated with extreme weather and climate change are increasing worldwide, there is a persistent knowledge gap in the evidence-base informing public health emergency preparedness. It is imperative that lessons learned from past events inform future preparedness activities. Learning lessons is a systematic implementation process that can be used to inform future responses and best practices that are transferable to similar situations.
Aim: To describe strategies employed and challenges encountered during recovery after the Alberta wildfires.
Methods: A single-case study approach was employed to understand the AHS method to "learning lessons," and the process involved in translating lessons into actionable goals. Semi-structured interviews with senior leaders (n=11) were conducted and internal documents were obtained.
Results: The analysis revealed a strategic learning process, including debriefs, staff surveys, interviews, and member validity checking. The implementation process used to translate the lessons identified included a project management framework, evaluation techniques, and the utilization of tacit and explicit knowledge. Key challenges for implementation involve clarification of processes, leadership commitment, resource and time constraints, staff turn-over, and measuring outcomes.
Discussion: Translating the lessons from the Alberta wildfires is crucial for enhancing preparedness, and exploratory research in this area can contribute to building a program of research in evaluation during disaster recovery.

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"Operation:Navajeevan": Novel PPP Model Flood Relief Camp

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Introduction: In August 2018, Kerala, India witnessed its worst flood in over a century. With the support of the national health mission, Operation Navajeevan, a public-private partnership between the district health administration and local hospitals was established in Kozhikode to provide medical aid to flood victims. This study identifies prerequisites, describes challenges, and depicts the epidemiology of patients seen in these camps.
Aim:
1. Identify prerequisites and medical needs/challenges faced by medical relief camps in a flood-affected region
2. Formulate protocols to avoid duplication of services
3. Prepare an ideal PPP emergency medical camp model

Methods: A control center with drugs and a logistics unit was set up at the district administration to monitor and supervise various camps. A mobile medical documentation format was created to record the details of each camp. Cases of patients seen at these camps were compiled and later analyzed. The medical officer sent reports from each camp to the control center each day to specify the daily difficulties faced by each camp. Mobile ICUs were kept on standby to respond in the event of emergent circumstances or surge demands. Transfer protocol and treatment guidelines were formulated and standardized.
Results: Over two weeks, approximately 40,000 patients were seen in 280 medical camps. Major medical issues included exacerbation of chronic illnesses due to loss of medications (18,490), acute respiratory infections (7,451), psychiatric illnesses (5,327), trauma (3,736), skin infection (792), tropical fever (498), acute gastroenteritis (394), and ACS (17). Of the cases of fever, 137 people had leptospirosis. Major challenges included a lack of training in disaster management and failure of documentation systems.
Discussion: A well-organized control center, improved training in disaster medicine, and reliable documentation systems are crucial for coordinating medical camps in disaster areas. Public-private partnerships offer a model for providing medical relief in disaster settings.

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Preparedness for a Severe Rainfall: The Importance of a Timeline

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Introduction: For recent years, we often hear the words, "never experienced before" on a weather forecast in Japan.
Aim: To evaluate our response to "Heisei 30-year July heavy rain" in the Hyogo Emergency Medical Operations Center.
Methods: Review our actions taken and exchanges of views with local government representatives in a time-related manner compared with public announcements of evacuation/sheltering warning.
Results: A specialized warning of heavy rain was announced at 10:50 PM on Friday by the local meteorological observatory.

At 11:50 PM, the emergency management headquarters of prefectural medical response was established in the hospital, but a connection could not be established to 10 regional health centers for the weekend. Water levels of some rivers were increasing nearly to flood levels, and an evacuation order was announced to hundreds of thousands of people. This situation continued for a few days throughout many regions. The information of flood or landslide probability was continuously monitored, but an attempt was made to decide the timing of cancellations of standby.

Discussion: An ordinary response to disaster depends on a clear turning point, such as the occurrence time. In heavy rainfall, there are two issues. One is about actions to prevent disaster and another is a recognition of geographic points or surface. Many critiques to the response focus on the judgments and actions for prevention before a critical event. Lessons learned included the importance of preventive actions along with a timeline and the judgment of restoration.

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The Role of Japan DMAT in Tokyo Inland Earthquake

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Introduction: An inland earthquake is expected to occur in Tokyo in the near future, and disaster preparedness and response measures have been put in place by the government of Japan and local authorities.

Methods: Japan Disaster Medical Assistant Teams (DMATs) conducted two large-scale drills for the first time in preparation for a Tokyo inland earthquake, in collaboration with the following participants: the Tokyo Metropolitan Government, disaster base hospitals in Tokyo, three Staging Care Units (SCUs), and neighboring prefectures. One of the scenarios was a north Tokyo Bay earthquake affecting the Tokyo wards and had 142 Japan DMATs participation. Another scenario was Tama inland earthquake affected mid-west of Tokyo and 110 DMATs participated. The drill included headquarters operation, affected hospital support operation, patient transportation within the area and to the wider region, SCU operation, collaboration with associated organizations, and logistics operation.

Results: Post-drill assessments identified the following areas that need to be addressed: review of Japan DMAT implementation strategies; improvement of SCUs; establishment of a patient air transportation framework; securing means of patient transportation; improvement of communication systems; strengthening of disaster response of all hospitals in the Tokyo Metropolis; and preparations for survival in the event of isolation caused by the disaster.

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Study of Medical Supply and Demand Balance for the Nankai Trough Earthquake

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Introduction: The Nankai Trough, marking the boundary between the Eurasian Plate and the Philippine Sea Plate, is forecasted to create a tragic earthquake and tsunami within 30 years.

Aim: To clarify the gap between medical supplies and demand.

Methods: Collected the data of the estimation of injured persons from each prefecture throughout Japan, and also the number of Intensive Care Unit (ICU) and High Care Unit (HCU) beds in Japan from the Ministry of Health database. We re-calculated the number of severe cases based on official data. Moreover, we calculated the number of beds of hospitals with the capacity to receive severe patients.

Results: The total number of disaster base hospitals is 723 hospitals with 6556 ICU beds, and 545 hospitals have 5,248 HCU beds throughout Japan. When the Nankai Trough earthquake occurs, 187 disaster base hospitals would be located in the area with seismic intensity 6-upper on the Japanese Seismic Intensity Scale of 0-7, and 79 disaster base hospitals would be located in the tsunami inundation area. The estimated total number of injured persons is 661,604 including 26,857 severe cases, 290,065 moderate cases, and 344,682 minor cases.

Discussion: Even if all ICU and HCU beds are usable for severe patients, there will be 15,053 more beds needed. The Cabinet Office of Japan assumes that 60% of hospital beds would not be able to be used in an area of the seismic intensity of 6-upper. If 80% of beds are used in the non-disaster time, the number of beds which are usable at the time of a disaster will decrease more. The beds needed for severe patients would be significantly lacking when the Nankai Trough earthquake occurs. It will be necessary to start treatment of the severe patients who are "more likely to be saved more."

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They have Arrived! How Dallas, Texas Provided Shelter-Based Onsite Medical Care to Evacuees from Hurricane Harvey

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Introduction: After Hurricane Harvey and the flooding that ensued, 3,829 displaced persons were transported from their homes and sheltered in the Dallas Convention Center. This large general population sheltering operation was medically supported by the onsite Mega-Shelter Medical Clinic (MMC). In an altered standard of care environment, a number of multi-disciplinary medical services were provided including emergent management, acute pediatric and adult care,