

Challenges and Strategies for Power-Dependent Medical Device Patient Evacuation During Disasters: Findings from Okayama Prefecture

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Introduction: As healthcare advances, medical devices have become essential for diagnosis and treatment, making a reliable power supply necessary for their operation. The 2018 Hokkaido Earthquake demonstrated a surge in demand for treatments such as dialysis in disaster-based hospitals, leading to unexpected levels of emergency power usage. This highlighted the need for robust patient intake systems in both disaster-based hospitals and regional emergency hospitals. Additionally, the expansion of home healthcare has increased the need to accommodate ventilator-dependent patients during power outages, yet the rate of individualized evacuation planning remains low nationwide. To understand the current situation and develop future strategies, a survey was conducted in Okayama Prefecture to assess the preparedness of medical facilities regarding power-dependent devices and emergency response capabilities.

Methods: A survey targeting hospitals in Okayama Prefecture was conducted using Google Forms. Data were gathered on emergency power availability, power outage response protocols, and the capacity to admit patients reliant on powered medical devices.

Results: The survey was conducted in December 2023, achieving a response rate of 59% (93 out of 157 hospitals). Findings indicated that 87% of hospitals in Okayama had power-dependent devices. The continuity of emergency power varied significantly: 9% of facilities were uncertain, 41% had sufficient power for half a day, 15% for one day, 14% for two days, and 21% for three days. However, only 47% had established power outage response manuals. Additionally, only 34% of hospitals were prepared to accommodate home-based patients, relying primarily on manufacturers for necessary support.

Conclusion: These results reveal gaps in disaster preparedness, especially in emergency power continuity and the ability to admit patients with power-dependent needs. Addressing these issues requires strengthening preparations in normal times by forecasting healthcare demands and balancing them with facility capabilities. Regional disaster preparedness should also be advanced through collaboration between industry, government, and academia.

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Challenges and Strategies for Receiving International Disaster Medical Response Teams During Major Earthquakes in Japan

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Summary: In preparation for potential collaboration with international disaster medical response teams, particularly the U.S. DMAT, following a major earthquake in Japan, several challenges related to receiving international teams were identified. This study considers Japan's approach to receiving international medical teams and identifies and addresses key challenges in receiving international disaster medical response teams, including U.S. DMAT, during major disasters in Japan.

A tabletop exercise, simulating a major earthquake in Japan, was conducted to evaluate Japan's domestic support and response systems for international disaster medical response teams. The results included:

1. **Operational Gaps:** Japan's policy for large-scale disasters lacks specific guidelines on critical areas such as immigration procedures, verification of international medical licenses, logistics for pharmaceuticals, and management of communication and records.
2. **Medical Liaison Need:** Although the Ministry of Foreign Affairs provides liaison support, there is no plan for specific medical liaisons, highlighting the need to deploy trained DMAT or disaster medical professionals.
3. **Logistical Challenges:** The U.S. Embassy typically handles transportation and accommodations, but approvals are needed for communication setup, oxygen supplies, and medical resources, underscoring the need for pre-coordinated protocols.
4. **US DMAT Exercise Findings:** Virtual tabletop exercises with U.S. HHS and ASPR highlighted essential procedural steps for resource and operational alignment in a disaster.

To integrate international disaster medical response teams effectively during major disasters like the anticipated Nankai Trough earthquake, Japan must establish SOPs tailored to these teams, including pre-planned logistical and medical liaison roles. These frameworks not only benefit US DMAT but also serve as a model for supporting other international teams, enhancing Japan's disaster readiness through global collaboration.

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CrowdStrike Outage, Activation of Downtime Plans During a Complete Operational Impact

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Introduction: On July 19, 2024, SUNY Downstate Medical Center faced system-wide failures after a faulty CrowdStrike update. Disruptions to EMR, radiology, and lab workflows required immediate response. This presentation explores the impact and response to this global healthcare cybersecurity event.

Methods: SUNY Downstate activated its Emergency Operations Center and manual protocols. Communication was maintained through departmental huddles, Sendword Now, and the Telegram app. External partners, including NYCDOH and GNYHA, were notified as IT worked to restore critical systems.