deployed to share critical information, including electricity and water supply statuses, road damage, and updates on medical institutions and shelters, thereby supporting the disaster-stricken area.
Methods: D24H comprises a database using Geographic Information Systems (GIS), tools for conducting field surveys in disaster-affected areas, and features for file and task sharing, as well as communication among support personnel. The system's functionalities were designed based on interviews with key stakeholders, including DMAT, DHEAT, DWAT, and the Japanese Red Cross Society, which are involved in health, medical, and welfare support activities during disasters.
Results: Information on disaster-affected areas can now be visualized on maps and summarized in a dashboard using indicators, aiding the Health, Medical, and Welfare Coordination Headquarters in gaining an overview of the affected region. The survey tool implemented a smartphone-based input system, allowing flexible customization of survey targets and items as needed. Interviews revealed high expectations for the implemented file-sharing and communication tools.
Conclusion: D24H, deployed during the Noto Peninsula Earthquake, successfully visualized the situation in the disaster-affected area and contributed to health crisis management activities for disaster victims. However, due to a lack of adequate training and practice opportunities before deployment, not all functionalities were fully utilized. Since the earthquake, many health, medical, and welfare supporters have inquired about training and workshops. By acquiring proficiency in D24H through training and exercises, stakeholders can better prepare for future disasters.

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Development of a Simulation Model for Disaster Medical Support

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Introduction: Japan frequently experiences natural disasters such as earthquakes and typhoons, and medical support during disasters has become a critical challenge, particularly in a super-aged society. Previous research has utilized simulations to analyze medical resource allocation and Disaster Medical Assistance Teams (DMAT) activities during the acute phase. However, there has been insufficient focus on medium-term measures, including primary care for chronic illnesses in aging populations. This study aims to develop a simulation model that replicates processes from the occurrence of a disaster to evacuation behavior, the emergence of medical needs, especially for chronic diseases, and activities of medical support team patrols at relief stations and shelters, to efficiently allocate medical resources and develop support plans.
Methods: An agent-based simulation model was developed to analyze evacuee behavior, changes in medical needs over time, and the impacts of medical team rotations and supply timing on shelters. The model incorporates various scenarios, such as the timing of aid station establishment and medical supply distribution, while considering geographical and timing of actions. This approach enabled a comprehensive analysis of medical support and resource allocation options during disasters.
Results: The simulation results validated the effectiveness of multiple policy scenarios and identified optimal resource allocation based on medical demand patterns. Geographical conditions and timing were found to significantly influence the placement of aid stations and the assignment of human resources. Statistical analysis and optimization techniques were applied to determine ideal strategies for specific conditions, enabling the sophistication of simulation model parameters.
Conclusion: The disaster medical simulation model developed in this study provides realistic evacuation behaviors and medical demands. It serves as a valuable tool for optimizing resource allocation and intervention timing in disaster scenarios. Additionally, the model demonstrates potential for improving disaster response capabilities through scenario-based training and could contribute to the standardization of disaster medical support plans.

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The Guidelines for Prefectures to Utilize Mobile Medical Containers in the Event of Disaster

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Introduction: The Ministry of Health, Labor and Welfare in Japan has been researching "The Use of Mobile Medical Containers in Large-Scale Disaster" under the Koido Research Team, and as part of the research, is preparing draft guidelines to deploy and standardize mobile medical containers in prefectures. Amid this preparation, the Noto Peninsula Earthquake occurred on January 1, 2024, and mobile medical containers were deployed and utilized in 11 locations in the affected area. In response, the government commissioned the Mobile Medical Container Promotion Council (MMCPC) to conduct a survey and compiled "The Report on the Deployment and Operation of Mobile Medical Containers in the Noto Peninsula Earthquake in 2024" (hereafter "the Report".)[Objective] To clarify how the lessons learned from the Noto Peninsula Earthquake should be reflected in the draft guidelines being prepared.
Methods: The study reviews the contents of the Report and discusses them with the MMCPC and other interested parties.
Results: In the Report, the issues and recommendations from the Noto Peninsula Earthquake are described in Chapters 4 and 5. From these issues and recommendations, it became clear that the guidelines for the use of mobile medical containers should include the types of use as follows: 1)use at evacuation centers (single or multiple use), 2) supplemental functions for medical institutions (including supporter assistance, multiple use), 3) functions such as SCUs or coordination headquarters (multiple use). It was also confirmed that necessary tasks in line with the timeline, such as the occurrence of disasters, investigation,

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