

**カフラマンマラシュ（トルコ南東部）地震関連  
国際緊急共同研究・調査支援プログラム（J-RAPID）  
終了報告書 概要**

1. 研究課題名：『よりよい復興』に向けた公衆衛生保健システムのレジリエンス：スコアカードを用いた評価分析
2. 研究期間：2023年8月～2025年3月
3. 主な参加研究者名：

日本側（研究代表者を含め6名までを記載）

	氏名	役職	所属	研究分担
研究代表者	加古まゆみ	准教授	広島大学大学院医系科学研究科	研究の統括、スコアカードの適応、評価プロセスのモニタリング
共同研究者	久保 達彦	教授	広島大学大学院医系科学研究科	国際的視点からの災害医療連携情報システムに関するアドバイス
共同研究者	RAHMAN MD MOSHIUR	准教授	広島大学大学院医系科学研究科	スコアカードの適応と評価に関する考察へのアドバイス
共同研究者	寺本 千恵	講師	広島大学大学院医系科学研究科	健康危機管理・部門連係に関する考察とアドバイス
共同研究者	高田 洋介	講師	広島赤十字看護大学	災害医療支援システムに関する考察・助言
研究期間中の全参加研究者数			5 名	

相手側（研究代表者を含め6名までを記載）

	氏名	役職	所属	研究分担
研究代表者	Ismail Tayfur	Associate Professor	University of Health Sciences Department of Emergency Medicine	全体調整・統括、トルコチーム内での事務調整
共同研究者	Perihan Simsek	Assistant Professor	Trabzon University Emergency Aid and Disaster Management	データ収集の管理・マネージメント
共同研究者	Abdulkadir Gunduz	Professor	Karadeniz Technical University Department of Emergency Medicine	データ収集地域の参加者のリクルート
共同研究者	Burcu Bayramoglu	Assistant Professor	University of Health Sciences Department of Emergency Medicine	スコアカードデータの収集と集計補助
研究期間中の全参加研究者数			4 名	

#### 4. 共同研究調査の目的

災害時にも病院や診療所などは、できる限り機能を継続し、医療サービスを提供することが求められる。この研究では、災害時の医療サービスなどの機能を評価するために「スコアカード」と呼ばれる手法を使用したワークショップを開く。開催地は、被災地のハタイ県とカフラマンマラシュ県とする。参加者は、医療者をはじめとした、防災管理、公衆衛生、環境衛生、福祉関係、病院関係、行政関係など、さまざまな部署とした。様々な立場の方から評価するシステムは、多角的に、今後よりよいシステム作りのための改善点を見出すことが可能である。ワークショップ実施後は、課題や提言に基づいて研究を継続してゆく予定である。具体的な内容として考えられることは、以前に連携ができていなかった部署間での新たな連携の可能性や、その部署内（例えば病院機関における救急部門、看護部門、健康危機管理部門など）での人材教育強化の必要性が明らかになると考えている。

#### 5. 共同研究調査の成果

##### 5-1 共同研究調査の成果、今後の展開見込、社会への波及効果

- ・保健医療サービスを継続するための災害時の課題は、インフラを強くする、データ管理や共有の方法、支援が必要な人々へのサービスを継続する手立てを考えることである。
- ・これは、日本が過去に経験した災害の経験から、日本・トルコ共に国を超えて共有できる点である。トルコ国内においては、医療は病院を中心に提供されているので、今後は、地域における災害時の医療体制の整備・連携を強化してゆく必要性や、とくに支援が必要な人々の保護と支援を行うためのシステム構築や、非災害時におけるシステムの見直しが可能になった。

##### 5-2 国際連携の成果

トルコと日本は、共に地震大国であり、その経験から共通して学ぶことも多い国である。トルコと日本では、人口構成や医療システムの違いなどはあるが、地域で生活する医療や日常生活に支援の必要な人々に災害時も継続してケアや治療を提供し続けることができるシステムの強化は、両国共に共有している。今回の国際連携により、さらに連携を継続して、よりよいシステム作りの必要性が確認された。

#### 6. 本研究調査に関連したワークショップ等の開催、主な口頭発表・論文発表・その他成果物（例：提言書、マニュアル、プログラム、特許）、受賞等（5件まで）

発表/ 論文/ 成果物 等	・主催したワークショップ、セミナーなど：名称、開催日 ・口頭発表：発表者名、タイトル、会議名 ・論文：著者名、タイトル、掲載誌名、巻、号、ページ、発行年 ・その他成果物（例：提言書、マニュアル、プログラム、特許）、 ・メディア
発表	Mayumi Kako, İsmail Tayfur, Abdülkadir Gunduz, Perihan Şimşek, Benjamin Ryan, Sanjaya Bhatia, Shelby Garner, Utilization of the Public Health System Resilience Scorecard: Qualitative Account From Workshops in Turkey, 23rd Congress on Disaster and Emergency Medicine, 2025, World Association of Disaster Emergency Medicine, Tokyo
論文	Tayfur, I., Kako, M., Gündüz, A. <i>et al.</i> Exploring Key Capacities: Insights from Assessing the Resilience of the Public Health System Before and After the Kahramanmaraş Earthquakes. <i>Int J Disaster Risk Sci</i> <b>15</b> , 688-702 (2024). <a href="https://doi.org/10.1007/s13753-024-00588-0">https://doi.org/10.1007/s13753-024-00588-0</a>
論文	Ismail Tayfur, Perihan Şimşek, Abdülkadir Gunduz, Mayumi Kako, Shuhei Nomura, Benjamin Ryan, Strengthening public health system resilience to disasters in Türkiye: Insights from a scorecard methodology, <i>International Journal of Disaster Risk Reduction</i> , Volume 113, 2024,

	<a href="https://doi.org/10.1016/j.ijdr.2024.104869">https://doi.org/10.1016/j.ijdr.2024.104869</a> .
発表	Ismail Tayfur, Mayumi Kako, Abdülkadir Gündüz, Md Moshir Rahman, Benjamin Ryan, Perihan Şimşek, Shelby Garden, Burcu Bayramoğlu, Tuğçe Öztür, Chie Teramoto, Yosuke Takada, Ismail Tayfur, Mayumi Kako, Abdülkadir Gündüz, Md Moshir Rahman, Benjamin Ryan, Perihan Şimşek, Shelby Garden, Burcu Bayramoğlu, Tuğçe Öztür, Chie Teramoto, Yosuke Takada, Resilience of Public Healthcare Systems for 'Build Back Better': An evaluation analysis using a scorecard approach, SDMPH 10 Year Anniversary Conference & Annual Meeting 10 Years On: Building the Discipline of Disaster Medicine and Public Health, 2023, Society for Disaster Medicine and Public Health, Washington DC, USA
発表	Ismail Tayfur, Mayumi Kako, Abdülkadir Gündüz, Md Moshir Rahman, Perihan Şimşek, Benjamin Ryan, Shelby Garner, Burcu Bayramoğlu, Chie Teramoto, Yosuke Takada, Recommendations for public health system resilience building after the 2023 Kahramanmaraş earthquake: A scorecard implementation study, The 6th International Conference on Healthcare, SDGs and social Business, 2024, Social Tech Summit 2024, Hiroshima
メディア ア	ウェブサイト <a href="https://jyoseibosai.hiroshima-u.ac.jp/j-rapid-collaborative-research/">https://jyoseibosai.hiroshima-u.ac.jp/j-rapid-collaborative-research/</a>

**International Urgent Collaborative Projects**  
**Regarding the 2023 Southeastern Türkiye Earthquakes within the J-RAPID Program**

1. Title of the Project : Resilience of Public Healthcare Systems for 'Build Back Better': An evaluation analysis using a scorecard approach
2. Research/Investigation Period : 2023.8 ~ 2025.3
3. Main Investigators :

Japanese Team (up to 6 people including Principal Investigator)

	Name	Title	Affiliation	Project role
Principal Investigator	Mayumi Kako	Associate Professor	Hiroshima University School of Biomedical and Health Sciences	Overseeing research, adapting the scorecard, and monitoring the evaluation process
Collaborator	Tatsuhiko Kubo	Professor	Hiroshima University School of Biomedical and Health Sciences	Advice on disaster medical coordination information systems from an international perspective
Collaborator	RAHMAN MD MOSHIUR	Associate Professor	Hiroshima University School of Biomedical and Health Sciences	Advice on scorecard adaptation and evaluation considerations
Collaborator	Chie Teramoto	Lecturer	Hiroshima University School of Biomedical and Health Sciences	Considerations and advice on health crisis management and departmental linkages
Collaborator	Yosuke Takada	Lecturer	Japanese Red Cross Hiroshima College of Nursing	Considerations and advice on disaster medical support systems
Total Number of participating researchers in the project:5				

Counterpart Team (up to 6 people including Principal Investigator)

	Name	Title	Affiliation	Project role
Principal Investigator	Ismail Tayfur	Associate Professor	University of Health Sciences Department of Emergency Medicine	Overall coordination and supervision, administrative coordination within the team
Collaborator	Perihan Simsek	Assistant Professor	Trabzon University Emergency Aid and Disaster Management	Administration and management of data collection
Collaborator	Abdulkadir Gunduz	Professor	Karadeniz Technical University Department of Emergency Medicine	Recruitment of participants in the data collection area
Collaborator	Burcu Bayramoglu	Assistant Professor	University of Health Sciences Department of Emergency Medicine	Assistance with scorecard data collection and tabulation
Total Number of participating researchers in the project:4				

#### 4. Objectives and Challenges

It is important for hospitals and clinics to continue to function and provide medical services as long as possible during disasters. In this study, a workshop was conducted using an approach called “scorecard” to evaluate the functions of medical services and other services during a disaster. We chose two provinces; Hatay and Kahramanmalash. The participants included medical professionals and people from various departments, including those involved in disaster management, public health, environmental health, welfare, hospitals, and government and so forth. The system of evaluation from various perspectives enables us to identify areas for improvement to create a better system in the future from multiple perspectives. After we conducted the study, we plan to continue research based on the issues and suggestions highlighted in the workshops. It includes the possibility to propose the new collaboration between departments that have not previously worked together, and the need to strengthen human resource education within those departments (e.g., emergency departments, nursing departments, health risk management departments, within the hospital institutions).

#### 5. Results of the research/survey activities

##### 5-1. Results of joint research. Expected future development, ripple effect on society

The challenges highlighted in times of disaster was to strengthen the infrastructure for keeping the continuity of healthcare services. Another challenge was how to manage

and share data. This is a point that both Japan and Türkiye can share beyond national borders based on Japan's past experiences with disasters. In Türkiye, medical care is based at hospitals. It will be important to expand its network between hospitals and community medical and care facilities, especially establishing and reviewing the system to support and protect vulnerable people in community.

#### 5-2 Results of International Cooperation

Türkiye and Japan are both earthquake-prone countries and have much in common to learn from their experiences. Although Türkiye and Japan have different demographic compositions and healthcare systems, both countries have the need to strengthen systems that can continue to provide care and treatment to people in need in the community, even in times of disaster. The need for further better system development is confirmed between Türkiye and Japan researchers.

#### 6. Organized workshops/seminars, presentations, papers and other deliverables

	<ul style="list-style-type: none"> <li>• Organized workshop/seminar: Title, date</li> <li>• Presentation: Presenters, title, conference</li> <li>• Papers : Authors, title, journals, vol, page, publish year</li> <li>• Other deliverables:</li> <li>• Media</li> </ul>
Prese ntation	Utilization of the Public Health System Resilience Scorecard: Qualitative Account From Workshops in Türkiye, Mayumi Kako, İsmail Tayfur, Abdülkadir Gunduz, Perihan Şimşek, Benjamin Ryan, Sanjaya Bhatia, Shelby Garner, 23rd Congress on Disaster and Emergency Medicine, 2025, World Association of Disaster Emergency Medicine, Tokyo
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Paper	Ismail Tayfur, Perihan Şimşek, Abdülkadir Gunduz, Mayumi Kako, Shuhei Nomura, Benjamin Ryan, Strengthening public health system resilience to disasters in Türkiye: Insights from a scorecard methodology, <i>International Journal of Disaster Risk Reduction</i> , Volume 113, 2024, <a href="https://doi.org/10.1016/j.ijdr.2024.104869">https://doi.org/10.1016/j.ijdr.2024.104869</a> .
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	implementation study, The 6th International Conference on Healthcare, SDGs and social Buisness, 2024, Social Tech Summit 2024, Hiroshima
Media	Website: <a href="https://jyoseibosai.hiroshima-u.ac.jp/j-rapid-collaborative-research/">https://jyoseibosai.hiroshima-u.ac.jp/j-rapid-collaborative-research/</a>