



MA/REGION 1 PARTNERSHIP *for*
**Regional Disaster
Health Response**

2020 ANNUAL
REPORT



This year, we further developed systems and structures to disseminate medical expertise, to collaborate with healthcare systems and governmental partners, and to support surges in patient care capacity and capabilities during disaster response. All of these efforts proved necessary in the COVID-19 response, and we have seen how our RDHRS has made a meaningful difference in our collective abilities to provide the care required of us.



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RDHRS 2020: Expanding Operations to Provide Regional Support

The Massachusetts / Region 1 Regional Disaster Health Response System (MA/R1 RDHRS) is proud to continue as one of the two original pilot programs funded by the Assistant Secretary for Preparedness and Response (ASPR) since 2018. We are also excited to begin collaborating with Denver Health & Hospital Authority, recently announced as the third RDHRS site.

During the second year of this project, the MA/R1 RDHRS has worked hard to build upon its first year of successful efforts to improve the accessibility and coordination of expert clinical care among all healthcare systems during disasters. As in the first year, partners in this effort have included representatives from all six New England states that comprise Region 1, including: state health departments and emergency management agencies, adult and pediatric trauma and burn centers, healthcare coalitions, emergency medical services (EMS) organizations, the American Burn Association, ASPR regional staff, and several other healthcare organizations and associations.

In the fall of 2019, the MA/R1 RDHRS kicked off its second year by travelling to meet with key stakeholders in all six Region 1 states to better understand their current needs and concerns and to identify additional opportunities for collaboration. Our project team also advanced efforts to create systems to support patient and resource movement, share clinical disaster expertise, enhance the development of disaster medical teams, and enhance collaboration among partners in the region.

To support response to the COVID-19 pandemic, the RDHRS project team rapidly pivoted from a planning position to an operational one, working to ensure that appropriate clinical expertise was integrated into existing disaster medical response systems and to enhance clinical care systems and surge capacity. The original project plans for many programs within the RDHRS required adjustments this year due to the needs of the COVID-19 pandemic response; however, our project team mobilized and operationalized many of the newly-developed RDHRS concepts and components to support the extensive COVID-19 response and recovery efforts among hospitals, state health departments, and other health organizations across Region 1.

We are very pleased with the accomplishments of the MA/R1 RDHRS this year, and are especially proud of the role that we have played in helping support our partners and the patients and residents within our region. In the coming year, we look forward to more permanently operationalizing our successes within the RDHRS and building on many of the lessons learned from this historic period and experience.



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For ASPR and our state, tribal and federal partners, the Massachusetts/Region 1 Regional Disaster Health Response System continues to serve as the go-to source of expertise for health system situational awareness, healthcare operations, clinical care, and coordination of specialty services.

As our expert consultants, the MA/R1 RDHRS has conducted several webinars to share the latest knowledge and promising therapies for COVID-19 with hundreds of our federal, state, tribal, public health preparedness, emergency management and clinical partners. We also recognize the potential value of an RDHRS in directly supporting ASPR's regional operations, and have proposed a revision of the ASPR Incident Management Framework to include the MA/R1 RDHRS in functional roles, including:

- serving as subject matter experts for clinical management, healthcare operations, and evaluation of the response;
- supporting implementation of a medical operations coordination cell to support situational awareness, interfacility patient movement, specialized clinical services, and telemedicine;
- leading activation of established regional disaster medical teams.

ASPR Region 1 congratulates the MA/R1 RDHRS on remarkable achievements in an exceptionally challenging second year, and looks forward to the next period of mutual support and growth.



Gary Kleinman
*Regional Administrator,
ASPR Region 1*





The ASPR RDHRS Vision

ASPR aims to better identify and address gaps in coordinated patient care during disasters through the establishment and maturation of a Regional Disaster Health Response System. The primary objectives of the RDHRS are to:



Improve the bidirectional communication and situational awareness of the medical needs and issues of the response between healthcare organizations and local, state, regional and federal partners.



Leverage, build and augment the highly specialized clinical capabilities that are critical to caring for patients affected by rare, unusual, or catastrophic events.

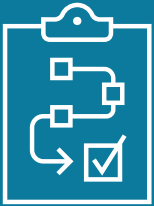


Augment whole of community (horizontal) integration of stakeholders that comprise healthcare coalitions with readily accessible clinical capabilities that may not be available in the coalitions' own jurisdictions.

MA/R1 RDHRS Mission

The mission of the MA/R1 RDHRS is to support optimal healthcare disaster planning to ensure that appropriate clinical expertise is integrated into emergency response, and to enhance clinical surge capabilities across the Region 1 healthcare community.

Year Two Project Objectives



Build and enhance structures that engage clinical and technical healthcare subject matter experts (SMEs) and organizations in regional disaster planning efforts and response systems, particularly for specialized clinical scenarios involving surge in trauma, burn, pediatrics, infectious diseases, or other special types of victims.



Develop a 24/7/365 response structure that collaborates with public health and emergency management leaders to provide access to specialized medical and technical expertise related to patient movement and medical care in real time during disasters and supports improved healthcare system situational awareness.



Expand the available regional medical capabilities and capacity to respond by creating unique programs to enhance disaster telemedicine and deployable disaster medical response teams.



Expanding the Regional Disaster Health Community

The MA/R1 RDHRS leverages existing strong relationships among region-wide healthcare and government partners who are committed to improving the coordinated delivery of patient care during disasters. In order to most effectively enhance the elements of disaster health preparedness and response across Region 1 within the RDHRS scope, the MA/R1 RDHRS focused its efforts on six project areas:



**Regional
Collaboration**



**Training and
Technical
Assistance**



**Health
System
Response**



**RDHRS
Response**



**Disaster
Medical
Teams**



**Metrics and
Evaluation**

At the beginning of Year Two, the RDHRS project team traveled to each state in New England to host in-person meetings with key stakeholders in disaster preparedness and response, including: state health departments, state emergency management agencies, as well as representatives from tertiary care facilities, healthcare coalitions, EMS agencies, the National Guard, and ASPR Region 1. These meetings were essential to help align the RDHRS with the existing disaster response mechanisms within each state and ensure that the MA/R1 RDHRS does not duplicate efforts or create parallel systems.

Training and Technical Assistance

The MA/R1 RDHRS partnered with the Boston Public Health Commission to develop a just-in-time training toolkit to support rapid development of training materials for clinical audiences during disasters. The toolkit includes a series of worksheets intended to guide the user through the development of customized training materials, leveraging existing content from national specialty organizations, and in consultation with SMEs. In September 2020, the toolkit was tested and evaluated in partnership with the American Burn Association in response to a fictional mass burn scenario. Based on feedback from expert clinicians, the toolkit continues to be enhanced and expanded to address clinical care training needs during disasters.

COVID-19 Training and Technical Assistance

The MA/R1 RDHRS leveraged its access to expert resources to continually share toolkits, best practices, and other materials with healthcare systems across New England, and more broadly across the US throughout the response to COVID-19, particularly as cases of the disease surged within the region.

This has been accomplished via a COVID-19 Toolkit and other critical resources shared on the RDHRS website and through regional webinars on clinical best practices held during the year.



Health System Response



Disaster Telemedicine

The MA/R1 RDHRS developed a rapidly deployable, easy to use, HIPAA-compliant telemedicine platform as a model disaster telemedicine system. In response to COVID-19, the system was pilot tested in early June to augment access to critical care expertise for community hospitals for the treatment of COVID-positive patients. In partnership with the American Burn Association, the RDHRS also further developed how this telemedicine system can be used to support disaster burn care.

Enhancing Access to Specialized Healthcare Expertise During COVID-19

The MA/R1 RDHRS provided expert clinical guidance and support related to numerous COVID-19 response efforts including support for equitable state-wide ventilator distribution, planning for alternate care site operations and crisis standards of care, among other initiatives. All of these efforts successfully advanced the healthcare system's ability to respond quickly and effectively as challenges arose.

ECMO: Facing surging numbers of critically ill patients with COVID-19 across New England in the spring of 2020, the RDHRS mobilized mechanisms to help provide access to critical care resources. One such specialty resource was extracorporeal membrane oxygenation (ECMO), which provides prolonged cardiac and respiratory support to patients with diminished heart and lung function. The MA/R1 RDHRS collaborated with the New England ECMO Consortium to jointly develop a web-based platform that connects referring hospitals in real-time with available ECMO capacity across New England. If any ECMO center reached their capacity, this platform assured that they could easily identify others who had capacity, share patient information, and help get appropriate patients access to this potentially life-saving resource.

Ventilator Distribution: As Massachusetts received ventilators from the Strategic National Stockpile in response to overwhelming needs, the RDHRS mobilized experts in critical care, emergency medicine, and respiratory therapy to work in support of state health authorities to equitably distribute more than 400 surge ventilators across the state.

Alternate Care Site Planning: In a joint effort to slow community transmission of COVID-19, the RDHRS supported the planning and operations of a local hotel used to support non-congregate housing for COVID-19 positive patients who could not safely isolate at home. Subject matter experts were involved in site planning and consulted throughout the operation. Throughout the response, collaboration between local and state emergency management authorities and the RDHRS clinical experts created and supported a multidisciplinary environment to service the needs of high-risk communities.

Disaster Medical Teams

MGH/UMass Disaster Medical Teams

The RDHRS advanced efforts to establish model hospital-based deployable Disaster Medical Teams (DMTs) at Massachusetts

General Hospital (MGH) and the University of Massachusetts (UMass) Memorial Medical Center. MGH and UMass have been successful in developing a model and plan for the establishment, deployment, and sustainment of specialized hospital-hosted medical teams to respond to large-scale disasters that occur within and outside of the state. These scalable teams are modeled after the federal ASPR National Disaster Medical System's Disaster Medical Assistance Teams. Teams are designed to be rapidly deployable with pre-rostered personnel and 24/7 access to medical equipment, established protocols, medical records, and other systems and capabilities.

Region 1 DMT Working Group

To help enhance consistency and capabilities among the many differing existing and developing disaster medical teams in New England, in Year Two, the MA/R1 RDHRS project team established a Regional DMT Working Group. Goals of the working group are to:

- Increase collaboration and networking among teams in the region and establish relationships to assist future responses.
- Align language regarding response capabilities across the many types of teams.
- Come to consensus on the Emergency Management Assistance Compact as the most likely process for sharing resources across state lines for deployments.
- Agree on shared Mission Ready Packages for DMTs.
- Catalogue resources available among the teams.
- Identify significant gaps in current DMT structure and operation.
- Enhance teams' abilities to share resources.



RDHRS Response Capabilities

Whether virtually or in-person, the RDHRS is poised to provide the clinical expertise needed to support medical surge and ensure that highly specialized clinical capabilities are readily available in the region during disasters. The RDHRS can provide professional guidance with respect to the optimal triage, patient distribution, medical treatment and resource utilization actions that can save the most lives when the clinical capacity and/or capabilities of the affected healthcare system are overwhelmed. During Year Two, the RDHRS has worked to further develop RDHRS response capabilities and to align with the concept of medical operations coordination cells outlined by ASPR and the Federal Emergency Management Agency.

RDHRS COVID-19 Response Efforts

Medical Surge Coordination: The RDHRS assisted in convening a (sub-state) regional critical care capacity coordination group. Consisting of area hospitals, EMS agencies, and public health and healthcare coalition partners, the group met daily to optimize hospital intensive care and general surge capacity across metro Boston hospitals and load-balance the distribution of critically ill COVID-19 patients.

The RDHRS project team also participated in regular statewide surge capacity coordination calls hosted by the MA COVID-19 Command Center and the Massachusetts Health and Hospital Association. These calls were focused on interpreting and analyzing the data collected from state hospitals related to COVID-19 to inform decision-making and help support modeling and forecasting efforts.

Information Management and Reporting: RDHRS team members provided subject-matter expertise to the MA COVID-19 Command Center related to collection and interpretation of hospital capacity data to inform the ongoing response and recovery efforts.

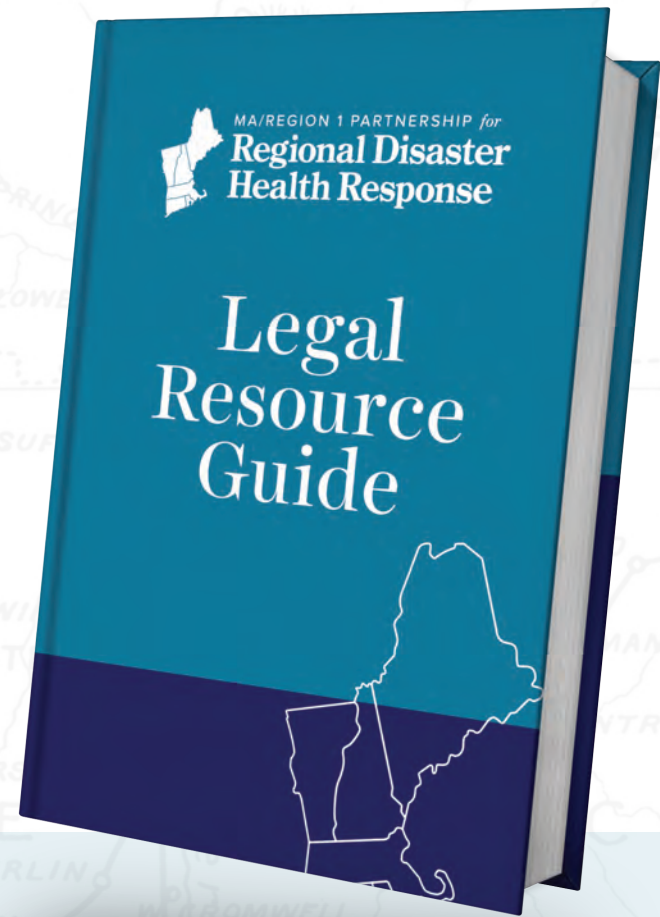
RDHRS representatives also participated in a Massachusetts Health and Hospital Association sponsored planning group to evaluate options for appropriate flexibility in providing continued access to healthcare services in the event of a resurgence of COVID-19. This group is in the process of developing guidelines and recommendations on key issues related to capacity planning, load balancing and regional surge coordination.



Disaster Legal and Policy Efforts

Region 1 Legal Resource Guide

The MA/R1 RDHRS team developed a regional legal guide in collaboration with legal consultant James Hodge, Jr. JD, LL.M. and the Network for Public Health Law. The MA/R1 RDHRS Legal Guide provides a blueprint to address disaster legal processes and issues, and outlines options that states in Region 1 could use to assess policy and legal implications during a disaster or no-notice event. In response to the COVID-19 pandemic, extensive COVID-19 related legal and policy changes were also incorporated into the guide, with a focus on real-time development of disaster laws and waivers.



Regional Disaster Healthcare Guidance Group

In disasters that overwhelm the medical system, the resources needed to effectively respond are, by definition, overwhelmed. Major inconsistencies in the use of scarce medical resources across systems threaten to further worsen overall outcomes and to undermine public confidence in the response. The MA/R1 RDHRS drafted a protocol to establish a Regional Disaster Healthcare Guidance Group to provide a forum for discussion and potential regional collaboration in response to a disaster event. The protocol establishes a mechanism to rapidly convene regional ASPR staff, state health department representatives, healthcare system subject matter experts and RDHRS staff in a predictable, structured manner to collectively identify any major areas of inconsistency in response and opportunities for coordination among the parties. The MA/R1 RDHRS hopes to use this concept in future disasters.

Assuring Readiness: Metrics and Evaluation

The RDHRS project team continued its collaboration with the Harvard T.H. Chan School of Public Health's Emergency Preparedness Research, Evaluation, and Practice (EPREP) Program to create an RDHRS Theory of Change and Logic Model to inform the process of refining the response readiness metrics and evaluation framework ("readiness scorecard") created in Year One.

Using the core RDHRS capabilities as a guide, the EPREP team identified ten scorecard domains:

- 1 Establish RDHRS partnership**
- 2 Assess legal opportunities to effectuate disaster health response**
- 3 Define indicators and triggers for RDHRS partnership operations**
- 4 Serve as a regional disaster medical specialty consultant to inform regional planning**
- 5 Provide just-in-time disaster medical specialty technical assistance**
- 6 Establish RDHRS Response Center**
- 7 Establish State/Regional Deployable Medical Teams**
- 8 Create a just-in-time Regional Disaster Healthcare Guidance Group**
- 9 Identify and address training needs**
- 10 Conduct exercises and evaluate RDHRS partnership performance and readiness**

Building on Lessons Learned

Looking back on the first two years of this pilot project, the MA/R1 RDHRS has made tremendous progress and has learned important lessons on how best to establish and operate an engaged network comprised of healthcare preparedness and response entities. Looking ahead into Year Three and the transition of the RDHRS from a pilot project into a response ready organization, the lessons below offer important guidance.

Key Lessons from the Year 2 RDHRS Planned Program Activities

- In the coming year, it will be critical to further define where the RDHRS fits in relation to the federal, state and local preparedness and response infrastructure in order to allow it to best develop its planning and response capabilities and capacities as an entity.
- Close collaboration between ASPR regional leadership and an RDHRS can have substantial mutual benefits, with the RDHRS providing subject matter expertise and a clinical “ground truth,” while the ASPR regional leaders provide a clear mechanism to allow the RDHRS to effectively participate in regional planning and response efforts.
- A successful RDHRS often meets response partners where they are, building on partners’ existing strengths and leveraging the RDHRS’ clinical and healthcare operations subject matter expertise to improve results.
- Although RDHRS programs will possess significant subject matter expertise in disaster healthcare topics, RDHRS must also be able to effectively leverage the resources of existing national specialty programs in their efforts, such as the National Emerging Special Pathogen Training and Education Center, Radiation Injury Treatment Network, and others when possible.
- As RDHRS programs grow and mature, it will be important to standardize certain structural elements and capabilities, so that they can work consistently with state and regional partners, support one another in response efforts, and effectively interface with national specialty organizations.
- Medical coordination and support centers operating in a fixed facility require agreements for personnel, equipment, and facilities while medical coordination and support centers operating virtually require good technology systems and resources. Both types of centers require financial and planning investments to operate effectively.

Building on Lessons Learned

Key Lessons from the RDHRS Response to COVID-19

- COVID-19 provided invaluable lessons regarding the definitions and systems that should be used for standardized and shared essential elements of information for data collection and decision-making. The RDHRS was able to support improved situational awareness and data sharing by working within existing information management systems to establish a clear flow of information with a common set of data point definitions.
- The RDHRS proved to be immensely useful in facilitating rapid connections between healthcare SMEs and state authorities supporting activities related to resource prioritization and distribution, decision-making, and other key topics.
- The RDHRS was an effective vehicle to widely share training resources, clinical protocols, and SME expertise with numerous healthcare systems across the Region.
- COVID-19 has highlighted the value of rapid and structured access through the RDHRS to expert clinical and healthcare operational knowledge for many partners.

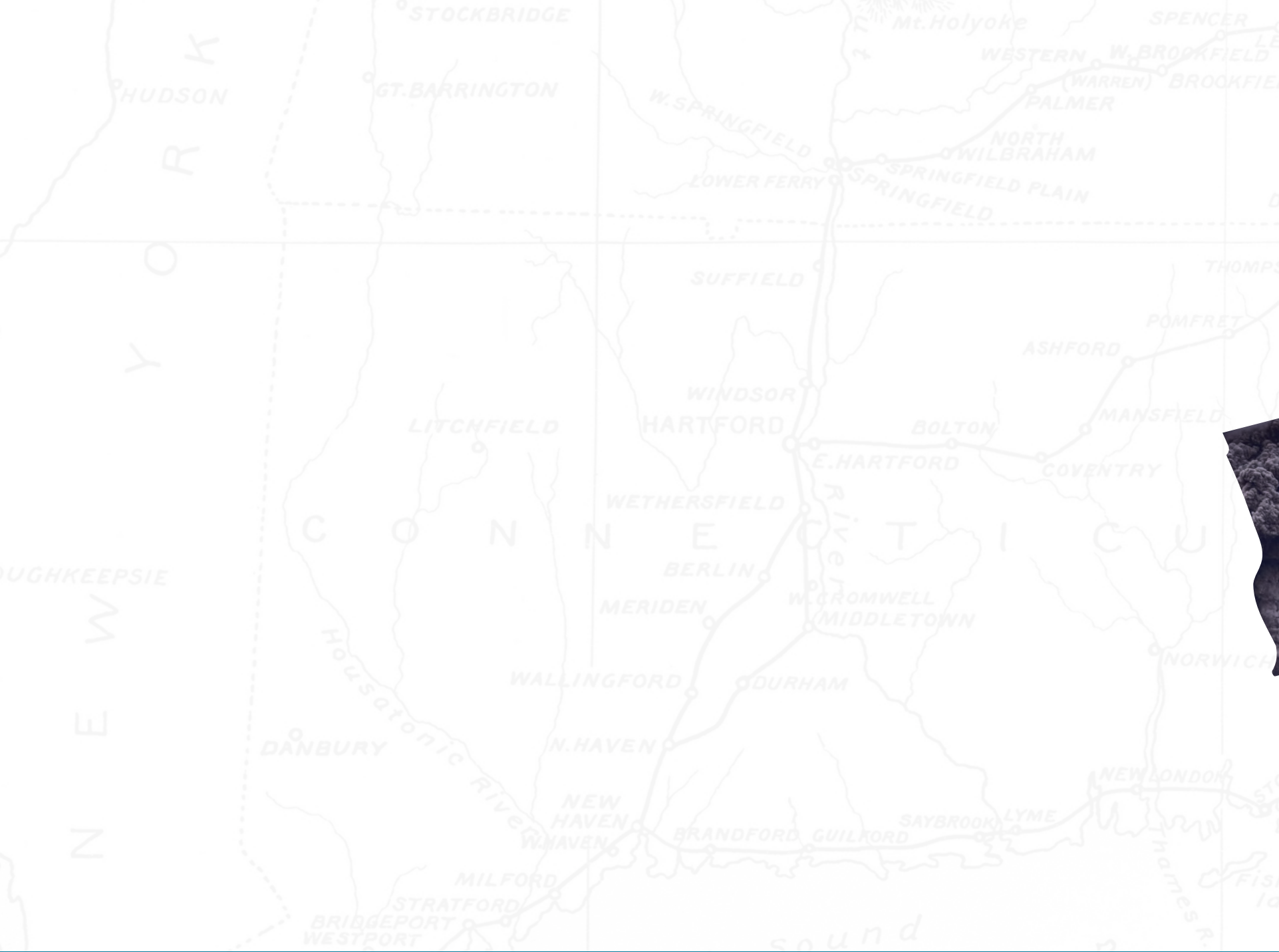




The value of the MA/R1 RDHRS and the RDHRS concept itself was highlighted by our role in the COVID-19 response, providing timely access to the right subject matter experts to address a variety of clinical and operational challenges in real time. We are excited to build on this work in Year Three and look forward to additional engagement with our partners to identify new ways to support their response efforts and capabilities.



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