



PERSONNEL AND  
READINESS

**UNDER SECRETARY OF DEFENSE**  
4000 DEFENSE PENTAGON  
WASHINGTON, D.C. 20301-4000

OCT 14 2022

The Honorable Jack Reed  
Chairman  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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Thank you for your continued strong support for the health and well-being of our Service members, veterans, and their families. I am sending similar letters to the other appropriate congressional committees.

Sincerely,

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Gilbert R. Cisneros, Jr.

Enclosure:  
As stated

cc:  
The Honorable James M. Inhofe  
Ranking Member



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OCT 14 2022

The Honorable Adam Smith  
Chairman  
Committee on Armed Services  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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The Honorable Mike D. Rogers  
Ranking Member



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OCT 14 2022

The Honorable Maria Cantwell  
Chair  
Committee on Commerce, Science,  
and Transportation  
United States Senate  
Washington, DC 20510

Dear Madam Chair:

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The Honorable Roger Wicker  
Ranking Member



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WASHINGTON, D.C. 20301-4000

OCT 14 2022

The Honorable Frank Pallone, Jr.  
Chairman  
Committee on Energy and Commerce  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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The Honorable Cathy McMorris Rodgers  
Ranking Member



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OCT 14 2022

The Honorable Patty Murray  
Chair  
Committee on Health, Education,  
Labor, and Pensions  
United States Senate  
Washington, DC 20510

Dear Madam Chair:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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The Honorable Richard Burr  
Ranking Member



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OCT 14 2022

The Honorable Peter A. DeFazio  
Chairman  
Committee on Transportation and Infrastructure  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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The Honorable Sam Graves  
Ranking Member



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OCT 14 2022

The Honorable Jon Tester  
Chairman  
Committee on Veterans' Affairs  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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The Honorable Jerry Moran  
Ranking Member



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OCT 14 2022

The Honorable Mark Takano  
Chairman  
Committee on Veterans' Affairs  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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The Honorable Mike Bost  
Ranking Member



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OCT 14 2022

The Honorable Gary C. Peters  
Chairman  
Committee on Homeland Security and  
Governmental Affairs  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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The Honorable Rob Portman  
Ranking Member



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**UNDER SECRETARY OF DEFENSE**

4000 DEFENSE PENTAGON  
WASHINGTON, D.C. 20301-4000

OCT 14 2022

The Honorable Bennie G. Thompson  
Chairman  
Committee on Homeland Security  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

The Department's response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116-92), "Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116-823), "Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System," is enclosed.

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Gilbert R. Cisneros, Jr.

Enclosure:  
As stated

cc:  
The Honorable John Katko  
Ranking Member

# Report to Congressional Committees



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## Initial Report on the National Disaster Medical System Pilot Program

**Pursuant to Section 740(f)(1) of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116–92), as Amended, and Section 741 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116–823)**

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**October 2022**

The estimated cost of this report and study for the Department of Defense (DoD) is approximately \$2,677,000 in Fiscal Years 2020 - 2021. This includes \$2,155,000 in expenses and \$522,000 in DoD labor.

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## **1. Introduction**

This initial report is in response to section 740(f)(1) of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 (Public Law 116–92), “Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System,” as amended, and section 741 of the William M. (Mac) Thornberry NDAA for FY 2021 (Public Law 116–823), “Modifications to Pilot Program on Civilian and Military Partnerships to Enhance Interoperability and Medical Surge Capability and Capacity of National Disaster Medical System.”

## **2. Executive Summary**

The National Disaster Medical System (NDMS) likely lacks the capacity and interoperability to meet the medical surge capability required to respond to a large overseas military conflict. Congress authorized the NDMS Pilot Program to address this potential national security threat of limited medical surge capability and capacity. The NDMS Pilot Program’s objective is to develop and test ways to strengthen military-civilian interoperable partnerships across the NDMS definitive care network to care for the nation’s combat casualties.

The NDAA for FY 2020 (as amended) requires the NDMS Pilot Program to:

1. Establish partnerships with public, private, and nonprofit health care organizations, institutions, and entities.
2. Enhance the interoperability and medical surge capability and capacity of the NDMS.
3. Establish requirements across nine medical surge domains (staffing, specialized training, medical logistics, telemedicine, patient regulating, movement, situational status reporting, tracking, and surveillance).
4. Establish metrics to evaluate the effectiveness of the NDMS Pilot Program.

The Secretary of Defense, in collaboration with the Secretaries of Veterans Affairs, Health and Human Services, Homeland Security, and Transportation, is conducting the NDMS Pilot Program over 5 years, in three phases, at five sites. Phase I of the NDMS Pilot Program, the Military-Civilian National Disaster Medical System Interoperability Study (MCNIS), began in December 2020 and was designed to assess the current state of the NDMS definitive care network and related aspects of NDMS patient movement, as well as to identify specific capabilities to be field-tested by the Pilot. The NDMS Pilot Program transitioned from Phase I to Phase II in September 2021. Phase II builds upon the MCNIS findings to develop site-specific implementation plans and a master plan with actionable recommendations informed by an initial field framework. Implementation plans will outline actionable recommendations for increasing medical surge capabilities and capacity through interoperable partnerships across NDMS Pilot sites. Phase III will build upon the results of the first two phases of the NDMS Pilot Program and prepare for its expansion.

This initial report provides an overview of NDMS Pilot Program Phase I (MCNIS) and outlines how it informs Phase II (Pilot Implementation). It includes a discussion of how the nine medical surge domains listed in the NDAA for FY 2020 will be incorporated in Pilot implementation via

operationally relevant capabilities. In addition, this report discusses NDMS Pilot Program Phase II (Pilot Implementation) through its development of civilian and military partnerships to enhance interoperability, capability, and capacity of the NDMS. Finally, the Report outlines an initial approach for establishing evaluation metrics and benchmarks to assess the impact and effectiveness of Phase II.

### **3. Background**

#### **3.1. History of the NDMS**

The NDMS was formed in 1984 as a collaboration between the Department of Health and Human Services (HHS), Department of Defense (DoD), and Department of Veterans Affairs (VA) as a single system to respond to military contingencies resulting in a large number of casualties. The NDMS comprises three primary complementary components: medical response, patient movement, and definitive care.<sup>1,2,3</sup> Since its establishment, some 1,900 civilian health care partners signed agreements to participate in the NDMS definitive care network. This network has been activated to assist in more than 300 domestic and two international incidents since its inception, with major disasters and public health emergencies being the most common cause for activation.<sup>4</sup> Examples include Hurricane Katrina in 2005, the Haiti earthquake in 2010, and the coronavirus disease 2019 (COVID-19) pandemic; however, the definitive care component of the NDMS has never been activated at full scale to care for wounded Service members.<sup>5</sup> The NDMS Pilot Program offers an important opportunity to enhance NDMS capabilities and capacity for this primary scenario.

#### **3.2. Overview of the NDMS Pilot Program**

Designated by the NDAA for FY 2021 as the lead official for design and implementation, the Assistant Secretary of Defense for Health Affairs (ASD(HA)) directed the National Center for Disaster Medicine and Public Health (NCDMPH) at the Uniformed Services University of the Health Sciences to conduct the NDMS Pilot Program.

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<sup>1</sup> Medical response is the supplemental health and medical assistance provided by HHS in domestic disasters at the request of state and local authorities, i.e., State, Local, Tribal, and Territorial Government Coordinating Council. Source: National Disaster Medical System (2018). Federal Coordinating Center Guide. U.S. Department of Health and Human Services, p.12.

<sup>2</sup> Patient movement is the DoD-led effort to transport patients from point of injury at a disaster site or combat environment, via Casualty Evacuation (CASEVAC), Medical Evacuation (MEDEVAC), Aeromedical Evacuation (AE) or contracted airlift capabilities. Source: National Disaster Medical System (2018). Federal Coordinating Center Guide. U.S. Department of Health and Human Services, p.12.

<sup>3</sup> Definitive Care is the DoD and VA-led effort to provide a nationwide network of voluntary, pre-identified, non-federal medical facilities (NDMS partner facility) capable of providing definitive care for the victims of disaster or military contingency exceeding the medical care capabilities of the affected local, state, or federal medical system. Source: National Disaster Medical System (2018). Federal Coordinating Center Guide. U.S. Department of Health and Human Services, p.12.

<sup>4</sup> Dawson, L. (2020). The National Disaster Medical System (NDMS) and the COVID-19 Pandemic. Kaiser Family Foundation, available at: [www.kff.org/coronavirus-covid-19/issue-brief/the-national-disaster-medical-system-ndms-and-the-covid-19-pandemic/](http://www.kff.org/coronavirus-covid-19/issue-brief/the-national-disaster-medical-system-ndms-and-the-covid-19-pandemic/)

<sup>5</sup> *Ibid.*

The NDMS Pilot Program mission is to increase medical surge capabilities and capacity by strengthening interoperable partnerships across the NDMS to care for the Nation’s combat casualties. The NDMS Pilot Program aims to improve the ability of five geographic sites to respond to an overseas wartime contingency through a network of Federal and civilian partners. The NDMS Pilot Program is currently taking place over three phases as described in Table 1.

**Table 1. Description of NDMS Pilot Program Phases**

Phase	Name	Description	Estimated Timeline
<b>Phase I</b>	MCNIS	Assess the current state of the NDMS definitive care network and related aspects of patient movement; identify specific capabilities to be field-tested by the Pilot Program in Phase II	December 2020 to September 2021
<b>Phase II</b>	NDMS Pilot Implementation	Develop and implement plans with actionable recommendations at each of the five Pilot sites as informed by Phase I (MCNIS)	September 2021 to September 2026
<b>Phase III</b>	NDMS Pilot Expansion	Based on Phase II findings, outline and execute potential NDMS Pilot Program scale-up activities and transition enduring operations to existing Federal programs and agencies	To be determined

### 3.3. Pilot Site Selection

Representatives from the five Federal agencies identified in the NDAA developed the criteria and methodology for NDMS Pilot Program site selection. The starting point for site selection was the U.S. Transportation Command’s (USTRANSCOM) Continental United States Patient Distribution Plan (CPDP). Sites identified in the CPDP were further evaluated based on operational considerations, regional capabilities, and the selection considerations provided in the NDAA.

Federal agency representatives guided the site selection process to ensure alignment with established Federal program capabilities. To help ensure maximum utility from the Pilot program results, the sites selected were all key NDMS nodes: larger Federal Coordinating Centers (FCCs) and HHS Regional Disaster Health Response System (RDHRS) locations. Finally, geographic diversity, regional surge capacity, and strength of pre-existing local partnerships also factored in the site selection process. The ASD(HA) provided final approval of the five Pilot sites, which are shown in Figure 1.

*Figure 1. NDMS Pilot Program Site Locations*



The five Pilot sites all encompass regional NDMS networks, including FCCs, NDMS receiving hospitals, and major metropolitan public health departments.<sup>6</sup> These regional networks represent a cross-section of thousands of NDMS definitive care partners throughout the United States.

## **4. NDMS Pilot Program Phase I: MCNIS**

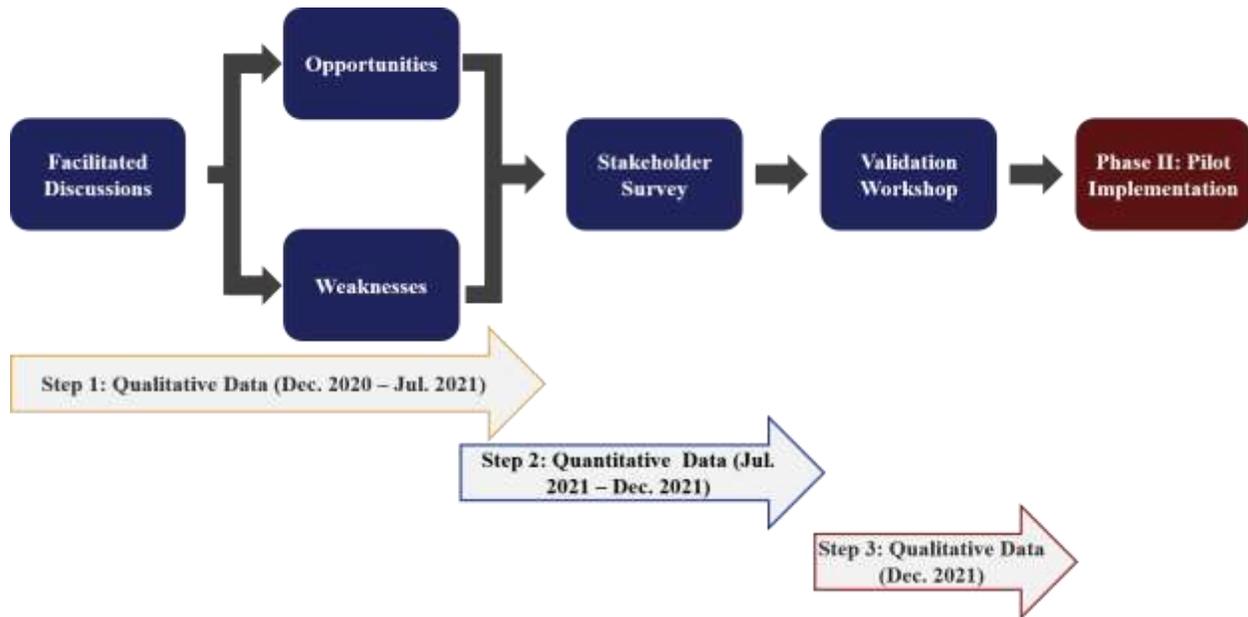
### **4.1. Overview and General Findings**

In December 2020, the Pilot team initiated MCNIS to assess the current state of the NDMS definitive care network and related aspects of NDMS patient movement, as well as to identify specific capabilities to be field-tested by the Pilot Program in Phase II. The study’s objective was to inform implementation of substantive, actionable recommendations to optimize the NDMS definitive care network and relevant patient movement capabilities. The Pilot team began by posing the central research question: “What is the current state of NDMS definitive care in the context of a large-scale, overseas military contingency generating thousands of combat casualties returning to the U.S. over a protracted period?” To answer this question, the Pilot team developed and executed the three-step approach depicted in Figure 2.

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<sup>6</sup> The five Pilot sites are Washington, DC; Omaha, NE; San Antonio, TX; Denver, CO; Sacramento, CA.

**Figure 2.** MCNIS Investigative Approach



Step 1 involved qualitative data collection and analysis of the NDMS definitive care current state through facilitated discussions with key NDMS stakeholders across the country. The Pilot team identified participants from civilian and private sector health care organizations, Federal interagency partners (i.e., DoD, VA, Department of Homeland Security (DHS), HHS, and Department of Transportation), and FCCs. From December 2020 through April 2021, the Pilot team facilitated multiple discussions with these participants that produced 19 hours of recordings and 655 pages of transcript. The Pilot team identified a discreet list of weaknesses and opportunities by thematically analyzing and systematically refining qualitative data from the facilitated discussions.

In Step 2, the Pilot team drafted initial survey questions informed by the Step 1 results and refined the questions with input from NDMS subject matter experts. The Pilot team organized responses into three stakeholder groups: civilian/private-sector, FCC, and Federal interagency. The survey quantified agreement with reported weaknesses and support for identified opportunities deemed most relevant and actionable for the NDMS Pilot Program (e.g., assess surge capacity at military and civilian health care facilities). Initial review of survey findings demonstrated general stakeholder agreement on rank ordering of priority/support.

In Step 3, the Pilot team convened representatives from all three stakeholder groups and all five NDMS Pilot Program sites at a two-day Validation and Phase II Kick-Off Meeting (September 30, 2021 – October 1, 2021) to validate MCNIS study results and establish initial priorities for Phase II of the NDMS Pilot Program (Pilot Implementation). The Pilot team facilitated iterative discussions to further prioritize identified weaknesses and opportunities.

In collaboration with local NDMS definitive care network partners, the implementation framework derived from the weaknesses and opportunities for improvement will be further investigated as part of Phase II at each NDMS Pilot Program site and will be subsequently built

into site-specific implementation plans over the next year. Pilot site stakeholders will iteratively operationalize these plans over the next 5 years.

## 5. The NDMS Pilot Program Phase II: Pilot Implementations

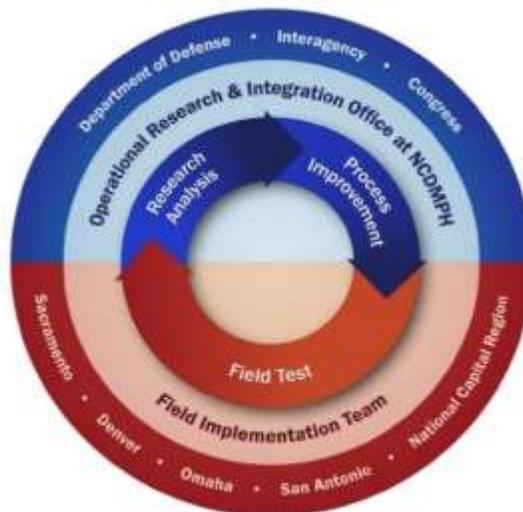
### 5.1. Scope

NDMS Pilot Program Phase II (Pilot Implementation) commenced on September 30, 2021. In the first year of Pilot implementation, the team will work with NDMS partners to assess and refine MCNIS findings from Phase I, develop and coordinate implementation plans, establish Pilot benchmarks, process and outcome metrics, and conduct a national exercise to test initial Pilot implementation plans. All tasks will be executed in the context of an overseas military contingency scenario that results in 1,000 combat casualties returning daily to the United States for 100 days or longer. All NDMS Pilot Program Phase II activities will be executed based on the authorizing language in the NDAA's for FY 2020 and FY 2021, using relevant appropriations.

### 5.2. Overview

To successfully execute Phase II, the Pilot team expanded its structure to better support implementation functions. This Pilot team now comprises two components: the Operational Research and Integration Office-National Center for Disaster Medicine and Public Health (ORION) and the Field Implementation Team (FIT). Broadly, ORION focuses on strategic engagement and NDMS Pilot Program oversight, while the FIT focuses operationally on implementation at each of the five Pilot sites. Figure 3 depicts the team structure for NDMS Pilot Program Phase II.

*Figure 3. NDMS Pilot Program Phase II Team Structure*



ORION and FIT work collaboratively to execute Phase II of the NDMS Pilot Program. This team structure provides the strategic and operational capabilities needed to coordinate all lines of effort, strengthen interoperable regional partnerships, and elevate findings to inform

improvements. Additionally, the team structure creates a critical feedback loop between research and implementation that allows the findings during Phase II to be used as inputs in future operations, both immediately and over the course of the 5-year Pilot program, creating a cycle of continuous process improvement backed by scientific rigor.

The FIT will assess, tailor, and operationalize the MCNIS findings by creating site-specific implementation plans. Implementation data collected from each of the five sites will inform objective analysis and drive improvements across the Pilot sites. In addition, site-agnostic metrics and benchmarks will be used to evaluate the impact and effectiveness of the NDMS Pilot Program.

Furthermore, the FIT will conduct two sub-studies and one modeling exercise to support the NDMS Pilot Program. The first sub-study will document COVID-19 lessons learned from the five Pilot sites, including best practices, successes, and significant areas of improvement which may be relevant to NDMS capabilities and Pilot implementation. The second sub-study will explore current NDMS-related laws, regulations, policy, and authorities to increase the Pilot team's overall understanding of the NDMS's Federal landscape and allow the team to consider potential recommendations for extending and making permanent changes to the NDMS, as per the NDAA for FY 2020. Lastly, a national medical surge bed capacity model will quantify the capability of the NDMS definitive care network to manage a large-scale patient surge. Taken together, these studies and the modeling effort will inform the Pilot's implementation; identify prospective Federal legislative, regulatory, and policy solutions for potential Congressional and Executive Branch consideration; and inform the Final Report to Congress. All Phase II milestones will support the NDMS Pilot Program's goal to increase NDMS medical surge capability and capacity to care for combat casualties during a near-peer conflict.

### **5.3. Operationalizing the Nine FY 2020 NDAA Medical Surge Domains Through an Initial Implementation Framework**

During NDMS Pilot Program Phase I (MCNIS), the Pilot team translated the identified weaknesses and opportunities into three overarching operational concepts for Phase II: *communication and coordination; medical surge planning and preparedness; and innovation and transformation*. To further operationalize each of the overarching concepts, the Pilot team distilled the concepts into specific operational capabilities (Figure 4). The concepts and capabilities provide the operational context for Phase II activities. Section 740 of the NDAA for FY 2020 outlines nine medical surge domains to be explored through the NDMS Pilot Program: staffing, specialized training, medical logistics, telemedicine, patient regulating, movement, situational status reporting, tracking, and surveillance. The nine medical surge domains map directly to one or more of the operational capabilities, creating an initial blueprint for developing Pilot requirements and site-specific solutions. Figure 4 illustrates how the domains are included in the operational capabilities, and it provides a working version of the Initial Implementation Framework. NDMS definitive care capabilities vary across the Pilot sites, and as a result the capability requirements, while generalizable, will necessitate customization for operationalization.

**Figure 4. Initial Implementation Framework**



The draft concepts and capabilities in the initial implementation framework focus on the combat medical surge scenario and the ability for Service members to receive appropriate and timely care throughout the care continuum. The Pilot team will use the initial implementation framework capabilities to conduct a NDMS landscape analysis at each site. Subsequently, the Pilot team will identify site-tailored solutions which will be incorporated in each site-specific Pilot implementation plan.

As NDMS Pilot Program Phase II (Pilot Implementation) progresses, additional opportunities and weaknesses identified during Phase I (MCNIS) will be tested and assessed for incorporation into the site-specific plans. Lessons learned from Phase II (Pilot Implementation) will also help refine and mature the initial implementation framework, creating a dynamic blueprint for the field that can be used as a planning input for NDMS Pilot Program Phase III (Pilot Expansion).

#### **5.4. Measuring Pilot Performance**

Performance metrics and medical surge benchmarks will be central to measuring and understanding the work of the NDMS Pilot Program. The Pilot team is currently developing an evaluation framework for assessing how the NDMS Pilot Program is strengthening definitive care network preparedness for the combat casualty scenario at the five Pilot sites. Assessment of key medical surge benchmarks will track changes within each Pilot site, across the five Pilot sites, as well as benchmark with national data. Taken together, these elements contribute to a more comprehensive understanding of how preparedness and readiness will have changed over the course of the NDMS Pilot Program.

The preparation of this Initial Report to Congress coincided with the first three months of Phase II of the NDMS Pilot Program. As such, the following section highlights the Pilot team’s process for metrics development. Additional details will become available as the Pilot progresses.

Following an iterative process, the Pilot team will develop performance metrics and medical surge benchmarks to provide direct assessment of Pilot activities and changes in key metrics. Figure 5 depicts the Pilot team’s process for developing metrics and benchmarks.

**Figure 5.** *Metrics and Benchmarks Development Process*



A preliminary landscape analysis has provided the Pilot team with a view of existing health care preparedness programs and measurement guidance (e.g., HHS Office of the Assistant Secretary for Preparedness and Response Technical Resources, Assistance Center, and Information Exchange; Hospital Preparedness Program; Medical Reserve Corps; and RDHRS); resources for collecting and storing relevant data (e.g., Joint Patient Assessment and Tracking System, USTRANSCOM Regulating and Command & Control Evacuation System, American Hospital Association); and implications of the MCNIS findings which will inform the focus of NDMS Pilot Program implementation efforts

The overarching evaluation questions and logic model, including Pilot site activities described above, serve as the framework for measuring Pilot implementation, changes, and lessons learned. Additionally, this framework provides a way to track progress at the Pilot sites while identifying and refining performance measures and benchmarks. Site data will be collected for these measures based on site-specific activities. For example, all NDMS Pilot Program sites will drive toward improving surge capacity and capabilities, but they have the autonomy to choose different implementation methods based on their individual site priorities. Site-agnostic measures will enable activity tracking and measurement of change while safeguarding critical Pilot site flexibility. Process measures validate Pilot activities identified as outputs by providing descriptive information about these activities—such as the number of trainings or exercises conducted, the number of participants and organizations represented at trainings or exercises, and the topics included in trainings or exercises.

A detailed measurement plan for site-agnostic measures will identify how specific activities link with expected outputs and outcomes, as well as data sources to measure each component. The Pilot team will identify (from existing sources/definitions or develop new) metrics and then set benchmarks to establish the goal for each metric.

Development of medical surge benchmarks and targets will use information gathered through baseline assessment activities, peer collaboration forums, discussion with functional domain experts, discussion with FCC and Health Care Coalition leads, Federal and civilian health care

data and resources, and commercial data and external data sources. The Pilot team will develop three types of benchmarks, leveraging data sources including those described above:

1. External benchmarks to measure Pilot site medical surge readiness compared to national readiness;
2. Internal benchmarks to compare medical surge readiness across the five Pilot sites; and
3. Incremental improvement benchmarks to measure increase of medical readiness over the baseline.

The Pilot team will collect, analyze, and share data with operational partners during the run of the Pilot. Baseline data will inform the development of targets which consider both the starting position and pace of change anticipated for the range of activities. How the data will best inform decisions, the integration of lessons learned, and keeping stakeholders informed will guide timing and reporting.

Finalized performance metrics and benchmarks will be used to inform and evaluate NDMS Pilot Program implementation and medical surge readiness at the Pilot sites over the 5-year Pilot Program timeframe.

## **6. Summary**

The NDMS is vital to our nation's emergency response readiness, and our ongoing experience with the COVID-19 pandemic has demonstrated significant challenges in our country's ability to effectively respond to large scale medical crises. The NDMS Pilot Program is being conducted to address the potential national security threat of insufficient medical surge interoperability, capability, and capacity. It is specifically focused on our ability to care for combat casualties in the event of a near-peer conflict. The NDMS Pilot Program's objective is to strengthen military-civilian interoperable partnerships across the NDMS definitive care network.

As authorized by the Secretary of Defense, NCDMPH is conducting the NDMS Pilot Program over 5 years, in three phases, at five sites. This report provided an overview of Phase I of the NDMS Pilot Program (MCNIS), which focused on assessing and identifying specific capabilities to be field-tested. Additionally, this report described Phase II (Pilot Implementation) and provided an initial implementation framework, informed by MCNIS, that is guiding the field testing at the five Pilot sites.

Building upon the progress achieved during the first phase of the NDMS Pilot Program, the Pilot team is executing Phase II by assessing and refining MCNIS findings, developing and coordinating site-specific and master implementation plans, and exercising and monitoring implementation at the five Pilot sites. These implementation plans will be customized, as appropriate, to take advantage of learning from the local health care characteristics at each Pilot site. The Pilot team will also document current medical surge capacity and capabilities and posit the ideal future states for each of the five Pilot sites. Between September 2021 and September 2022, in collaboration with local NDMS definitive care network partners, the Pilot team will use the initial implementation framework capabilities to help identify site-specific solutions. Subsequently, site-specific solutions will be incorporated into site-specific implementation plans

to successfully achieve each solution. All five site-plans will be rolled up into an overarching master implementation plan. This master implementation plan will be a critical input into the planning process for Phase III (Pilot Expansion).

By the end of Phase II, Pilot sites will have tested and refined implementation plans and collected other data to further guide the NDMS Pilot Program. The Pilot will aim to produce outputs and outcomes that increase the five Pilot sites' interoperability, capabilities, and capacities to care for combat casualties—ultimately informing critical, nationwide changes to patient movement and the NDMS definitive care network.

The Final Report to Congress will be submitted not later than 180 days after completion of the NDMS Pilot Program per the NDAA for FY 2020 and FY 2021.

## 7. Appendix

### 7.1. List of Acronyms

Acronym	Definition
ASD(HA)	Assistant Secretary of Defense for Health Affairs
COVD-19	Coronavirus disease 2019
CPDP	CONUS Patient Distribution Plan
DHS	Department of Homeland Security
DoD	Department of Defense
FCC	Federal Coordinating Center
FIT	Field Implementation Team
FY	Fiscal Year
HHS	Department of Health and Human Services
MCNIS	Military-Civilian National Disaster Medical System Interoperability Study
NCDMPH	National Center for Disaster Medicine and Public Health
NDAA	National Defense Authorization Act
NDMS	National Disaster Medical System
ORION	Operational Research and Integration Office-National Center for Disaster Medicine and Public Health
PRA	Patient Reception Area
RDHRS	Regional Disaster Health Response System
USTRANSCOM	United States Transportation Command
VA	Department of Veterans Affairs

## 7.2. Glossary

Term	Definition
Benchmarking	A systematic comparison of structure, process, or outcomes of similar organizations, used to identify the best practices for the purposes of continuous quality improvement.
Care Continuum	An integrated system of care that guides and tracks patients over time and facilitates seamless movement from point of injury to discharge from definitive care network.
Combat Support Agency	An organizational body charged to provide department-level and tactical support to the joint operating forces of the U.S. military during combat and other military operations.
Context	Interrelated conditions or circumstances within which something exists or happens. Context is highly influential and must be considered when seeking to understand or assess any emergency management phenomena. Two specific types of context should be considered: jurisdictional/organizational and policy. Jurisdictional/organizational context includes overall disaster experience, economic conditions, hazards and vulnerabilities, the salience regarding emergency management issues, resource constraints, and relationships between entities within the community and levels of government. Policy context includes guidelines for the use of money and other resources, prescriptions for behavior, policy priorities, short-, long-term policy outlooks, and feasibility of policy implementation.
Defense Health Agency	A combat support agency for health and medical operations within the DoD, the Defense Health Agency is charged with developing strategies to contain costs, improve efficiency, and encourage collaboration and opportunities for joint operations between the Military Departments.
Definitive Medical Care	Medical care provided by an NDMS participating facility: for injuries or illnesses resulting directly from a specified public health emergency; or for injuries, illnesses, and conditions requiring essential medical treatment or services to maintain health when such medical treatment or services are temporarily not available as a result of a public health emergency.
Disaster	An event that produces more direct and/or indirect impacts and needs than a community can handle alone. The response to and recovery from these events typically involves some combination of individuals and households, organizations, and jurisdictions at the local, state, and federal level. The response to these events involves significant improvisation, emergence, and convergence. The response to these events typically ends within a short period of time; whereas the recovery period may last years.
Emergency Response	Processes and capabilities related to the immediate response following an incident, emergency, or disaster in a coordinated, timely, and effective manner which are typically focused on life safety, physical, or environmental concerns.

Term	Definition
Emergency Management	Activities associated with creating the framework within which communities or health care facilities reduce vulnerability to hazards and cope with disasters.
FCC	A facility located in a metropolitan area of the United States responsible for the day-to-day coordination of planning and operations in one or more assigned geographic NDMS Patient Reception Areas (PRAs).
Federal Patient Movement	The relocation or evacuation of patients from a disaster site to unaffected areas of the Nation by Federal agencies. This could include movement from places such as the actual incidence scene, the patient's home, a hospital, or nursing home, to a facility within a specific hospital network.
Hazard	A source of danger or an extreme event that has the potential to affect people, property, and/or the natural environment. Hazards vary by type, frequency of occurrence, and potential range of severity or intensity, speed of onset, forewarning, duration, and geographic scope. In some cases, hazards are specific to a geographic location or region.
Impact	The significance of an event. It can be measured as potential or actual consequences. Consequences could include direct (e.g., lives, property, infrastructure) impacts that can be quantified and indirect damages (e.g., loss of community, decrease in tax base of a community, loss of jobs) that cannot be quantified.
Injury	The result of an act that damages, harms, or hurts; unintentional or intentional damage to the body resulting from acute exposure to thermal, mechanical, electrical, or chemical energy or from the absence of such essentials as heat or oxygen.
Medical Logistics	An integral component of health care that provides capabilities to organize and conduct life-cycle management of the specialized medical products and services required to operate an integrated health system anywhere in the world. Medical logistics support operations include medical management of the following functions: medical materiel (which includes procurement, storage, and distribution), medical equipment maintenance and repair, blood management (cold-chain storage, distribution, and disposal), optical fabrication and repair, and patient movement items. It also includes health facilities planning and management, contracting support, medical hazardous waste management and disposal, and production and distribution of medical gases.
Medical Regulating	The action and coordination necessary to arrange for the movement of patients from a port of embarkation to a PRA with the necessary health service support capabilities and available bed space in the NDMS participating hospitals in its area.
NDMS	An Emergency Support Function #8 federally coordinated health care system comprised of HHS, DHS/Federal Emergency Management Agency, DoD, and VA. The three components are Medical Response

Term	Definition
	(Lead HHS), Patient Movement (Lead DoD), Definitive Care (Lead DoD/VA).
National Disaster Medical System Federal Partners	The Federal departments (DoD, HHS, VA, and DHS) that are signatories to the NDMS Federal Partners Memorandum of Agreement.
Near-Peer Conflict	A military conflict with a contemporary country or a country that is almost a contemporary with the United States in terms of military and economic power.
Patient Regulating	The actions and coordination necessary to arrange for the movement of patients through the roles of care and to match patients with a medical treatment facility that has the necessary health service support capabilities and available bed space.
Patient Tracking	Identifying and registering names of the injured, recording their information and medical conditions, prioritizing schedules for evacuation of them from points of injury in accordance with the color of triages, and tracking and positioning them from scenes to reaching medical centers and then through the end of the treatment course and their discharging states.
Performance Improvement/ Quality Improvement	Method for evaluation and improving processes that uses a multidisciplinary approach and focuses on data, benchmarks, and components of the system being evaluated.
Preparedness	State of readiness to respond to, recover from, and mitigate against hazard events. The state of readiness varies from place-to-place, organization-to-organization, and over time.
Public Health Emergency	An emergency requirement for health care services to respond to a disaster, significant outbreak of an infectious disease, bioterrorist attack, or other significant or catastrophic event. For purposes of NDMS activation, a public health emergency may include, but is not limited to, public health emergencies declared by the Secretary of HHS in accordance with 42 U.S.C. § 247d; or a declaration of a disaster or emergency in accordance with the Stafford Act.
Readiness	The total military workforce is medically ready to deploy, and the military medical force is ready to deliver health care in support of the full range of military operations, domestically and abroad.
Recovery	A differential and complex process by which individuals and households, organizations, and jurisdictions seek to restore, rebuild, and/or reshape that which has been directly or indirectly impacted by a hazard event (adapted from Smith and Wenger 2006, 237). It is also a state of being wherein those impacted have restored, rebuilt, and/or reshaped all that was impacted by the event. The extent any entity has achieved this state can be assessed at any point by comparing their/its pre-event status relative to each dimension of the concept to their post-event status. Recovery is multi-dimensional. Dimensions of the concept vary by unit of analysis.

Term	Definition
Response	The immediate actions taken before, during, or after a hazard event to save lives, property, and/or the environment.
Situational Status Reporting	A report giving the situation of the area of a reporting unit or formation.
Specialized Training	Training provides first responders, homeland security/defense officials, emergency management officials, private and non-governmental partners, Federal, interagency partners and other personnel with the knowledge, skills, and abilities needed to perform key tasks required by specific capabilities. Organizations make training decisions based on information derived from assessments, strategies, after action reports, and plans. Exercises are tailored to simulate conditions of a disaster. This is essential to test personnel in their use of equipment and to establish smooth coordination and working relationships with partner facilities.
Staffing	The clinical and non-clinical personnel required to evaluate, care for, and meet patient needs during a medical surge event that entails a markedly increased volume of patients that exceeds normal operating capacity. This includes, but is not limited to, physicians, nurses, technologists, incident managers, health care administrators, case managers, and operations functions (e.g., waste management and facilities). Staffing during a medical surge event also considers strategies to adjust ratios and shifts as required, such as calling back staff or implementing staff sharing plans with other facilities to meet increased volume.
Stakeholder	Any individual, group, or government entity that has something to gain or lose from the creation of, interaction with, or coping with hazards, risks, vulnerabilities, and associated events.
Surveillance	The regular or repeated collection, analysis, and interpretation of health-related data and the dissemination of information to monitor the health of a population and to identify potential health risks, thereby enabling timely interventions to prevent, treat, reduce, or control disease and injury, which includes occupational and environmental health surveillance and medical surveillance subcomponents.
Telemedicine	Rapid access to shared and remote medical expertise by means of telecommunications and information technologies to deliver health services and exchange health information for the purpose of improving patient care.