# AN EXAMINATION OF THE RESPONSE OF U.S. ARMY RESERVES (COMPO 3) MEDICAL UNITS DURING THE COVID-19 PANDEMIC

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

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Homeland Security Studies

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The activation of the U.S. Army Reserves, was part of the Department of Defense support to the Federal Emergency Management Agency's whole of government response to the COVID-19 pandemic. The U.S. Army Reserve (COMPO 3) and the Army National Guard medical units supported communities across the U.S. in their fight against COVID-19. U.S. Army Reserves and National Guard units supported the Federal Emergency Management Agency (FEMA), and other government agencies as directed by providing direct patient care as well as critical resources. The current activation framework, while adequate for previous pandemics may not be adequate to handle a pandemic that affected everything in the nation. Given the unique capabilities and activation rates of the United States Army Reserve medical units, they may be best equipped to handle pandemics. The research explored how the U.S. Army Reserve and the Army National Guard medical unit's activation rates contributed to the whole of government response as well as examined how activation rates could be managed for future pandemics and natural disasters.

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

AN EXAMINATION OF THE RESPONSE OF U.S. ARMY RESERVES (COMPO 3) MEDICAL UNITS DURING THE COVID-19 PANDEMIC, by Rodney Hayward, 98 pages.

The activation of the U.S. Army Reserves, was part of the Department of Defense support to the Federal Emergency Management Agency's whole of government response to the COVID-19 pandemic. The U.S. Army Reserve (COMPO 3) and the Army National Guard medical units supported communities across the U.S. in their fight against COVID-19. U.S. Army Reserves and National Guard units supported the Federal Emergency Management Agency (FEMA), and other government agencies as directed by providing direct patient care as well as critical resources. The current activation framework, while adequate for previous pandemics may not be adequate to handle a pandemic that affected everything in the nation. Given the unique capabilities and activation rates of the United States Army Reserve medical units, they may be best equipped to handle pandemics. The research explored how the U.S. Army Reserve and the Army National Guard medical unit's activation rates contributed to the whole of government response as well as examined how activation rates could be managed for future pandemics and natural disasters.

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ACRONYMS

| | |
|---|---|
| AMEDD | U.S. Army Medical Department |
| APMC | AMEDD Professional Management Command |
| AR-MEDCOM | U.S. Army Reserve Medical Command |
| ARNG | Army National Guard |
| ASPR | Assistant Secretary for Preparedness and Response |
| ATP | Army Techniques Publication |
| BDE | Brigade |
| CDC | Center for Disease Control |
| COMPO | Composition |
| COMPO 2 | National Guard |
| COMPO 3 | U.S. Army Reserves |
| CONUS | Continental United States |
| COVID | Coronavirus |
| DHA | Defense Health Agency |
| DoD | Department of Defense |
| DSCA | Defense Support of Civil Authorities |
| EVD | Ebola Virus Disease |
| FEMA | Federal Emergency Management Agency |
| FORSCOM | Forces Command |
| FOUO | For Official Use Only |
| HA | Hemagglutinin |
| HSP | Hospital |
| HHS | Health and Human Services |

| | |
|---|---|
| HSS | Health Service Support |
| ID | Infantry Division |
| IRR | Individual Ready Reserve |
| JFLCC | Joint Force Land Component Commander |
| MARSG | Medical Area Readiness Support Group |
| MEDCOM | Medical Command |
| MERS | Middle East respiratory Syndrome |
| MTF | Medical Treatment Facility |
| SARS | Severe Acute Respiratory Syndrome |
| SAD | State Active Duty |
| TTP | Tactics Techniques and Procedures |
| UAMTF | Urban Augmentation Medical Task Forces |
| USAID | U.S. Agency for International Development |
| USNORTHCOM | U.S. Northern Command |
| WHO | World Health Organization |

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# CHAPTER 1

# INTRODUCTION

## Introduction

Pandemics result from the emergence of a virus or pathogen that is new to the human population.[1] This can also occur when a virus that has undergone a mutation allows it to jump from one species to another species, called cross species transmission. Through cross species transmission, viruses can spread very quickly to humans across the globe via urbanization, public transportation, air travel, or through other forms of transportation as the world is interconnected. When a person's immune system does not have the ability to fight off viruses that have undergone cross species transmission then the virus can spread quickly throughout a population. An example using the COVID-19 Pandemic is that the SARS-CoV-2 is the virus and COVID-19 is the disease it causes. When not properly controlled, the disease itself can spread rapidly to unsuspecting human populations resulting in a pandemic.

Influenza is a zoonotic virus that affects many species of birds and mammals. Zoonotic means that the virus is able to jump from animals to humans.[2] The hemagglutinin (HA) protein is found on the surface of the influenza virus particle and is responsible for binding to receptors on animal cells.[3] Once this binding occurs infection ensues.[4] Hemagglutinin can be the target of the host's immune system and "thus for influenza to spread in a new host, the HA protein must acquire the ability to bind to the new host's cells."[5] Once in the new host, the HA protein mutates and changes to evade

the host's immune system. Pandemics occurs when a virus enters the human body and the human body does not have prior immunity to this virus.[6]

Unfortunately, pandemics occurred quite often in the past and are not new. Two pandemics will be briefly discussed for context which are the 1889 Flu Pandemic and the Hong Kong Flu. The 1889 pandemic was caused by a H2-like virus, which affected people 11 to 20 years of age.[7] Out of the 18 virus subtypes, only "H1, H2, and H3 have been known to cause influenza pandemics, suggesting that these subtypes are capable of sustained transmission in humans."[8] Although H1 and H3 viruses have cocirculated in humans since 1977, H2 influenza viruses have not circulated in humans since 1968 thus a large segment of the population would likely be susceptible to infections should a H2 influenza virus reemerge.[9] The virus affected males more than females; however, the overall mortality rate was relatively low.[10] The first wave was in the spring of 1889, the second wave peaked in the spring of 1891, which was over a year after the first wave, and the third wave peaked early in 1892.[11] The 1889 Flu Pandemic took three years to spread across the world.

The Hong Kong flu was the first opportunity to observe a vaccination response in a large part of the population as tests of the virus showed it to be unlike any previously found in humans. Deaths from the 1968's Hong Kong flu were predominantly in people 65 years and older.[12] The virus spread across Asia, the U.S., and then onto to Europe. Disease severity and mortality rates were low as interventions, such as school closures or quarantines, were unnecessary. Control of the Hong Kong flu was based on a combination of vaccinations, hospitalizations for complicated cases, and an antibiotics to

regiment to treat pneumonia.[13] These control measures limited the severity; however, the virus also continues to circulate around the world as a seasonal influenza A virus.[14] Five flu pandemics have occurred in the past: (1) the 1889 flu, (2) the 1918 Spanish flu (H1N1 virus) that killed 40 million people worldwide (675,000 in U.S.), (3) the 1957's Asian flu (H2N2 virus) that killed around 1.1 million worldwide (116,000 in U.S.), (4) 1968's Hong Kong flu (H3N2 virus) that killed around 1 million people worldwide (100,000 in U.S.), and (5) the 2009 H1N1 (H1N1) flu pandemic that killed over 575,400 people worldwide (12,469 in the U.S.) (table 1).[15]

Table 1. U.S. vs Worldwide Pandemic Deaths

| **Pandemic** | **U.S. Deaths** | **Worldwide Deaths** |
|---|---|---|
| 1918 Spanish Flu | 675,000 | 40,000,000 |
| 1957's Asian Flu | 116,000 | 1,100,000 |
| 1968's Hong Kong Flu | 100,000 | 1,000,000 |
| 2009 H1N1 | 12,469 | 575,400 |
| COVID-19 Pandemic | 572,190 | 3,308,508 |

*Source:* Created by author using data from Centers for Disease Control and Prevention, "Influenza (Flu): 2009 H1N1 Pandemic (H1N1pdm09 Virus)," U.S. Department of Health & Human Services, June 11, 2019, https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html; Centers for Disease Control and Prevention, "United States COVID-10 Cases, Deaths, and Laboratory Testing (NAATs) by State, Territory, and Jurisdiction," U.S. Department of Health & Human Services, accessed March 16, 2021, https://covid.cdc.gov/covid-data-tracker/#cases_totalcases.

The severity of an influenza infection is determined by how many cells the virus infects before being stopped by the body's immune system.[16] Therefore, a virus can

infect more cells, either because it replicates exceptionally well or because it infects cells not normally targeted by influenza.[17] The severity of a pandemic, then, will be determined by the inherent virulence of the virus and by the immune status of the population. Once the body produces antibodies to the virus, the inflection will slowly cease in the body.[18]

Due to the severity of the 1918 Spanish Flu Pandemic, the U.S. Public Health Service closed gyms, theaters, restaurants, banned funerals, and prohibited religious gatherings. Isolation and quarantine orders were also given. Masks were also required to wear anytime outside of one's home. This mitigation strategy was very similar to the COVID-19 Pandemic mitigation strategy. "Many public health officials resisted and delayed community mitigation measures under pressure from civil authorities who believed morale, and subsequently wartime productivity" could suffer if mitigation strategies were put in place.[19]

Figure 1 is a newspaper article from Seattle Daily Times that illustrates the mitigation strategies used during the 1918 Pandemic. Medical care during the 1918 pandemic was in its infancy as flu viruses had not been isolated, influenza could not be diagnosed from other respiratory ailments, influenza vaccines had not been developed, and antibiotics for the treatment of secondary bacterial infections had not yet been discovered.[20] Respirators did not exist and intensive care units were not available until the 1950s. This lack of medical interventions increased complications and the death rate from the virus.

Help Bar Deadly Influenza From Seattle

By DR. J. D. TUTTLE,
State Health Commissioner

Don't get into crowds, don't cough or sneeze without using a handkerchief, get plenty of fresh air, and when the symptoms of a cold appear isolate yourself as far as possible from others.

By SURGEON GENERAL RUPERT BLUE,
U. S. Public Health Service

First there is a chill, then fever, headache, backache, reddening of the eyes, aches all over the body and general prostration. Persons so attacked should go to bed at once and call a physician.

NIGHT EXTRA | FOR INFORMATION Call Main 300

The Seattle Daily Times

TIMES WHISTLE SIGNALS

12 Pages. SEATTLE, WASHINGTON, SATURDAY EVENING, OCT. 5, 1918. Price 3c

CHURCHES, SCHOOLS, SHOWS CLOSED

EPIDEMIC PUTS BAN ON ALL PUBLIC ASSEMBLIES

MR. LOVERING'S COMMENT

SEATTLE TO MAKE FIGHT

We can't draw on your ...mation for expenses ... Put over that

AMERICANS AND FRENCH

Figure 1. Newspaper Article in 1918 Illustrating Public Health Notices

*Source:* UNC Gillings School of Global Public Health, "1918 Pandemic," University of North Carolina, Chapel Hill, NC, April 4, 2018. https://sph.unc.edu/files/2018/04/COMM_going_viral_digital_program_hero_image_11.jpg.

The 1918 Spanish Flu Pandemic had two spikes. The first spike was during the spring as the virus spread slowly and deaths were few. However, the second spike happened in the fall, as people developed a deadly pneumonia that caused severe bleeding in their lungs when compared to spring. [21] The higher death rates in the fall were attributed to a mutation (mutation in the hemagglutinin) that helped the virus adaptable to the human body it attacked the alveoli of the lungs. Alveoli are tiny air sacs in the lungs that take up the oxygen a person breathes in (figure 2). Figure 2 shows a healthy alveoli compared to alveoli with pneumonia. The pneumonia alveoli are inflamed and fluid filled which led to death by suffocation as the lungs could no longer exchange oxygen. The Spanish Flu swept across the world killing 20 to 50 million people making it

the one of the deadliest epidemics in modern history.[22] The number of deaths is highly debated but epidemiologists stated that around 20 million people died at the low end and 40-50 million died at the high end.[23] Due to commerce, travel, and people able to traverse the world in a matter of days, the flu was worldwide in six months and killing around 10,000 per week at the height of the pandemic in some U.S. cities.[24]

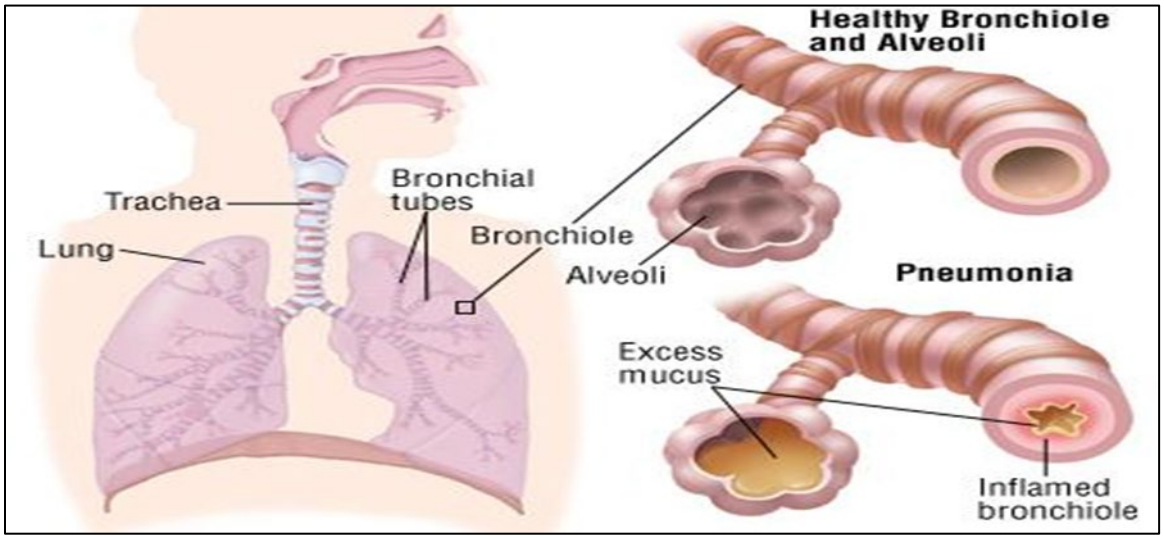


Figure 2. Shows a Healthy Alveoli Compared to Alveoli with Pneumonia

*Source:* Micah M., "Respiratory," Chegg Inc., accessed January 19, 2021, https://www.chegg.com/flashcards/respiratory-d97fe432-59c2-4b87-aa2f-2b0e451c8322/deck.

Coronaviruses are a large family of viruses that can cause illness in animals or humans. In humans, coronaviruses normally cause respiratory infections.[25] The family of coronaviruses "range from the common cold to more severe diseases such as severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), and COVID-19."[26] The Coronavirus Pandemic (COVID-19) was caused by a new coronavirus first

identified in Wuhan, China, in December 2019.[27] SARS-CoV-2 was a new coronavirus never before seen in humans. The exact source of the virus has not been identified; however, it is believed that the emergence of this virus was from an animal reservoir which is believed to be a bat.[28] COVID-19 is primarily transmitted from person-to-person through respiratory droplets. Respiratory "droplets are released when someone with COVID-19 sneezes, coughs, or talks."[29] A person becomes sick when infectious droplets land in the mouth, nose, or inhaled into the lungs. As of May 11, 2021 COVID-19 the United States had 32,571,814 cases and 579,366 deaths.[30]

Viruses constantly change through mutations that produce new variations of the virus over time. In May 11, 2021, there were three variants of the SARS-CoV-2 virus: the United Kingdom (UK) variant, the South African variant, and the Brazilian variant.[31] "These variants spread more easily and quickly than other variants, which could lead to more cases of COVID-19."[32] If COVID-19 cases increased due to the "variants it could strain health care resources, lead to more hospitalizations, and potentially lead to more deaths."[33]

In the wake of the COVID-19 Pandemic in the United States, hospitals suffered in areas that were not the epicenters of the COVID-19 outbreaks.[34] As state and nation-wide lockdowns ensued, civilian hospitals saw fewer patients. This lower patient load caused many health care workers to travel to COVID-19 hotspots to provide assistance, which included a significant number of furloughed healthcare workers.[35] Hospitals in COVID-19 hotspots needed healthcare workers to support the surge in COVID-19 cases. Due to this demand, thousands of healthcare workers "took temporary jobs" in COVID-19

hotspots to either gain employment from "being furloughed" or just wanting to help.[36] The United States had an abundance of available healthcare workers because "governors shut down elective procedures to conserve hospital capacity and protective gear."[37]

Healthcare workers across America, especially nurses, "have been flooded through Facebook messages and emails with recruitment advertisements, some promising up to $13,000 per week including travel expenses with lodging expenses for temporary jobs at hospitals in COVID-19 hotspots."[38] In March to July 2020, the COVID-19 hotspots in the United States were Alabama, Arizona, Arkansas, California, Delaware, Florida, Georgia, Idaho, Iowa, Kansas, Louisiana, Mississippi, Nevada, North Carolina, Oklahoma, South Carolina, Tennessee, New York, Texas, and Utah.[39] National Guard and U.S. Army Reserve Units were activated in the states listed above.

The activation of the U.S. Army Reserves was part of the Department of Defense support to the Federal Emergency Management Agency's whole-of-government response to the COVID-19 Pandemic. One of the reserves' main missions was to "maintain a force that could mobilize rapidly and skillfully at any moment to respond to a crisis or situation or to defend America's interests at home and abroad."[40] U.S. Army Reserve Composition (COMPO) 3 members are normally referred as "Citizen Soldiers as they are medical professionals, first responders, and entrepreneurs who run their own businesses."[41] In March 2021, the U.S. Army Reserve had about "two thirds of all the medical professionals in the Army."[42] This was around 8,000 reserve medical professionals (enlisted and officer) working in 119 different medical units throughout the United States.[43] The U.S. Army Reserves also dedicated around 3,000 Soldiers to aid the fight

against the COVID-19 Pandemic.[44] "These "citizen-soldiers" consisted of both Army National Guard and Army Reserve units, represented a force available for rapid activation in times of national need."[45] This research explored one primary research question and two secondary research questions.

## Problem Statement

The rapid spread of COVID-19 within the United States resulted in a significant reduction of available health professionals and first responders in providing adequate assistant to hospitals and patients. The activation of the U.S. Army Reserves was part of the Department of Defense support to the Federal Emergency Management Agency's (FEMA) whole-of-government response to the COVID-19 pandemic.[46] The U.S. Army Reserve (COMPO 3) and the Army National Guard (COMPO 2) actively supported the fight against COVID-19. COMPO 3 supported Federal Emergency Management Agency (FEMA), and other agencies as needed by providing direct patient care and critical resources.[47] The activation of citizen soldiers could have impacted the continuity of healthcare and public safety in some areas when COMPO 2 and 3 personnel were activated to serve in other areas.

## Primary Research Question

How should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19?

## Secondary Research Questions

How did the Army National Guard monitor and manage U.S. Army National Guard personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? What was the impact of not activating any or more U.S. Army Reserve units to support the initial COVID-19 response?

## Significance

In order to adequately answer the research questions towards a better understanding the capabilities of medical units in both the Army National Guard and U.S. Army Reserves had to be examined. It was also significant to understand how units are activated and how the unit's activations affect the surrounding medical capabilities of the surrounding area. As confirmed earlier, the coronavirus (SARS-CoV-2) belongs to the same family of viruses that "cause severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), as well as the four human coronaviruses associated with the common cold."[48] The first reported case of COVID 19 was in Hubei Province, China on November 17, 2019 but it was not recognized as it was new virus; however, in December eight more cases appeared in the province.[49] On 11 March 2020, after reported cases in over 114 countries affecting approximately 118,000 people within a three-month period, "the World Health Organization (WHO), declared the novel coronavirus (SARS-CoV-2) a global Pandemic."[50]

## Assumptions

Medical units in the U.S. Army National Guard and the U.S. Army Reserves have the same capabilities. These medical units including active duty (COMPO 1) are

composed of physicians, physician extenders, and ancillary support such as pharmacy, lab, and x-ray specialists, and administrative specialists such as planners, logisticians, and patient administration. When a medical unit was activated to provide medical support during a pandemic both the National Guard and Army Reserves medical units performed the same functions (i.e., provide medical care) to support the local population where they were deployed.

## Definition of Key Terms

The following terms are defined as part of this thesis and are described below. This is how the terms are used in the context of this thesis.

Centers for Disease Control and Prevention (CDC): "Works 24/7 to protect America from health, safety and security threats, both foreign and in the U.S."[51] To accomplish the CDC's mission, "CDC conducts critical science and provides health information that protects our nation against expensive and dangerous health threats, and responds when these arise."[52] As the nation's health protection agency, "CDC saves lives and protects people from health threats."[53]

Coronavirus (SARS-CoV-2): On February 11, 2020 "the World Health Organization announced an official name for the zoonotic disease causing the 2019 novel coronavirus outbreak which was first identified in Wuhan China."[54] COVID-19 is a disease caused by a novel coronavirus—a new coronavirus strain that has not been previously found in people. "Symptoms include respiratory problems, fever and cough, and can lead to pneumonia and death. Like SARS, it is spread through droplets from sneezes."[55]

Epidemic: "An outbreak of disease that spreads quickly and affects many individuals within a population, community, or region at the same time."[56]

Influenza (Flu): "Is a highly contagious viral infection of the respiratory passages causing fever, severe aching, and often occurring in epidemics."[57] Influenza (flu) is a contagious zoonotic respiratory illness caused by influenza viruses. It can cause mild to severe illness. "Zoonotic diseases are caused by germs that spread between animals, mainly mammals and birds."[58] Flu infections have "led to hospitalizations or deaths."[59] There are two main types of influenza (flu) virus: Types A and B. "The influenza A and B viruses that routinely spread in people (human influenza viruses) are responsible for seasonal flu epidemics each year."[60]

Pandemic: "A pandemic is the worldwide spread of a new/novel disease."[61] An influenza pandemic occurs when a new influenza virus emerges and spreads around the world, and mostly affect people with weak immunity systems, or people who are not immune to the virus.[62] "Viruses that have caused past pandemics typically originated from animal influenza viruses."[63]

Medical Unit: An U.S. Army Reserve or U.S. Army National Guard medical assets that can execute medical operations across the full spectrum of combat healthcare service and support.[64]

Mobilization (Partial): Declared by the President in time of national emergency.[65] "No more than 1,000,000 reservists can be on active duty and can lasts 24 consecutive months or less."[66]

Mobilization (Full): Declared by Congress, in time of war or national emergency.[67] "No limit on numbers of soldiers called to active duty and can last for the duration of war plus six months."[68]

COMPO 1 (Active Duty): Active duty means full-time duty in the active military service of the U.S. Title 10.[69] It allows the President to "federalize the National Guard forces by ordering them to active duty in their reserve component status or by calling them into Federal service."[70]

COMPO 2 (U.S. Army National Guard): "Any governor or the president himself can call on the Guard at a moment's notice."[71] "The National Guard are the only United States military force that operates across both State and Federal responses, leveraging State Active Duty (SAD), Full-Time National Guard Duty (Title 32) and Active Duty (Title 10)."[72] "Full-time National Guard Duty means training or other duty, other than inactive duty, performed by a member of the National Guard."[73] Title 32 allows the Governor, "with the approval of the President or the Secretary of Defense, to order a member to duty for operational Homeland Defense activities."[74]

COMPO 3 (U.S. Army Reserve): The Army Reserve is the Army's pool of extra resources and personnel. Reserve Soldiers perform critical Army jobs on a part-time basis. "Army Reserve Soldiers serve part time, allowing them to work a civilian job while still maintaining many of the benefits of military service."[75]

World Health Organization (WHO): "WHO is the directing and coordinating authority on international health within the United Nations (UN) system."[76] The World Health Organization "set standards for disease control, health care, and medicines;

conducts education and research programs; and publishes scientific papers and reports."[77] One major goal of "WHO is to improve the access to health care for people in developing countries and in groups who do not have adequate health care."[78]

## Limitations

A limitation of this research was the use of open-source information to conduct this research and information classified as For Official Use Only (FOUO) material had to be omitted from this research. Therefore, in order to keep the work available to all interested parties, unclassified information was used. Particular unit names or locations were not mentioned due the classification of certain activities. The active-duty medical units' response was omitted in this research. The COVID-19 Pandemic is an ever-changing environment in the U.S. and things change daily; however, all items written were up to date when published. This research may not account for all of the U.S. Army National Guard medical units or U.S. Army Reserves medical units tasked to support the COVID-19 Pandemic.

## Delimitations

This research was restricted to only the medical units in the U.S. Army Reserve and the U.S. Army National Guard. These medical units responded to the bulk of the COVID-19 responses in the United States. By only covering U.S. Army Reserve and the U.S. Army National Guard medical units restricted the topic enough to establish a conceptual framework of support. This research was therefore be manageable within the time constraints established through the Master in Military Arts and Science (MMAS) program.

## Significance of Study

This research could improve how and when U.S. Army Reserve and the Army National Guard respond to future pandemics. Included are what capabilities the medical units used to curve the spread of COVID-19 as well as how the medical units aided the local population in testing patients, treating patients, and medical logistics assistance. This research discussed what happens in local communicates when the government activated U.S. Army Reserve and the U.S. Army National Guard healthcare professionals in response to national emergencies. The activation could limit the local community medical response by moving them out of the local community to move them to another location in the state, continental U.S., or the world.

## Summary and Conclusions

The purpose of this research was to study how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? This is a topic is of immense importance as it not only affected the military but the communities where the reserve Soldiers worked and the areas that they had supported when activated. As the U.S. continued to battle the COVID-19 Pandemic, military medical units aided in the fight and curved infection rates in the locations where they are activated. When Army Reserves responded domestically or abroad the activation could possibly hurt the local community as well as COVID-19 relief efforts from which the Soldiers where activated. In this scenario, Soldiers would leave their civilian jobs in their local community to aid in the response efforts in another location. Additionally, the activation location and

deployment location could have had low COVID-19 cases that the activated medical units could not contribute to curving infection rates or did not have a signification contribution in activated locations.

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[1] U.S. Government Accountability Office (GAO), GAO-06-1109T, "Reserve Forces: Army National Guard and Army Reserve Readiness for 21st Century Challenges," (Statement of the Record by Janet A. St. Laurent, Director Defense Capabilities and Management. Statement for the Record to the Commission on the National Guard and Reserves, United States Government Accountability Office, House of Representatives, GAO, Washington, DC, September 21, 2006), https://www.govinfo.gov/content/pkg/GAOREPORTS-GAO-06-1109T/html/GAOREPORTS-GAO-06-1109T.htm.

[2] Antoni Trilla, Guillem Trilla, and Carolyn Daer. "The 1918 'Spanish Flu' in Spain," *Clinical Infectious Diseases* 47, no. 5 (September 2008): 668-673, https://doi.org/10.1086/590567.

[3] Ann H. Reid, Thomas G. Fanning, Johan V. Hultin, and Jeffery K. Taubenberger, "Origin and Evolution of the 1918 'Spanish' Influenza Virus Hemagglutinin Gene," *Proceedings of the National Academy of Sciences of the United States of America* 96, no. 4 (February 1999): 1651–1656, https://doi.org/10.1073/pnas.96.4.1651.

[4] Ibid., 1652.

[5] Ibid., 1654.

[6] Trilla, Trilla, and Daer, "The 1918 'Spanish Flu' in Spain," 670.

[7] Kennedy F. Shortridge, "The 1918 'Spanish' Flu: Pearls from Swine?" *Nature Medicine* 5 (April 1999): 384–385, https://doi.org/10.1038/7383.

[8] Grace L. Chen, Elaine W. Lamirande, Xing Cheng, Fernando Torres-Velez, Marlene Orandle, Hong Jin, George Kemble, and Kanta Subbarao, "Evaluation of Three Live Attenuated H2 Pandemic Influenza Vaccine Candidates in Mice and Ferrets," *Journal of Virology* 88, no. 5 (March 2014):2867-2876, https://jvi.asm.org/content/jvi/88/5/2867.full.pdf.

[9] Ibid., 2868.

[10] Shortridge, "The 1918 'Spanish' Flu," 384.

[11] Ann H. Reid, Jeffery K. Taubenberger, and Thomas G. Fanning, "The 1918 Spanish Influenza: Integrating History and Biology," *Microbes and Infection* 3, no. 1 (January 2001): 81−87, https://doi.org/10.1016/s1286-4579(00)01351-4.

[12] Edwin D. Kilbourne, "Influenza Pandemics of the 20th Century," *Emerging Infectious Diseases* 12, no. 1 (January 2006): 9-14, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3291411/.

[13] Patrick R. Saunders-Hastings and Daniel Krewski, "Reviewing the History of Pandemic Influenza: Understanding Patterns of Emergence and Transmission," *Pathogens* 5, no. 4 (December 2016): 1-19, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5198166/.

[14] Kilbourne, "Influenza Pandemics of the 20th Century," 10.

[15] Centers for Disease Control and Prevention (CDC), "Influenza (Flu): 2009 H1N1 Pandemic (H1N1pdm09 Virus)," U.S. Department of Health & Human Services, June 11, 2019, https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html.

[16] Reid, Taubenberger, and Fanning, "The 1918 Spanish Influenza," 83.

[17] Ibid.

[18] Ibid., 84.

[19] Barbara Jester, Timothy M. Uyeki, Daniel B. Jernigan, Terrence M. Tumpey, "Historical and Clinical Aspects of the 1918 H1N1 Pandemic in the United States," *Virology* 527 (January 2019): 32-37, https://pubmed.ncbi.nlm.nih.gov/30453209/.

[20] Ibid., 33.

[21] Reid, Taubenberger, and Fanning, "The 1918 Spanish Influenza," 85.

[22] Trilla, Trilla, and Daer, "The 1918 'Spanish Flu' in Spain," 668-673.

[23] Reid et al., "Origin and Evolution of the 1918 'Spanish' Influenza Virus Hemagglutinin Gene," 1651–1656.

[24] Ibid., 1652.

[25] Centers for Disease Control and Prevention (CDC), "COVID-19 Overview and Infection Prevention and Control Priorities in Non-US Healthcare Settings," U.S. Department of Health & Human Services, February 26, 2021, https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/overview/index.html.

[26] Ibid.

[27] Centers for Disease Control and Prevention (CDC), "About COVID-19," U.S. Department of Health & Human Services, September 1, 2020, https://www.cdc.gov/coronavirus/2019-ncov/cdcresponse/about-COVID-19.html.

[28] Ibid.

[29] CDC, "COVID-19 Overview and Infection Prevention and Control Priorities in Non-US Healthcare Settings."

[30] Centers for Disease Control and Prevention (CDC), "United States COVID-10 Cases, Deaths, and Laboratory Testing (NAATs) by State, Territory, and Jurisdiction," U.S. Department of Health & Human Services, accessed March 16, 2021, https://covid.cdc.gov/covid-data-tracker/#cases_totalcases.

[31] Centers for Disease Control and Prevention (CDC), "About Variants of the Virus That Causes COVID-19," U.S. Department of Health & Human Services, February 12, 2021, https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant.html.

[32] Ibid.

[33] Ibid.

[34] Alex Ebert, "Medical Headhunters Drawing Thousands of Nurses to Virus Hotspots," Bloomberg Law, April 20, 2020, https://news.bloomberglaw.com/health-law-and-business/medical-headhunters-drawing-thousands-of-nurses-to-virus-hotspots.

[35] Ibid.

[36] Ibid.

[37] Ibid.

[38] Ibid.

[39] Alexandra M. Oster, Gloria J. Kang, Amy E. Cha, Vladislav Beresovsky et al., "Trends in Number and Distribution of COVID-19 Hotspot Counties - United States, March 8-July 15, 2020," *Morbidity and Mortality Weekly Report* 69, no. 33 (August 2020): 1127-1132, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7439980/.

[40] Timothy S. Allison-Aipa, Gabriel M. De La Rosa, Melba C. Stetz, and Carl A. Castro, "The Impact of National Guard Activation for Homeland Defense: Employers' Perspective," *Military Medicine* 170, no. 10 (October 2005): 846–850, https://doi.org/10.7205/MILMED.170.10.846.

[41] Anthony L. Taylor, "Army Reserve Chicago-Based Command Acquires New Mission," U.S. Army, September 20, 2020, https://www.army.mil/article/239099/army_reserve_chicago_based_command_acquires_new_mission.

[42] Kenneth Scott, "San Antonio Army Reserve Nurse Assists with Federal COVID Response in Arizona," U.S. Army Reserve, March 15, 2021, https://www.usar.army.mil/News/Article/2537290/san-antonio-army-reserve-nurse-assists-with-federal-covid-response-in-arizona/.

[43] U.S. Army Reserve, "Army Reserve Medical Command," accessed February 4, 2021, https://www.usar.army.mil/Commands/Functional/ARMEDCOM/About-Us/.

[44] U.S. Army National Guard, "National Guard National Response to COVID-19," May 15, 2020, accessed December 27, 2020, https://www.nationalguard.mil/Resources/Press-Releases/Article/2212977/national-guard-response-to-covid-19/.

[45] James A. Naifeh, Robert J. Ursano, Ronald C. Kessler, Oscar I. Gonzalez, Carol S. Fullerton, Holly B. Herberman Mash, Charlotte A. Riggs-Donovan, Tsz Hin Hinz Ng, Gary H. Wynn, Hieu M. Dinh, Tzu-Cheg Kao, Nancy A. Sampson, and Murray B. Stein, "Suicide Attempts among Activated Soldiers in the U.S. Army Reserve Components," *BMC Psychiatry* 19, no. 31 (January 2019): 1-11, https://doi.org/10.1186/s12888-018-1978-2

[46] U.S. Congress, House, *FEMA's Natural Disaster Preparedness and Response Efforts During the Coronavirus Pandemic*: *Testimony of Peter Gaynor, Administrator, Federal Emergency Management Agency, U.S. Department of Homeland Security, before the Committee on Oversight and Reform, Subcommittee on the Environment* (Washington, DC, July 24, 2020), https://www.fema.gov/fact-sheet/femas-natural-disaster-preparedness-and-response-efforts-during-coronavirus-pandemic.

[47] Allison-Aipa et al., "The Impact of National Guard Activation for Homeland Defense," 846–850.

[48] Domenico Cucinotta and Vanelli Maurizio, "WHO Declares COVID-19 a Pandemic," *Acta Bio-Medica* 91, no. 1 (March 2020): 157–160, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7569573/.

[49] Ibid., 158.

[50] Allison-Aipa et al., "The Impact of National Guard Activation for Homeland Defense," 848.

[51] Centers for Disease Control and Prevention (CDC), "Mission, Role and Pledge," U.S. Department of Health & Human Services, May 13, 2019, https://www.cdc.gov/about/organization/mission.htm.

[52] Ibid.

[53] Ibid.

[54] History.com Editors, "Pandemics That Changed History," History, updated December 21, 2020, https://www.history.com/topics/middle-ages/pandemics-timeline.

[55] Centers for Disease Control and Prevention (CDC), "Influenza (Flu): Questions and Answers," U.S. Department of Health & Human Services, May 15, 2017, https://www.cdc.gov/flu/pandemic-resources/basics/faq.html.

[56] Merriam-Webster, "'Pandemic' vs. 'Epidemic'," accessed March 16, 2021, https://www.merriam-webster.com/words-at-play/epidemic-vs-pandemic-difference.

[57] Lexico, "Influenza," accessed April 30, 2021, https://www.lexico.com/en/definition/influenza.

[58] History.com Editors, "Pandemics That Changed History."

[59] Ibid.

[60] Centers for Disease Control and Prevention (CDC), "About Flu," U.S. Department of Health & Human Services, September 5, 2019, https://www.cdc.gov/flu/about/index.html.

[61] World Health Organization (WHO), "What Is a Pandemic?" March 12, 2020. https://www.who.int/csr/disease/swineflu/frequently_asked_questions/pandemic/en

[62] Ibid.

[63] Ibid.

[64] U.S. Army Reserve, "3rd Medical Command (Deployment Support): About Us 'Desert Medics'," accessed April 13, 2021, https://www.usar.army.mil/Commands/Functional/3rd-MCDS/About-Us/.

[65] GAO, GAO-06-1109T.

[66] Ibid.

[67] Ibid.

[68] Ibid.

[69] National Guard Association of the United States (NGAUS), "Understanding the Guard's Duty Status," NGAUS Fact Sheet, accessed November 30, 2020, http://giveanhour.org/wp-content/uploads/Guard-Status-9.27.18.pdf.

[70] Ibid.

[71] South Carolina National Guard, "South Carolina National Guard App," accessed August 3, 2021, https://www.scguard.ng.mil/Resources/South-Carolina-National-Guard-App/.

[72] NGAUS, "Understanding the Guard's Duty Status," 1.

[73] Ibid.

[74] Ibid.

[75] ASC, "The U.S. Army Reserve Mission," 1.

[76] World Health Organization (WHO), "Our Values, Our DNA," accessed December 13, 2020, https://www.who.int/about/who-we-are/our-values.

[77] National Cancer Institute at the National Institutes of Health, "World Health Organization," U.S. Department of Health and Human Services, accessed April 30, 2021, https://www.cancer.gov/publications/dictionaries/cancer-terms/def/world-health-organization.

[78] Ibid.

# CHAPTER 2

# LITERATURE REVIEW

The purpose of this literature review was to evaluate the existing literature that related to how should the Army Reserve monitor and manage U.S. Army Reserve medical personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? The research examined a wide range of sources to obtain the necessary information in order to understand the activation procedures that the U.S. Army Reserve and the U.S. Army National Guard medical units use to activate its medical units. The research also examined how the civilian responses were impacted. Establishing a set of peer reviewed documents and articles were essential to determine what the U.S. Army Reserve and the U.S. Army National Guard medical capabilities were as well as what happened when the personnel were taken from their civilian jobs to respond to COVID-19 Pandemic. This review will begin with federal oversight documents, force structure pertinent to COVID-19 Pandemic call up, the role of the Department of Defense during a pandemic, and end with an overview of the case studies used in the study.

The review illustrated the relationship between medical units' activation and the gaps left in the civilian sector when they were taken away. This chapter examined unclassified resources to support the research's primary question: how should the Army Reserve manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? The chapter also addressed the secondary research questions: How did the Army National

Guard monitor and manage U.S. Army National Guard personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? What was the impact of not activating any or more U.S. Army Reserve units to support the initial COVID-19 response?

The world as we knew it had changed as it had not witnessed a pandemic on this level since the 1918 Spanish Flu. COVID-19 is a communicable disease caused by a coronavirus (SARS-CoV-2) that was first identified as the cause of an outbreak of respiratory illness in Wuhan, Hubei Province, People's Republic of China.[1] The COVID-19 Pandemic spread throughout the world at an accelerated rate as people can travel throughout the world in a matter of 8-16 hours. In order to curve the infection rates, in March 2020, the President of the United States Donald J Trump signed Executive Order 13911, which delegated to the Secretary of Homeland Security to respond with health and medical resources to control the spread of SARS-CoV-2 within the United States.[2] There were a wide range of symptoms of COVID-19 and symptoms can appear 2-14 days after exposure to the virus.[3] The symptoms of COVID-19 are: "fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, diarrhea."[4] "The loss of taste or smell and shortness of breath" are key as they distinguish COVID-19 from the common cold and the seasonal flu.[5]

## Federal Oversight

President Trump, authorized Selected Reserve and Certain Members of the Individual Ready Reserve of the Armed Forces to Active Duty through an executive

order.[6] This order allowed the activation of the U.S. Army Reserves and the declared the COVID-19 Pandemic a national emergency as the threat that the novel (new) coronavirus known as SARS-CoV-2 posed to our Nation's healthcare systems was significant.[7] This executive order was a key document as the reserves cannot be activated without the approval of the President or Congress.[8]

Around March 2020, President Trump and the State Governors convened to discuss the pandemic as well as name the Federal Emergency Management Agency (FEMA) as the lead for the recovery mission.[9] FEMA led federal operations on behalf of the White House Corona Task Force, who oversaw the whole-of-government response to the pandemic.[10] All 50 states, the District of Columbia, and five territories, had opted in and had received the notification of an emergency declaration for the COVID-19 Pandemic.[11] During the meeting, the U.S. Public Health Service was tasked to build a drive thru COVID-19 testing model that most states had begun to utilize, medical supplies were prioritized, and they formulated a coordinated response plan. This started the foundation of the response through coordinated efforts, which produced a unity of effort for the COVID-19 Pandemic response in the United States.

President Trump authorized federal support for governors' use of the National Guard to respond to the COVID-19 Pandemic and to facilitate economic recovery in their respective states. This allowed the federal government to maximize their assistance to governors and for National Guard units to remain under State control.[12] Federal Emergency Management Agency (FEMA) also fully funded the emergency assistance activities associated with preventing, mitigating, and responding to the threat to public

health and safety posed by SARS-CoV-2.[13] The U.S. Government recognized that pandemics can take a huge toll on a States' resources and the recovery package allowed the States to focus on economic recovery and COVID-19 mitigation. As a result of executive order "activated U.S. Army National Guard units around the country were able to provide critical support to Governors as the Governors worked to address the needs of their populations who were more vulnerable to the effects of COVID-19, including those in nursing homes, assisted living facilities, and other long-term care or congregate settings".[14]

On March 27, 2020, President Trump "authorized the activation of units and individual Service members in the Selected Reserve and certain members of the Individual Ready Reserve (IRR) to active duty to augment forces for an effective response to the coronavirus outbreak."[15] This was a Partial Mobilization, to activate units in order "to augment forces for the effective response to the coronavirus outbreak."[16]

The Reserve activation mission was a top priority of the DoD that was intended to strengthen the COVID-19 Pandemic response.[17] Activations had to "advance U.S. national security without increasing the risk to the health of the DoD community, or inadvertently diminishing the nation's virus response."[18] The Defense memorandum directed subordinate forces to lean forward "to anticipate demands in emerging COVID-19 hot spots."[19] U.S. Army Reserve units were identified based on five criteria:

> 1) Ability to deliver high quality health care in order to mitigate the impact of the COVID-19 outbreak on the DoD and the American people: 2) De-confliction with all States current and planned use of the National Guard through coordination with the National Guard Bureau: 3) The impact to federal, state and local capabilities particularly for removing personnel from or placing into COVID-19 hot spots areas: as well as activating Reserve Component members

> serving in the local healthcare system or the Department of Veterans Affairs: 4) Identification of Individual Ready Reserve and Retired Reserve through a call for volunteers in priority specialties: and 5) Advanced screening of activated Reserve Service members for SARS-CoV-2 infection.[20]

Number three was a critical component as activating reserve personnel who are serving in a local healthcare system could diminish the capabilities of the healthcare system to serve the local population and service potential SARS-CoV-2 patients. The Secretary of Defense also authorized the following: "1) the activation of members of the Selected Reserve, Individual Ready Reserve and the Retired Reserve, 2) increased screening of the Ready Reserve to determine deployability and availability, and 3) activated Individual Mobilization Augmentees."[21]

In order to preserve the DoD medical capability and capacity the Defense Health Agency (DHA) had the following tasks:

> 1) the augmentation of DoD military treatment facilities when local healthcare systems were at or near capacity, 2) have medical personnel that were deployable as they had to support military operations or augment local healthcare systems, and 3) to be able to augment non-military healthcare systems with scalable medical personnel.[22]

These were the basis of the Individual Mobilization Augmentee Program which was designed to aid in "military contingencies, pre-mobilization, mobilization, sustainment, and demobilization operations."[23]

The Secretary of Defense implemented a stop movement directive and force health protection guidance in order to "preserve force readiness, limit the continuing spread of the coronavirus, and the preservation of the health and welfare of Service members, DoD civilian employees, their families, and the local communities in which

they live."[24] This was implemented to slow the spread of SARS-CoV-2 throughout the military.

The National Guard Bureau and State leaders issued guidance that required units to maintain their deployability while minimizing the risks of SARS-CoV-2 to National Guard members.[25] Guidance stated that "asymptomatic and symptomatic National Guard Soldiers who had a potential exposure to SARS-CoV-2" required a 14-day quarantine.[26]

The military produced documents, intended to help the "DoD minimize risk to military personnel, risk to dependents, and to ensure the readiness of the force was able to continue to execute missions as well as to continuation of support to the U.S.'s domestic and international partners."[27] Building a more lethal force not only included protecting the force from SARS-CoV-2, but also ensuring resources remained focused on the protection and continued readiness of the force.

## Force Structure Pertinent to COVID-19 Call Up

The U.S. Army Reserve Medical Command (AR-MEDCOM) was capable of providing medical, dental and veterinary services as well as providing assistance to civil authorities during an emergency or disaster.[28] Medical units in the U.S. Army Reserve have the same capability as active-duty medical units (table 4). One exception was the Medical Readiness and Training Command who provided and resourced the "joint, multi-national collective training" to medical units for contingency while sustaining the modularity of ready medical forces."[29] In 2020, the AR-MEDCOM had 8,000 Soldiers in 119 medical units located throughout the United States, and had 3,000 Soldiers mobilized to aid in the COVID-19 Pandemic.[30] The AR-MEDCOM was able to do the following:

"1) backfill medical professionals to military medical facilities, 2) the augment civilian medical facilities, 3) conduct blood support, 4) conduct veterinary support, and 5) maintain the proficiency of low-density, high-demand medical specialties."[31]

The U.S. Army Reserve Medical Command "was a direct-reporting unit to the United States Army Reserve Command and was a medical force provider for Forces Command (FORSCOM), as well as to the U.S. Army Medical Command (USAMEDCOM)."[32] AR-MEDCOM was based in Pinellas Park, Florida, with the following subordinate units:

> 1) U.S. Army Medical Department (AMEDD) Professional Management Command (APMC) at Forest Park, Georgia, 2) Central Medical Area Readiness Support Group (CE-MARSG) at Fort Sheridan, Illinois, 3) Medical Readiness and Training Command (MRTC) at Fort Sam Houston, Texas, 4) Northeast Medical Area Readiness Support Group (NE-MARSG) at Fort Wadsworth, New York, 5) Southeast Medical Area Readiness Support Group (SE-MARSG) at Nashville, Tennessee, and 6) Western Medical Area Readiness Support Group (WE-MARSG) at San Pablo, California.[33]

The MARSGs were broken into four geographic regions as units medically responded to problems in their geographic areas: "1) The Eastern MARSG has five battalion sized units, 2) the Western MARSG has four battalion sized units, 3) the Southeastern MARSG has six battalion sized units, and 4) the Northeastern MARSG has two battalion sized units."[34]

## The Role of the Department of Defense during a Pandemic

The DoD was the supporting agency to the Department of Health and Human Services (HHS) under the direction of FEMA to respond to pandemics. In response to the COVID-19 Pandemic, President Trump declared two national emergencies under the authority of the Robert T. Stafford Disaster Relief and the Emergency Assistance Act.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 empowered the Federal Emergency Management Agency (FEMA) to direct how the U.S. government responds to disasters and is designed to assist state and local governments during disasters. The Stafford Act allowed the "government to gather additional resources to deal with the coronavirus and allowed states to request up to 100% federal cost-share for expenses related to mitigation efforts."[35] Robert T. Stafford Disaster Relief Act allowed the federal government, with the help of FEMA to support the Department Health and Human Services (HHS), by supporting operations that prevented and responded to the spread of COVID-19 using the National Guard.[36] Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act the President can declare a state of emergency or major disaster in the affected state either based on a governor's request, or through an emergency declaration from the President. Once a declaration by the President or governor is made, the President then directed the DoD to assist with relief operations by providing essential services like food, water, and shelter to victims or providing resources to aid in recovery efforts.

The *National Strategy for Pandemic Influenza Implementation Plan* specified that the DoD's role during a flu pandemic comprised of: "assisting in disease surveillance; assisting partner nations through military-to-military assistance; protecting and treating U.S. forces and dependents; and providing support to civil authorities in the U.S."[37] National Guard units were guaranteed to respond to domestic issues and recovery efforts as they are one of the main units States call upon to help during domestic incidents.[38] During the mobilization of National Guard and Reserve units to a pandemic, response

and recovery efforts could be slowed when medical personnel were pulled out of local hospitals. This could undermine local response efforts where they are already engaged in patient care in their local community.[39]

The composition of the U.S. National Guard consisted "of 54 separate National Guard organizations: one for each state, and one each for Puerto Rico, Guam, the U.S. Virgin Islands, and the District of Columbia."[40] There was one exception as "the District of Columbia National Guard was an exclusively federal organization and operated under federal control at all times."[41] "If Reserve Component medical personnel were required to respond to a pandemic, the military had to use Reserve forces first, so National Guard forces were able to complete their state-based missions."[42] When Reserve and National Guard medical personnel are activated they may get pulled from their jobs supporting their local community where they were already engaged in the response effort thus diminishing state and local response efforts.[43] An additional concern was that "National Guard personnel, consisted of a large portion of a state's emergency response force."[44] Therefore, if they were taken then the state's emergency response were severely diminished.

"There remained major concerns that if COVID-19 spreads widely in a community, it will overwhelm the local health care system's ability to care for non-COVID-19 patients."[45] This would create a COVID-19 Pandemic hotspot as the health care facilities would be at or near patient capacity. If a large outbreak (surge) occurred the ability of the health care system to endure an additional hazard and "support the delivery of medical care" would be severely diminished.[46] If a hotspot had National

Guard and Reserve medical personnel who left the local community then that health care system's ability to care for patients would also be greatly diminished. However, if the hotspot had reserve medical augmentees then the medical capacity could be expanded to absorb the influx of patients.

When Soldiers deploy outside of their immediate locations, the staffing and capability shortage could "result in reduced medical treatment facility capabilities, reduced capacity to provide health care services, longer wait times, and some services may not be offered as frequently."[47] Thus, "the medical treatment facility capabilities were dependent on the number and type of Soldiers" that resided in the facility.[48] When the medical treatment facility lost personnel, it could decrease its capabilities and the facility would have to rely on the Reserves or medical personnel from another medical treatment facility to fill the shortages.[49]

U.S. Northern Command (USNORTHCOM) "area of responsibility encompassed the continental United States, Alaska, Canada, Mexico and the surrounding water out to approximately 500 nautical miles."[50] "USNORTHCOM planned, organized and executed homeland defense and civil support missions, but had few permanently assigned forces; USNORTHCOM was assigned forces whenever necessary to execute missions, as ordered by the president or secretary of defense."[51] U.S. Army North (ARNORTH) was the Army's component of U.S. Northern Command (USNORTHCOM). ARNORTH "provided the command and control of the Department of Defense homeland defense efforts as well as coordinated defense support of civil authorities" when called upon for challenges that threaten the homeland.[52] When Reserve or National Guard Medical Units

were in a title 10 status, they were assigned to USNORTHCOM. Appendix A outlines the medical capabilities of all medical units in the Army to include Reserve and National Guard medical capabilities from ATP 4-02.55 (table 4).[53] National Guard and Reserve medical units have the same capabilities as active-duty units. The level and type of medical units used were at the discretion of the commander of the units and depended on what type of mission the medical units were charged to support.

## U.S. Army National Guard Response to the COVID-19 Pandemic

Every state in the U.S. and territories to include Puerto Rico, Guam, and the U.S. Virgin Islands had activated their National Guard in response to the COVID-19 Pandemic.[54] National Guard Soldiers had built mobile COVID-19 test sites to relieve some of the burden of screening emergency room patients for coronavirus at local hospitals. In addition to supporting testing sites and local hospitals, National Guard units assisted in patient transports, supplied medical logistics, screened for COVID-19 at airports, conducted food distribution, and constructed alternate care sites to prevent the inundation of local hospitals.[55] National Guard Units also supported local personal protective equipment training and assisted in respirator testing.[56] Around 44,500 U.S. Army National Guard troops were "activated across the nation to assist efforts to respond to, mitigate, and control the COVID-19 Pandemic."[57]

The National Guard can be activated in three ways. State active duty (Title 32) occurs when the "governor activates state Guard members in support of a particular mission" and the state must bear the cost, as guard units remained under the governor's command.[58] Title 10 status was when the "federal government activated the Guard" and

the federal government bears the cost.[59] During this type of activation all "activated Guard units are placed under the control of the secretary of defense and the president, with an active-duty military officer in the chain of command."[60] Title 32 status is when the National Guard is "activated by and remains under the control of the governor, but the federal government bears all cost."[6158] During the COVID-19 Pandemic response efforts the U.S. used Title 32 to activate the National Guard.

## U. S. Army Reserve COVID-19 Response

The U.S. Army Reserves mobilized 3,000 Soldiers in response to the COVID-19 Pandemic of which 1,200 Soldiers were medical professionals.[62] In response to the COVID-19 Pandemic the Reserves created 15 Urban Augmentation Medical Task Forces. The task force mission was to "provide an expeditionary, deployable, and scalable medical staff (85 personnel) to urban areas to assist with low acuity, medical care in support of the Joint Force Land Component Commander (JFLCC) COVID-19 response."[63] "The Army Reserve provided forces as the force provider to the JFLCC to meet global challenges, and provided support to the FEMA-led national COVID-19 response."[64] In order to create the Urban Augmentation Medical Task Forces (UAMTF), the Army relied on the medical personnel from the Reserves.[65] Activated medical personnel from the Reserves "were vetted to ensure they were not already engaged in the battle against coronavirus in their own communities."[66] "UAMTF consisted of 85 medical personnel, including clinical and administrative staff, operational medicine, infectious disease, preventive medicine, nursing, respiratory therapists, clinical psychologists, occupational therapists, dieticians, pharmacists," and their support staff.[67]

Due their expeditionary missions, "the UAMTF did not have any equipment, any ability to distribute medicines, or an intensive care unit capability.[68] "Urban Augmentation Medical Task Forces were designed to support patients who received COVID-19 treatment and to augment hospitals" that were in COVID-19 hotspots.[69] "The COVID-19 mobilization of the U.S. Army Reserves was one of the largest domestic mobilizations in Army Reserve history."[70] Medical units in the Reserves provided direct patient care, screened patients, completed COVID-19 testing, and supplied hospitals in COVID-19 hotspots with medical supplies.[71] This allowed the once inundated hospitals to see non-SAR-CoV-2 patients and freed up bed space.

## Overview of Case Studies

### DoD Response to the 2014-2016 Ebola Epidemic in West Africa

"On March 23, 2014, the World Health Organization (WHO) reported cases of Ebola Virus Disease (EVD) in southeastern Guinea."[72] In response, the United States had applied a whole-of-government response to the epidemic and deployed around 3,000 troops to combat the outbreak.[73] Operation United Assistance was the official name of the DoD response to the Ebola Epidemic in Africa.[74] In response to the Ebola Epidemic, "the Defense Secretary Chuck Hagel signed an order authorizing the mobilization of approximately 2,100 Army Reserve and Army National Guard Soldiers to support Operation United Assistance."[75] "The Michigan National Guard started a relationship with Liberia in 2009 through participation in the State Partnership Program" and deployed to Guinea to combat the outbreak but was used mainly for theater opening activities.[76] During the outbreak, the National Guard was not involved in the patient care

of Ebola patients and they only served as advisors. The 34th Infantry Division (34th ID) of the Minnesota Army National Guard was initially activated to support the Ebola Epidemic as well the reserves but was recalled before their deployment began.[77] The recall was due to the risk of the force potentially contracting EVD and new infection rates were starting to decrease.[78]

## DoD Response to Hurricane Katrina (2005)

The Hurricane Katrina response relied on the National Guard as over 50,000 National Guard Soldiers were activated to support recovery efforts.[79] Activated troops came from Texas, Arkansas, Alabama, Florida, Virginia, Louisiana, and Mississippi.[80] Although the U.S. Reserves, played a small role as far as activation units in numbers compared to the National Guard; their impact rippled through communities in Mississippi and Louisiana. Army "Reservists who responded to Katrina were mainly volunteers and only represented a relatively small portion of the response when compared to the National Guard and active component."[81] "While National Guard forces from Louisiana and Mississippi provided the bulk of the military support in the first days after landfall, most of the Guard response to Hurricane Katrina came later from Guard units outside of the affected states."[82]

Medical Units from the National Guard played a major role in the Katrina response. National Guard medical units like the Louisiana Medical Command (MEDCOM), treated injured citizens and filled the medical gap until civilian medical resources could be utilized.[83] At the Super Dome, "National Guard medical personnel had more than 500 patients under their care", but "lacked the equipment and medicines to

effectively care for many of the patients there."[84] Civilians that needed higher levels of care increased substantially as recovery efforts progressed, eventually exceeding the medical capacity.[85] "A sustainment battalion restored the Bywater Hospital in New Orleans to operational condition," which allowed the battalion's medical staff to use its facilities to treat injured Soldiers and civilians.[86] At the Louisiana Convention Center, the National Guard medical units provided direct patient care and "treated stranded citizens."[87] Medical units with the National Guard from Puerto Rico provided critical medical teams who were able to provide surgery to civilians who were in need.[88] The Area Support Medical Battalion for the Mississippi National Guard "helped survivors get medical assistance" and became a liaison for connecting "people needing medical care in Mississippi to those who could provide it."[89] The "Field Artillery Regiment's medical unit treated more than 1,200 people over a 4-day period, filled more than 700 prescriptions, immunized around 400 people," and were able to treat people who had a variety of illnesses.[90] This further demonstrates that National Guard Medical Units saved many lives while enhancing response efforts. What was not known was how the mobilization affected the States where medical units where activated.

## DoD Response to 2009 H1N1 Pandemic

During the 2009 H1N1 Pandemic, the National Guard and Reserves were not activated to combat the outbreak as the medical system could handle the additional patient load.[91] Although Soldiers from the Medical Reserve Corps did volunteer to help in their local communities.[92] Fortunately, there was not a significant outbreak in the U.S. Responses where all preventative in nature as the virus "progressed slowly" through the

population.[93] A vaccine to the virus was soon produced in 2009. Thus, "the DoD implemented a preparedness policy, including a stringent vaccination program and guidelines on providing health care during public health emergencies."[94] The H1N1 virus was highly susceptible to antiviral therapy through the use of Tamiflu and Relenza that the civilian sector was able to handle the local cases.[95] As a result, the hospitals were able to cope with load and DoD was able to focus on vaccinations and preventive measures.

## Summary

Federal oversight documents, force structure pertinent to COVID-19 Pandemic call up documents, the role of the Department of Defense during a pandemic documents, and an overview of the case studies documents used in the study helped answer the primary research question. The primary research question is how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? The literature review also helped answer the two secondary research questions. How did the Army National Guard monitor and manage U.S. Army National Guard personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? What was the impact of not activating any or more U.S. Army Reserve units to support the initial COVID-19 response?

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[1] Cucinotta Maurizio, "WHO Declares COVID-19 a Pandemic," 157–160.

[2] U.S. President, Executive Order 13911, "Delegating Additional Authority under the defense Production Act of 1950 With Respect to Health and Medical Resources To Respond to the Spread of COVID–19," (The White House, Washington, DC, March 27,

2020), https://www.presidency.ucsb.edu/documents/executive-order-13911-delegating-additional-authority-under-the-defense-production-act.

[3] World Health Organization (WHO), "Coronavirus," accessed July 17, 2021, https://www.who.int/health-topics/coronavirus#tab=tab_3.

[4] Ibid.

[5] Ibid.

[6] U.S. President, "EO to Order the Selected Reserve and Certain Members of the Individual Ready Reserve of the Armed Forces to Active Duty," (The White House, Washington, DC, March 27, 2020), https://trumpwhitehouse.archives.gov/presidential-actions/eo-order-selected-reserve-certain-members-individual-ready-reserve-armed-forces-active-duty/

[7] Ibid.

[8] U.S. National Archives and Records Administration, "The Constitution of the United States: A Transcription," accessed May 1, 2021, https://www.archives.gov/founding-docs/constitution-transcript?_ga=2.185195817.149552491.1619854242-441124904.1619854242.

[9] U.S. President, "Remarks by President Trump and Vice President Pence in a Video Teleconference with Governors on COVID-19," (The White House, Washington, DC, March 19, 2020), https://trumpwhitehouse.archives.gov/briefings-statements/remarks-president-trump-vice-president-pence-video-teleconference-governors-covid-19/.

[10] Ibid.

[11] Ibid.

[12] U.S. President, Memorandum, Subject: Providing Continued Federal Support for Governors' Use of the National Guard to Respond to Covid-19 and to Facilitate Economic Recovery (The White House, Washington, DC, May 8, 2020), https://trumpwhitehouse.archives.gov/presidential-actions/memo-providing-continued-federal-support-governors-use-national-guard-respondto-covid-19-facilitate-economic-recovery//.

[13] Federal Emergency Management Agency "COVID-19 Disaster Declarations," accessed February 20, 2021, https://www.fema.gov/disasters/coronavirus/disaster-declarations.

[14] U.S. President, Providing Continued Federal Support for Governors' Use of the National Guard to Respond to Covid-19 and to Facilitate Economic Recovery.

[15] Secretary of Defense, Memorandum, Subject: Guidance on Activating the National Guard, Reserve, and Individual Ready Reserve for Coronavirus Disease Response (Department of Defense, Washington, DC, April 2, 2020), https://prhome.defense.gov/Portals/52/Guidance%20on%20Activating%20the%20National%20Guard%20Reserve%20and%20IRR%20for%20COVID-19%20OSD003539-20%20RES%20Final%201.pdf.

[16] Ibid.

[17] Ibid.

[18] Ibid.

[19] Ibid.

[20] Ibid.

[21] Ibid.

[22] Ibid.

[23] U.S. Army Human Resources Command, "IMA Program Overview," March 8, 2021, https://www.hrc.army.mil/STAFF/IMA%20Program%20Overview.

[24] Secretary of Defense, Memorandum, Subject: Delegation of Authority for Reserve Component Activation Authorities during the Coronavirus Disease 2019 Response (Department of Defense, Washington, DC, April 10, 2020), https://prhome.defense.gov/Portals/52/Delegation%20of%20Authority%20for%20Reserve%20Component%20Activation%20Authorities.pdf.

[25] Assistant Secretary of Defense, Memorandum, Subject: Implementation Guidance for Presidential Memorandum on Providing Federal Support for Governor's Use of the National Guard to Respond to COVID-19 dated April 20, 2020, (Department of Defense, Washington, DC, April 24, 2020), https://prhome.defense.gov/Portals/52/Implementation%20Guidance_PM7_24Apr2020.pdf.

[26] Ibid.

[27] Assistant Secretary of Defense, Memorandum, Subject: Military Personnel Guidance for Department of Defense Components in Responding to Corona virus Disease 2019, (Department of Defense, Washington, DC, March 23, 2020), https://media.defense.gov/2020/Mar/26/2002270634/-1/-1/1/Military-Personnel-Guidance-for-Department-of-Defense-Components-in-Responding-to-Coronavirus-Disease-2019.pdf.

[28] U.S. Army Reserve, "Army Reserve Medical Command."

[29] Ibid.

[30] Ibid.

[31] Ibid.

[32] Northeast Medical Area Readiness Support Group, "Our Story," accessed November 25, 2020, https://www.govserv.org/US/Staten-Island/486343761434851/Northeast-Medical-Area-Readiness-Support-Group

[33] Ibid.

[34] U.S. Army Reserve, "Reserve Unit Locations," accessed December 9, 2020, https://www.usar.army.mil/Locate-a-Reserve-Unit/Reserve-Unit-Locations/.

[35] Sergei Klebnikov, "Trump Declares A National Emergency Under The Stafford Act-Here's What That Actually Allows Him To Do," *Forbes*, March 13, 2020, accessed December 15, 2020, https://www.forbes.com/sites/sergeiklebnikov/2020/03/13/trump-declares-a-national-emergency-under-the-stafford-act-heres-what-that-actually-allows-him-to-do/?sh=7e097c325c48.

[36] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as Amended, and Related Authorities, Public Law 93-288, *US Code* 42, May 2019, 5121 et seq., https://www.fema.gov/sites/default/files/2020-03/stafford-act_2019.pdf.

[37] Lawrence Kapp, and Don J. Jansen, *The Role of the Department of Defense during a Flu Pandemic*, Congressional Research Service Report for Congress (Washington, DC: Library of Congress, June 4, 2009), 1-18, https://fas.org/sgp/crs/natsec/R40619.pdf

[38] Ibid., 3.

[39] Ibid., 8.

[40] Ibid., 12.

[41] Ibid., 11.

[42] Ibid., 12.

[43] Ibid., 13.

[44] Jon Soucy, "Guard's Role in Disaster Response Defined More Clearly," U.S. Army, March 3, 2012, https://www.army.mil/article/74990/guards_role_in_disaster_response_defined_more_clearly.

[45] Sarah A. Lister, Kavya Sekar, Agata Dabrowska, Frank Gottron, and Amanda K. Sarata, *Overview of U.S. Domestic Response to Coronavirus Disease 2019 (COVID-19)*, Congressional Research Service Report for Congress (Washington, DC: Library of Congress, March 2, 2020), 1-28, https://crsreports.congress.gov/product/pdf/R/R46219/.

[46] Ibid., 22.

[47] Bryce H.P. Mendez, "Military Medical Care: Mitigating Impacts from Medical Unit Deployments," (Congressional Research Service (CRS) Insight, CRS, Washington, DC, November 21, 2018), 1-3, https://crsreports.congress.gov/product/pdf/IN/IN10999/3#:~:text=Military%20Medical%20Care%3A%20Mitigating%20Impacts%20From%20Medical%20Unit,a%20deployable%20medical%20unit.%20In%20certain%20instances%2C%20MTF

[48] Ibid., 1.

[49] Ibid., 2.

[50] U.S. Northern Command (USNORTHCOM), "About USNORTHCOM," accessed November 27, 2020, https://www.northcom.mil/About-USNORTHCOM/.

[51] Ibid.

[52] Ibid.

[53] Headquarters, Department of the Army. Army Techniques Publication 4-02.55, *Army Health System Support Planning* (Washington, DC: Army Publishing Directorate, 2020), https://fas.org/irp/doddir/army/atp4-02-55.pdf.

[54] U.S. Army National Guard, "National Guard Response to COVID-19 and Civil Unrest," June 1, 2020, https://www.nationalguard.mil/Resources/Press-Releases/Article/2212990/national-guard-response-to-covid-19-and-civil-unrest/.

[55] U.S. Army National Guard, "National Guard National Response to COVID-19."

[56] Ibid.

[57] Jim Reed, "National Guard Assists Response to the COVID-19 Pandemic." National Conference of State Legislatures, April 28, 2020, accessed December 15, 2020, https://www.ncsl.org/research/military-and-veterans-affairs/national-guard-activation-in-every-state-assisting-response-to-the-covid-19-pandemic.aspx.

[58] James Winnefeld and Craig R. McKinley. "The Right Way to Activate the National Guard," *The Atlantic*, March 22, 2020, accessed December 10, 2020,

https://www.theatlantic.com/ideas/archive/2020/03/right-way-activate-national-guard/608524/.

[59] Ibid.

[60] Ibid.

[61] Ibid.

[62] Dino De La Hoya, "Cactus COVID-19 Task Force Protects Reserve Force," U.S. Department of Defense, October 8, 2020, https://www.defense.gov/Explore/Features/Story/Article/2374032/cactus-covid-19-task-force-protects-reserve-force/.

[63] U.S. Army Reserve Command, "Urban Augmentation Medical Task Forces (UAMTF)," U.S. Army Reserve, April 5, 2020, https://www.usar.army.mil/News/News-Display/Article/2137735/urban-augmentation-medical-task-forces-uamtf/.

[64] Ibid.

[65] Joe Lacdan, "Army Deploys Medical Task Forces to Help Hard-Hit Communities," U.S. Army Reserve, April 13, 2020, accessed December 20, 2020, https://www.usar.army.mil/News/Article/2146985/army-deploys-medical-task-forces-to-help-hard-hit-communities/.

[66] Ibid.

[67] U.S. Army Reserve, "Urban Augmentation Medical Task Forces (UAMTF)."

[68] Ibid.

[69] U.S. Army Reserve, "America's Army Reserve Backs up Our Medical Professionals," May 4, 2020, https://www.usar.army.mil/News/Videos/videoid/750996/

[70] U.S. Army Reserve, "COVID-19 Response," (Infographic, May 20, 2020), https://www.usar.army.mil/Portals/98/Images/COVID19/COVID-Infographic-Updated-21-02-03.pdf?ver=AqUqazw1t3SfGB2hQAM3Zg%3d%3d.

[71] Ibid.

[72] Centers for Disease Control and Prevention (CDC), "Ebola (Ebola Virus Disease): 2014-2016 Ebola Outbreak in West Africa," U.S. Department of Health & Human Services, March 8, 2019, https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html.

[73] Office of the Press Secretary, The White House, "FACT SHEET: U.S. Response to the Ebola Epidemic in West Africa," (Press Release, September 16, 2014),

https://obamawhitehouse.archives.gov/the-press-office/2014/09/16/fact-sheet-us-response-Ebola-epidemic-west-africa.

[74] Military Health System, "Operation United Assistance," accessed February 4, 2021, https://health.mil/Military-Health-Topics/Health-Readiness/Pandemic-Diseases/Ebola/Operation-United-Assistance?type=Fact%2BSheets.

[75] U.S. Department of Defense, "Hagel Mobilizes Reserve Forces in Support of Operation United Assistance," *DOD News*, November 14, 2014, accessed February 20, 2021, https://www.defense.gov/Explore/News/Article/Article/603652/hagel-mobilizes-reserve-forces-in-support-of-operation-united-assistance.

[76] Joint Staff J-7, Joint Coalition and Operations Analysis, *Operation UNITED ASSISTANCE: The DOD Response to Ebola in West Africa* (Suffolk, VA: Joint Staff J-7, January 6, 2016), 1-110, https://www.jcs.mil/Portals/36/Documents/Doctrine/ebola/OUA_report_jan2016.pdf.

[77] Ibid., 60.

[78] Ibid., 62.

[79] U.S. Government Accountability Office (GAO), GAO-06-808T, "Hurricane Katrina: Better Plans and Exercises Need to Guide the Military's Response to Catastrophic Natural Disasters," (Statement of the Record by Sharon Pickup, Director Defense Capabilities and Management. Statement for the Record to the Subcommittee on Terrorism Unconventional Threats and Capabilities, Committee on Armed Services, House of Representatives, GAO, Washington, DC, May 25, 2006), https://www.govinfo.gov/content/pkg/GAOREPORTS-GAO-06-808T/html/GAOREPORTS-GAO-06-808T.htm.

[80] John Orrell, "Hurricane Katrina Response: National Guard's 'Finest Hour'," U.S. Army, August 27, 2010, https://www.army.mil/article/44368/hurricane_katrina_response_national_guards_finest_hour.

[81] GAO, GAO-06-808T, 10.

[82] Ibid., 20.

[83] James A. Wombwell, *Army Support during the Hurricane Katrina Disaster,* The Long War Series, Occasional Paper 29 (Fort Leavenworth, KS: U.S. Army Combined Arms Center, Combat Studies Institute Press, January 2009), 1-282, https://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/wombwell.pdf.

[84] Ibid., 45.

[85] Ibid., 154.

[86] Ibid., 88.

[87] Ibid., 89.

[88] Ibid., 120.

[89] Ibid., 129.

[90] Ibid., 122.

[91] Laura E. Peitersen, Calli S. Levin, and Allison G. Jones, *Department of Defense Biological Threat Responses to the 2009-2010 H1N1 Influenza Outbreak: A Real-World Exercise,* The Counterproliferation Papers, Future Warfare Series No. 51 (Maxwell Air Force Base, AL: Air University, USAF Counterproliferation Center, April 2011), 1-42, https://media.defense.gov/2019/Apr/11/2002115515/-1/-1/0/51DODBIOTHREAT.PDF.

[92] Ibid., 31.

[93] Ibid.

[94] Diana D. Jeffery, Martin Cohen, Arnold Brooks, Andrea Linton, Richard Gromadzki, and Christine Hunter, "Impact of the 2009 Influenza (H1N1) Pandemic on the United States Military Health Care System," *Military Medicine* 178, no. 6 (June 2013): 653–658, https://academic.oup.com/milmed/article/178/6/653/4320197.

[95] U.S. Department of Health and Human Services (HHS), "An HHS Retrospective on the 2009 H1N1 Influenza Pandemic to Advance All Hazards Preparedness," (Office of the Assistant Secretary for Preparedness and Response, HHS, Washington, DC, revised June 15, 2012), https://www.phe.gov/Preparedness/mcm/h1n1-retrospective/Documents/h1n1-retrospective.pdf.

# CHAPTER 3

# RESEARCH METHODOLOGY

## Introduction

In determining how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19, this research utilized comparative case study methodology to analyze evidence emerging from case studies. According to James Creswell, "the case study approach as a qualitative research method provides a detailed description of the setting or individuals, followed by an analysis of the data for themes or issues."[1] This research analyzed the activation and response of U.S. Army Reserve and National Guard medical units.

This chapter describes how the data was presented and analyzed in chapter 4. The primary question of this research study was how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? The two secondary research questions were how did the Army National Guard monitor and manage U.S. Army National Guard personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? The other secondary research question was what was the impact of not activating any or more U.S. Army Reserve units to support the initial COVID-19 response? This research was new as no one has looked at how the Army Reserves monitor and manage activations when activations could adversely affect the civilian response to the COVID-19 Pandemic.

## Research Design

This research followed a qualitative design from *Qualitative Inquiry and Research Design: Choosing among Five Approaches* by John Creswell; the method to accomplish this goal was primarily a document review. As described by Creswell, this qualitative analysis took a "multiple case study approach."[2] The research design was selected because the conclusions drawn from the method was based on the relationship between the variables (pandemic response) and literature review; instead of quantitative data (numbers). Given the limitations of this research, it is not possible to compile enough quantitative data in order to draw meaningful conclusions. The disadvantages of this qualitative research design were that the bias of the researcher could play a role in the conclusions; in addition, the conclusions drawn by this research were subject to interpretation as they were subjective in nature. As a mitigating step, the subjectivity was reduced by conducting a thorough review of the literature available at the time and the identification of any gaps in information that aided in answering the research questions. Despite these shortfalls, the aim of this research was to present an unbiased view to the primary and secondary research questions, as well as to draw conclusions based on the literature reviewed.

"A multiple case approach occurs when a researcher selects multiple case studies to illustrate an issue which allows a researcher to selects multiple cases to show different perspectives on an issue."[3] "A multiple case study design uses replication, in which the researcher replicates the research procedures for each case but is careful to not generalize from one case to another because the contexts of cases can differ."[4] In order "to be able to generalize the researcher needed to select representative cases for inclusion in the

qualitative study."[5] In this approach, "the researcher built a theory composed of identifying variables (or themes) that are interrelated, followed by the development of an explanation for the outcome."[6] "Case study research methods were designed to allow researchers to understand the how and why of contemporary events, problems and situations in ways that did not require control over those events or problem."[7]

The data collection in this multiple case study research was mainly from journals, books, and articles. The type of analysis of the data was an "embedded analysis as only a specific aspect of the case study was addressed."[8] This research examined how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19. Each case study started "with a chronology of events of the activities of the case."[9] A case study was then followed by key issues around the U.S. Army Reserve activations and the medical capabilities provided in the case study. This multiple case study analysis presented "a detailed description of each case and themes within the case (within-case analysis) followed by a thematic analysis across the cases (cross-case analysis)."[10] An interpretation of the meaning of the case studies was addressed.

The research design "established a series of steps that will guide the review process to allow a detailed analysis" of the case study.[11] The first step was the review of unclassified data that was available and to determine if the quality of the data may be useful in answering the research question. The second step focused the analysis and generated sub questions that facilitated the research process by focusing in on key concepts. The third step categorized the information using a hierarchical method that

allowed a detailed analysis of Guard and Reserve response, activation rates, and the contributions of medical units during the pandemics/disasters.

## Background Document Review

The background document review consisted of an analysis of pandemic/disaster response documents, activation rates, the response of the medical units, and what impact medical units had on the environment where they were deployed too as well as the response to the local area where they were activated. This research conducted a hierarchical review of documents starting with the major national documents and statements regarding activation criteria. The research moved to conduct an analysis of National Guard and Reserve documents that resulted from activation, the capabilities of medical units, how the medical units supported the pandemic/disaster, and if there were any negative effects of the activation of medical units in the local activation area. The purpose behind the hierarchical review was to explore the relationship between activation rates of the medical units, activation criteria, medical unit capabilities, and impacts of activating medical units in the local community. This research assumed that military medical units deployed with full medical equipment sets (MES) and with enough supplies to support the mission. The design of this methodology can be utilized for each of the case studies discussed.

This research compared four case studies. Each case study examined the medical response of U.S. Army National Guard and U.S. Army Reserves during the 2014-2016 Ebola Outbreak, Hurricane Katrina (2005), the 2009 H1N1 Pandemic, and the COVID-19 Pandemic. The impact of adding or taking away U.S. Army Reserves and U.S. Army

National Guard medical units from the local community was also compared for each of the pandemics. The objective was to understand and compare case studies in order to understand how activating medical units could adversely impact civilian responses to crises. Data collection consisted of articles, journals, U.S. Army Reserves websites, U.S. Army National Guard websites, and government documents. The case study analysis consisted of reading and comparing the four case studies. When the case studies were compared a positive (+) or negative (-) response was attributed to how medical units of each of the three entities (National Guard, reserves, and local community) responded (table 2). Additionally, the impact the National Guard and Reserve medical units had positive (+) or negative (-) have on the local community was analyzed, also depicted in table 2. The three variables in this research were the National Guard medical units' response/activation, U.S. Army Reserve medical unit response/activation, and the response of the local community medical capability.

Table 2. Case Study Comparison Chart (Template)

| **Cases Study Examples** | **National Guard Response** | **Reserves Response** | **Local Medical Community Impact** |
|---|---|---|---|
| Hurricane Katrina (2005) | | | |
| 2014-2016 Ebola Outbreak | | | |
| 2009 H1N1 Pandemic | | | |
| COVID-19 Pandemic | | | |

*Source:* Created by author.

Case studies were compared using positive (+) or negative (-) responses which were attributed to how medical units of each of the three entities (National Guard, Reserves, and the local community) responded to the pandemic and what impact the did the National Guard and Reserves have on the community. Positive impacts were classified as helping the community combat the disease and not negatively impacting the medical capabilities of the local community. Negative impacts were classified as not helping the community for National Guard and Reserve medical units. On the civilian side negative impacts was classified when the local hospitals reached their medical capacity for local the community and could no longer medically support the local community. If the National Guard or Reserves were not activated then this was represented by an asterisk (*) to symbolize non-activation. If the units were not activated, then they would not have any effect on the local community other than the normal effect from their daily activities.

In order to maintain the integrity and credibility of the research, the principal sources of information regarding activation were case studies, research reports, government documents, and after-action reviews. The four case studies provided facts and timelines associated with each pandemic response, without opinions or biases. Research reports provided relevant facts, then presented findings and recommendations based on the event. After action reviews provided findings and recommendations from all entities involved to ensure the results of the analysis were not affected by any personal bias of the author. The secondary research questions also evaluated how Army National Guard monitored and managed U.S. Army National Guard personnel activations when

activating those personnel could adversely impact civilian responses to crises like COVID-19.

## Summary

This research utilized comparative case study methodology to analyze evidence emerging from the case studies to subsequently examine how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? In addition, this research examined two secondary questions: (1) How did the Army National Guard monitor and manage U.S. Army National Guard personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? What was the impact of not activating any or more U.S. Army Reserve units to support the initial COVID-19 response? The other secondary research question was what was the impact of not activating any or more U.S. Army Reserve units to support the initial COVID-19 response? The importance of activation rates and medical units' contributions to the mission and their local communities are the foundation of this research. The goal of this research was to analyze the importance of activation rates, activation criteria, medical unit capabilities, and impacts of activating medical units in the local community. The aim of this methodology was to present an unbiased analysis of the importance of activation rates, activation criteria, medical unit capabilities, impacts of activating medical units in the local community assist in, and addressing any gaps that may exist. A description of the results of this research is contained in the next chapter.

[1] John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*, 3rd ed. (Thousand Oaks, CA: SAGE Publications, 2009).

[2] Ibid.

[3] John W. Creswell, *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. 2nd ed. (Thousand Oaks, CA: SAGE Publications, 2007).

[4] Ibid.

[5] Ibid.

[6] Ibid.

[7] Robert. K. Yin, *Case Study Research: Design and Method*. 3rd ed. (Thousand Oaks, CA: SAGE Publications, 2003).

[8] Ibid.

[9] Creswell, *Qualitative Inquiry and Research Design*, 25.

[10] Yin, *Case Study Research*, 25.

[11] Ibid.

# CHAPTER 4

# ANALYSIS

## Introduction

This research utilized comparative case study methodology to analyze evidence emerging from the case studies to subsequently examine how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? As described by Creswell, the researcher "built a theory composed of identifying variables (or themes) that are interrelated, followed by the development of an explanation for the potential outcome."[1] The three variables in this research were the National Guard medical units' response/activation, U.S. Army Reserve medical unit response/activation, and the response of the local community medical capability.

Military and local community was assessed on what impact did either activation (positive or negative) had on the local community. Positive impacts were classified as helping the community combat the disease or crisis and not negatively impacting the medical capabilities of the local community. Negative impacts were classified as not helping the community for National Guard and Reserve medical units. On the civilian side negative impacts were classified when the local hospitals reached capacity for the local community and could no longer medically support the local community.

This topic was of immense importance as every organization within the United States has been affected by the pandemic and every organization has made decisions about how to adjust to the COVID-19 Pandemic. The pandemic affected the communities

where the Reserve and National Guard Soldiers work as well as areas that they may have to deploy if activated. This research could be helpful to National Guard units, Army Reserves units, and the local communities that they reside in when not activated. This also could assist medical and civilian planners in understanding the consequences as well as the second and third order effects from activations.

Pandemic response documents and executive orders guided the U.S. government's response to the COVID-19 Pandemic abroad and domestic. The ultimate goal medically was to preserve lives, mitigate human suffering, and maintain U.S. interests when deployed. The primary research question was to explore how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19. The response and activation rates played an essential role in the protection of our country, utilization of U.S. Army National Guard medical units, and how activations can affect local communities during pandemics.

The research method utilized was a document review analysis focusing on the pandemic response of U.S. Army National Guard and U.S. Army Reserves medical units. This analysis assessed how should the Army Reserve monitor and manage Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to a crisis. The research was limited in nature due to its dependence on document review, non-classified documents, the most current pandemic/epidemic related documents at the time, and the inability to conduct a field analysis based on time limitations.

Case studies were compared using positive (+) or negative (-) responses which were attributed to how medical units of each of the three entities (National Guard, Reserves, and the local community) responded to the pandemic; in addition, to what impact the did the National Guard and Reserves have on the community. Positive impacts were classified as helping the community combat the disease or crisis and not negatively impacting the medical capabilities of the local community. Negative impacts were classified as not helping the community for National Guard and reserves units. On the civilian side, negative impacts were classified when the local hospitals reached their medical capacity for local the community and could no longer medically support the local community. If the National Guard or Reserves were not activated then it was represented by an asterisk (*) which would symbolize non-activation. If the units were not activated then they would not have any effect on the local community other than the normal effect from their daily activities.

The primary research question asked how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? The answer to this question was found through an examination of various pandemic response documents. The DoD responded to the COVID-19 Pandemic by creating task forces, headquartered from U.S. Army North. These task forces consisted of medical units that have deployed across the nation to support efforts to care for those affected by the pandemic, to help curve infection rates, and to augment civilian medical services when it exceeded capacity. The Army Reserve and National Guard Soldiers had assembled field hospitals and fully

supported all COVID-19 mission assignments that were approved by the Federal Emergency Management Agency.

## 2014-2016 Ebola Outbreak

Scientists do not know where the Ebola virus came from but it is hypothesized that it originated from either bats or primates.[2] "Ebola spread through direct contact with blood, body fluids, or through tissues of infected animals and people." When a person comes into contact with an infected person or animal the virus gets into the body through broken skin or mucous membranes in the eyes, nose, or mouth.[3] "A person can only spread Ebola to other people after they develop signs and symptoms of the disease." [4] The West African Ebola Epidemic of 2014-2016, was considered the largest Ebola outbreak in history.[5] By the time the *Zaire ebolavirus*, the virus that causes Ebola was identified it had already spread to the capital of Guinea.[6] "After 49 confirmed cases and 29 deaths, WHO officially declared an outbreak of Ebola Virus Disease (EVD)" in March 2014.[7] Due to inadequate medical capabilities and public health, Guinea could not contain Ebola within its borders.[8] Ebola quickly spread to Guinea's "neighboring countries, Liberia and Sierra Leone" population centers.[9] The high population density of the people in the area exponentially increased the chances of viral transmission.

During the Ebola epidemic, the DoD worked in direct support of the U.S. Agency for International Development (USAID) in West Africa. U.S. Agency for International Development was the principal agency to extend assistance to countries recovering from disaster. During the Ebola response, the U.S. military forces had two missions; "to support USAID in overall U.S. government efforts and to respond to Department of State

requests for security or evacuation assistance."[10] Around July 2014, Active-Duty Soldiers began to deploy to West Africa, to support USAID and State Department missions.[11] "Soldiers constructed 12 Ebola treatment units in Liberia; trained local health care workers on how to care for Ebola patients, and taught preventive medicine measures on how to curve infection rates."[12]

"The Army had identified 15 National Guard and Reserve units" to deploy in support of the Ebola crisis in Africa.[13] Army Reserve and National Guard leadership only selected units that were capable of properly responding and assisting the Ebola epidemic in addition to not being scheduled for a deployment.[14] This process ensured that only mission essential units would support the epidemic instead of entire battalions or brigades. Medical capabilities were medical logistics, medical advisement teams, and preventive medicine, as units could only advise and not conduct direct patient care.[15] "The Chairman of the Joint Chiefs of Staff (CJCS) recommended that DoD support: 1) be limited to DoD-unique activities, and 2) not include direct patient care."[16] Mobilization orders were eventually canceled as the number of new Ebola patients in Liberia were declining and USAID was able to meet the needs of the mission using internal resources. Since the Reserves or National Guard medical units were not activated nor did they deploy to Western Africa to combat the epidemic, therefore a positive or negative attribution cannot be added.[17] In this case study the National Guard and Reserves received an asterisk (*) since they were not activated (see table 3). Medical units in the local community received negative attributions, as they were unable to control the outbreak. Ultimately, the demand for medical care overwhelmed the available medical

system's capacity and Ebola patients could not find treatment.[18] When the Ebola Outbreak inundated the local medical system's capacity, it needed outside help to treat patients, and outside help to slow the spread of the virus.[19]

Table 3. Case Study Comparison Chart

| Cases Study Examples | National Guard Response | Reserves Response | Local Community Impact (state) |
|---|---|---|---|
| Hurricane Katrina (2005) | + | + | - |
| 2014-2016 Ebola Outbreak | * | * | - |
| 2009 H1N1 Pandemic | * | * | + |
| COVID-19 Pandemic | + | + | + |

*Source:* Created by author.

## Hurricane Katrina (2005)

Hurricane Katrina was a Category 3 storm that made landfall on August 29, 2005. Winds from Hurricane Katrina ranged from 70–170 miles per hour (mph) and the storm killed an estimated 1,800 people.[20] The hurricane also had "a 10–28-foot storm surge that would reach as far as 12 miles inland and destroyed cities like Gulfport and Pascagoula, Mississippi."[21] Hurricane Katrina storm surge "pushed water from the Gulf of Mexico into Lake Pontchartrain which exerted enough pressure along the Industrial Canal levees to cause them to fail in three places."[22] Failure of the levees caused an inundation of New Orleans, the surrounding parishes, and "displaced around a million people in the Gulf Coast region."[23] Hurricane Katrine caused an estimated "$160 billion in damage" which was "one of the costliest disasters in U.S. history."[24]

In the aftermath of the hurricane, the governors of Mississippi and Louisiana activated the National Guard units in their states. The Mississippi and Louisiana Army National Guard units were the first military units to respond to the disaster. As National Guard units from various States across the U.S. (Texas, Arkansas, Alabama, Florida, Virginia, Louisiana, and Mississippi) began aiding in relief efforts, these units remained "under the command of their respective governors" not the governors of Louisiana and Mississippi.[25] Activation occurred under State Active Duty then shortly transferred to Title 32 status, which allowed guardsman to remain under the control of their respective governors; however, the federal government paid the bill.[26]

Due to the extensive damage from Hurricane Katrina, President Bush enacted the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Initially, "National Guard Soldiers conducted search and recovery missions; helped restore order; established supply distribution points; and cleared debris from public buildings and roadways."[27] Aviation units were able to provide helicopters for conduct medical evacuations as well as for search and recovery missions during relief operations.

The Reserve units participated in the Hurricane Katrina relief efforts but National Guard units provided the bulk of the response.[28] Medical units provided medical assistance to rescued citizens and to homeless citizens in tent cantonments across Louisiana and Mississippi. The National Guard units reopened inactive hospitals so civilian and military healthcare workers (National Guard and Reserves medical units) could provide medical treatment to the sick and injured.[29] This process allowed medical teams to treat injured citizens and fill the medical gap until civilian medical resources

were able to handle the patient load. At the Superdome, which was designated as a "special needs shelter . . . citizens who needed special assistance, such as oxygen or refrigeration for medicine, could get medical support there."[30] However, medical units at the Superdome were not able "to provide medical care to people who were in constant need of medical attention."[31]

At the Superdome, medical units were capable of handling routine outpatient medical care but did not have the capability to provide inpatient medical care. The recovery effort at the Superdome was led by Louisiana's Medical Command (MEDCOM), with augmentees from various states National Guard Medical Units and Reserve Medical Units.[32] Both National Guard and Army Reserves medical units saved countless lives, prevented further human suffering, and provided medical relief to the communities in which they supported. Medical units "provided on-the-spot medical evaluations and medical treatment for stranded citizens."[33] This exponentially aided in recovery efforts.

Both the National Guard and Reserves received all positive marks as they both positively affected the communities that they were deployed too.[34] What was not known was what effect the deployment had on the communities from which the National Guard and Reservist deployed. Aside from combat tours in Iraq and Afghanistan medical units were readily available to support whatever mission they were tasked to support. The medical units in the local community received negative attributions even though they used every available resource to aid in recovery efforts and to save lives. As Hurricane Katrina flooded and destroyed medical assets as well as other infrastructure.[35] This

destruction inundated the local medical system's capability to provide medical care and the local community needed outside help to treat patients.[36]

## 2009 H1N1 Pandemic

In April of 2009, an influenza A (H1N1) virus emerged. The H1N1 virus was also called the "Swine Flu early on," as it regularly causes outbreaks of influenza in pigs.[37] "It was first detected in the United States, in April 2009 and spread quickly across the United States."[38] This was a new H1N1 virus that was not previously identified in people. In late April 2009, CDC started working to develop a vaccine to combat the H1N1 virus. WHO declared H1N1 a pandemic in June 2009 as the virus continued to spread around the world and the number of countries reporting cases of H1N1 increased.[39] In the U.S., cases of H1N1 had been reported in all 50 states.[40] Around June 2009, "the United States had the highest number of H1N1 cases of any country worldwide, although majority of the people who became ill recovered on their own."[41]

The U.S. Army Reserves and National Guard were not activated for the response as the U.S. did not declare the pandemic a national emergency. A small number of "young people had an existing immunity (as detected by antibody response) to the (H1N1) virus, but nearly one-third of people over 60 years old had antibodies against this virus, likely from exposure to an older H1N1 virus earlier in their lives."[42]

In comparison to other pandemics, the H1N1 virus was not more contagious or virulent than the seasonal flu.[43] The DoD implemented preventive medicine measures based on the CDC's guidance on how to curve H1N1 infection rates in order to limit the exposure of the virus in the military. Complications from the H1N1 was most commonly

found in elderly or immunocompromised people. Antiviral therapy using "oseltamivir and zanamivir were used" to reduce the symptoms and duration of illness.[44] This same concoction of antiviral medication was also used to treat the seasonal flu. Preventive medicine measures consisted of "covering the nose and mouth when sneezing, washing hands often with soap and water, using alcohol-based sanitizers when handwashing was unavailable, avoiding close contact with people who were sick, and if a person was sick with flu like symptoms they should stay home from work."[45] In order to combat the H1N1 Pandemic the DoD implemented a stringent vaccination program and guidelines to providing health care during public health emergencies. Around the summer of 2009, the Department of Defense acquired enough doses of the H1N1 flu vaccine to vaccinate all military members.[46] Therefore, in this case study the National Guard and Reserves received an asterisk (*) as they were not activated. The medical units in the local community received positive attributions as they used every available resource to combat the spread of the H1N1 virus (table 3). In this case study, the local medical community was able to treat and care for patients without outside help.[47]

## COVID-19 Pandemic

SARS-CoV-2 was a new respiratory virus that was first identified in Wuhan, Hubei Province, China. This new coronavirus had not been previously identified nor seen in humans. The transmission of the SARS-CoV-2 virus is similar to how influenza, the common cold, and other respiratory diseases spread. A person can catch SARS-CoV-2 by "inhaling viral particles from a person who has the virus or by touching a surface or

object that has virus particles on it."[48] In order to get a person sick with the SARS-CoV-2 virus, the virus had to be exposed to mucus membranes that are located in the mouth, throat, or nose. When compared to known coronaviruses, SARS-CoV-2 is more contagious than other respiratory illnesses like the 2002–2004 SARS Outbreak (SARS-CoV-1) and has a higher death rate than SARS-CoV-1.[49] People have more complications from COVID-19 than other known flu and coronaviruses as COVID-19 symptoms can be long lasting.[50] Due to globalization and the infection rate of SARS-CoV-2, the virus spread from China to the rest of world in a matter of months.

In order to combat the spread of COVID-19 in the United States the CDC recommended that citizens increase their hand washing and use of alcohol-based sanitizers, frequently clean and disinfect surfaces, and wear masks.[51] States also followed suit and then recommended other interventions like social distancing, isolating sick people, cancelling public and large private gatherings, advising schools to close, the closure of child care facilities, and the closure of workplaces and public buildings. Around March of 2019, restaurants, malls and movie theaters were closed, and people were told to stay home unless they were going out for essential needs like buying groceries.

"WHO declared the novel coronavirus outbreak a public health emergency of international concern" in January 2020.[52] In response to the COVID-19 Pandemic, the United States declared COVID-19 a national emergency on March 13, 2020 and developed a whole of nation approach to fighting the COVID-19 Pandemic within its borders.[53] The DoD was directed to work with interagency partners like the Federal

Emergency Management Agency (FEMA), the Centers for Disease Control and Prevention (CDC), and the Department of Defense Military Health System (MHS) in order to support and protect the Army as well as the American people. As a result, the National Guard and Army Reserves were activated. Governors across all 50 states and U.S. territories mobilized components of their Army National Guard to assist in their state's response to the COVID-19 Pandemic. National Guardsmen were activated under Title 32 status and remained under the command and control of their respective governors but were federally funded by the Department of Defense (DoD).[54]

Due to the COVID-19 Pandemic, hospitals throughout the United States were reaching patient capacity (intensive care unit beds). As the U.S. economy slowly shut down due to all of the closures, unemployment skyrocketed, and food banks across the United States were overwhelmed with requests.[55] The National Guardsmen have helped at testing sites, food banks, and call centers where they conducted contact tracing.[56] Reserve and National Guard medical units built temporary medical stations during the onset of the pandemic.[57] At the medical stations, the "guardsmen worked with doctors and nurses at community testing sites" in COVID-19 hotspots and with the help of their resources the local community was able "to expand their testing capabilities."[58]

National Guard medical units helped ease the inundation of local hospitals in their state by screening emergency room patients for SARS-CoV-2 at hospitals.[59] COVID-19 testing sites allowed regular patients to be separated from possible SARS-CoV-2 cases, as all SARS-CoV-2 potential cases were directed to mobile sites. Mobile testing sites allowed a safe and efficient screening system with limited contact in an outside

environment. This allowed the communities to have ample access to testing and helped the over burden health system treat more COVID-19 patients. In addition, it allowed SARS-CoV-2 free patients to be seen at their local hospital.

Reserve medical units' activation was vetted by senior leaders at regional Medical Commands to ensure activated units did not have Soldiers who were already engaged in patient care against "COVID-19 in their own communities."[60] This prevented medical capabilities being taken away from local communities to be moved elsewhere in the U.S. as the only medical Soldiers that were activated came from communities with low infection rates. Army Reserves mobilized Urban Augmentation Medical Task Forces (UAMTF) to COVID-19 hotspots "to support coronavirus relief efforts and curb the spread of disease" in COVID-19 hotspots.[61]

As more people were exposed to SARS-CoV-2, the U.S. Army provided medical support and hospital capacity to help States and other national agencies contain the virus and curve infection rates. Medical professions in UAMTF augmented local hospitals that were inundated with COVID-19 patients.[62] There they treated citizens who were hospitalized due to COVID-19 complications or treated acute symptoms that resulted from the SARS-CoV-2 virus. Protecting the health of the Army and the American people were the medical units' top priorities. The Army Reserve medical units had a robust response medically as most of the medical professionals reside in the reserves.[63] Medical units from the National Guard and U.S. Army Reserves were extremely important during the pandemic as Army health care professionals are adequately equipped, trained on the

latest equipment and technology in order to deal with emergent health issues that Soldiers, dependents, retires, or civilians may encounter.

Similar to the Katrina Response, both the National Guard and Reserves received positive marks as they both positively affected the communities where they were deployed (refer to table 3).[64] They also helped ease the burden on the health system where they were activated, saved countless lives, and bolstered the support of the military in local communities. Medical units bolstered the support of the military, as the community trusted them to provide care, information, and to direct them to needed services. Medical units at testing sites preserved the medical capacity of hospitals by allowing non COVID-19 symptomatic people seek the care they needed. Initially the local medical community as a whole in the U.S. received a negative mark as numerous cities in the U.S. were COVID-19 Pandemic hotspots and the pandemic placed a severe strain on health systems.[65] After the initial wave, the medical professional in the local community received positive attributions as they were able to manage their medical capacity. Hospitals were able to "conduct some elective care, conduct telehealth, and virtual care" as COVID-19 infection rates started to decrease.[66]

## Summary

Using a detailed literature review, National Guard and Reserve medical units' responses, and National Guard and Reserve activation criteria as the foundation of this research helped establish the criteria for recommendations that could help increase medical support to future pandemics. The primary research question was how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when

activating those personnel could adversely impact civilian responses to crises like COVID-19? Based on the analysis of the case studies activations should be closely monitored to ensure activations do not degrade medical civilian responses. It is recommended that activations be managed at the highest level and use mission command to ensure subordinate commands scrub their formations so Soldiers that are currently responding in the civilian sectors are not tasked to respond to a pandemic outside of their local area. Both the Army Reserves and National Guard managed activations in order to prevent the degradation the civilian response in their local communities.

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[1] Creswell, *Qualitative Inquiry and Research Design*.

[2] CDC, "Ebola (Ebola Virus Disease): 2014-2016 Ebola Outbreak in West Africa."

[3] Centers for Disease Control and Prevention (CDC), "Ebola (Ebola Virus Disease): Transmission," U.S. Department of Health & Human Services, January 14, 2021, https://www.cdc.gov/vhf/ebola/transmission/index.html.

[4] Ibid.

[5] CDC, "Ebola (Ebola Virus Disease): 2014-2016 Ebola Outbreak in West Africa."

[6] Ibid.

[7] Ibid.

[8] Ibid.

[9] Joint Staff J-7, *Operation UNITED ASSISTANCE*, 1-110.

[10] U.S. Congress, House, *The Ebola Crisis: Coordination of a Multi-Agency Response: Hearing before the Committee on Oversight and Government Reform,* 113th Cong., 2nd sess., (October 24, 2014), https://www.govinfo.gov/content/pkg/CHRG-113hhrg94053/html/CHRG-113hhrg94053.htm.

[11] Office of the Press Secretary, The White House, "FACT SHEET: U.S. Response to the Ebola Epidemic in West Africa."

[12] U.S. Congress, House, *Combating Ebola in West Africa: The International Response: Hearing before the Committee on Oversight and Government Reform,* 113th Cong., 2nd sess., (November 13, 2014), https://www.govinfo.gov/content/pkg/CHRG-113hhrg91450/html/CHRG-113hhrg91450.htm.

[13] Chris Carroll, "National Guard, Reserve Units for Ebola Fight Identified," *Stars and Stripes*, November 17, 2014, https://www.stripes.com/news/national-guard-reserve-units-for-ebola-fight-identified-1.314614.

[14] Joint Staff J-7, *Operation UNITED ASSISTANCE.*

[15] Ibid., 53.

[16] Ibid., 5.

[17] Ibid., 60.

[18] Ibid., 5.

[19] Ibid., 55.

[20] Editors of Encyclopedia Britannica, "Hurricane Katrina, *Encyclopedia Britannica*, last updated September 23, 2020, https://www.britannica.com/event/Hurricane-Katrina.

[21] Roberta Berthelot, "The Army Response to Hurricane Katrina," U.S. Army, September 10, 2010. https://www.army.mil/article/45029/the_army_response_to_hurricane_katrina#:~:text=The%20surge%20along%20the%20Louisiana%20coast%20would%20push,places%20and%20inundate%20New%20Orleans%20and%20surrounding%20parishes.

[22] Ibid.

[23] Michael Appleton, "Hurricane Katrina," History, updated August 9, 2019, https://www.history.com/topics/natural-disasters-and-environment/hurricane-katrina.

[24] Editors of Encyclopedia Britannica, "Hurricane Katrina."

[25] U.S. President, *The Federal Response to Hurricane Katrina: Lessons Learned* (Washington, DC: The White House, February 2006), https://georgewbush-whitehouse.archives.gov/reports/katrina-lessons-learned/chapter4.html.

[26] GAO, GAO-06-808T.

[27] Wombwell, *Army Support during the Hurricane Katrina Disaster*, 1-282.

[28] GAO, GAO-06-808T.

[29] Wombwell, *Army Support during the Hurricane Katrina Disaster*, 1-282.

[30] Ibid., 17.

[31] Ibid.

[32] Ibid.

[33] Ibid., 58.

[34] Ibid., 92.

[35] Ibid., 105.

[36] Ibid., 84.

[37] Centers for Disease Control and Prevention (CDC), "Origin of 2009 H1N1 Flu (Swine Flu): Questions and Answers," U.S. Department of Health & Human Services, November 25, 2009, https://www.cdc.gov/h1n1flu/information_h1n1_virus_qa.htm.

[38] Ibid.

[39] HHS, "An HHS Retrospective on the 2009 H1N1 Influenza Pandemic to Advance All Hazards Preparedness."

[40] Ibid.

[41] Centers for Disease Control and Prevention (CDC), "The 2009 H1N1 Pandemic: Summary Highlights, April 2009-April 2010," U.S. Department of Health & Human Services, updated June 16, 2010, https://www.cdc.gov/h1n1flu/cdcresponse.htm.

[42] CDC, "Influenza (Flu): 2009 H1N1 Pandemic (H1N1pdm09 Virus)."

[43] Jeffery et al., "Impact of the 2009 Influenza (H1N1) Pandemic on the United States Military Health Care System," 653–658.

[44] Ibid., 656.

[45] Centers for Disease Control and Prevention (CDC), "2009 H1N1 Flu ('Swine Flu') and You," U.S. Department of Health & Human Services, February 10, 2010, https://www.cdc.gov/h1n1flu/qa.htm.

[46] Judith Snyderman, "DOD Officials: Military Will Have Enough H1N1 Vaccine," U.S. Air Force, November 2, 2009, https://www.af.mil/News/Article-Display/Article/118661/dod-officials-military-will-have-enough-h1n1-vaccine/.

[47] HHS, "An HHS Retrospective on the 2009 H1N1 Influenza Pandemic to Advance All Hazards Preparedness."

[48] Centers for Disease Control and Prevention (CDC), "Coronavirus (COVID-19): Frequently Asked Questions," U.S. Department of Health & Human Services, March 6, 2021, https://www.cdc.gov/coronavirus/2019-ncov/faq.html.

[49] CDC, "About COVID-19."

[50] Centers for Disease Control and Prevention (CDC), "Influenza (Flu): Similarities and Differences between Flu and COVID-19," U.S. Department of Health & Human Services, May 7, 2021, https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm.

[51] Centers for Disease Control and Prevention (CDC), "How to Protect Yourself & Others," U.S. Department of Health & Human Services, April 11, 2021, https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html.

[52] Cucinotta and Maurizio, "WHO Declares COVID-19 a Pandemic," 157–160.

[53] Assistant Secretary of Defense, Military Personnel Guidance for Department of Defense Components in Responding to Corona virus Disease 2019.

[54] U.S. President, Providing Continued Federal Support for Governors' Use of the National Guard to Respond to Covid-19 and to Facilitate Economic Recovery.

[55] Lister et al., *Overview of U.S. Domestic Response to Coronavirus Disease 2019 (COVID-19)*.

[56] U.S. Army National Guard, "National Guard Response to COVID-19 and Civil Unrest."

[57] Ibid.

[58] Sara Morris, Joseph Siemandel, and Alyson Teeter, "Washington State's Military Department Responds to COVID-19 Pandemic," U.S. Department of Defense, July 30, 2020, https://www.defense.gov/Explore/Features/Story/Article/2292515/washington-states-military-department-responds-to-covid-19-pandemic.

[59] U.S. Army National Guard, "National Guard Response to COVID-19 and Civil Unrest."

[60] Lacdan, "Army Deploys Medical Task Forces to Help Hard-Hit Communities."

[61] Ibid.

[62] Ibid.

[63] Scott, "San Antonio Army Reserve Nurse Assists with Federal COVID Response in Arizona."

[64] Lister et al., *Overview of U.S. Domestic Response to Coronavirus Disease 2019 (COVID-19)*.

[65] Ibid.

[66] American Hospital Association, "Coronavirus COVID-19: Organizational Preparedness and Capacity Planning," accessed May 6, 2021, https://www.aha.org/issue-landing-page/2020-09-29-coronavirus-covid-19-organizational-preparedness-and-capacity.

# CHAPTER 5

# CONCLUSIONS AND RECOMMENDATIONS

## Introduction

Throughout the last 30 years, U.S. Army Reserves and National Guardsmen have been activated to respond to pandemics and natural disasters. The activation for Nation Guard medical units were control by governors but they can also be federalized by the president when a national emergency is declared. Even though the National Guard was federalized during the COVID-19 Pandemic, they still remained under the control of their respective governors. Reserve activation normally results from federalization due to natural disasters or as a response to anything that can damage U.S. interests. Mobilized U.S. Army Reserve Soldiers fell under U.S. Army North during their mission for Defense Support of Civil Authorities (DSCA) events. U.S. Northern Command, through U.S. Army North, controlled reserve activation and was committed to aid in the whole-of-government approach to the COVID-19 Pandemic. Medical units under U.S. Army North fell under a regional Medical Command (Deployment Support). After activation, Reserve and National Guardsmen medical response was tailored to the event or disaster that they were responding too. This focused their efforts and made their response able to support whatever mission they were given.

## Findings

The primary research question was, how should the Army Reserve monitor and manage U.S. Army Reserve personnel activations when activating those personnel could adversely impact civilian responses to crises like COVID-19? The current activation

criteria offered the best response to date based on tactics, techniques, and procedures (TTPs), as well as from lessons learned from previous activations. As discussed in chapter 4, the way that activations were managed and broken down offered an adequate response to pandemics. Through the activation of U.S. Army Reserves civilian hospitals were augmented with nurses, medical planners, doctors, physician assistants, and they were able to deliver critical medical supplies to hospitals in hotspots. Urban Augmentation Medical Task Forces were also formed to mobilize Soldiers with an array of medical expertise to COVID-19 hotspots across the United States in order to curve infection rates.

Secondary questions were based on preliminary impressions of the problem that needed to be researched. Was there a system in place to make timely decisions about individual activations? What should/could that system look like? How did the Army National Guard monitor and manage U.S. Army National Guard personnel activations when activating those personnel could adversely impact civilian responses to crises like the COVID-19 Pandemic? What was the impact of not activating any or more U.S. Army Reserve units to support the initial COVID-19 response? During the research process it became apparent how activations were managed. Activations for the U.S. Army Reserves were managed at the Secretary of Defense and U.S. Army North levels. The governors, National Guard Bureau, and potentially the Secretary of Defense managed activations for National Guard units. If the pandemic or natural disaster surpasses the national threshold for the Reserves or threshold for the state, then the National Guard and Reserves would be activated. Through mission command, commanders had a check and balance system to

ensure that if their Soldiers are responding to a national emergency in their community, they would not be activated. Instead, a unit with the same capability or other Soldiers within the unit were used who were not tasked with supporting their local community. This process was a potential mitigation measure to prevent the local medical communities' mission from being degraded and not taking away from the capability of the national response.

The activation of more U.S. Army Reserve medical units could seriously degrade the medical capability of the local medical response to combat COVID-19 in hotspots. This activation would take needed medical assets away from local hotspots to move to another hotspot. Activation rates were under the premise that medical assets were not being activated to respond to a hotspot in their local community, as the activation process should not have allowed a Soldier/unit to be activated if they are actively responding to the pandemic. U.S. Army Reserve medical units were activated from a variety of locations to respond to hotspots across the continental United States. This did not degrade any medical capabilities in their local community.

The study observed that activations enhanced the COVID-19 response as it allocated desperately needed resources to communities that would have otherwise not had the resources to support the local population, thus they truly made a difference in communities across the U.S. These resources included setting up robust testing sites, providing COVID-19 screenings, making medical supply deliveries, setting up alternate care facilities, increasing hospital capacities, helping in nursing homes, and augmenting clinics. National Guard medical units have been critical to the statewide response to

SARS-CoV-2 as it allowed them to respond to the COVID-19 Pandemic in their local communities as well as in other states. Governors of states with COVID-19 hotspots welcomed the help from National Guardsmen from states who did not see many COVID-19 cases. This activation made a difference in communities across the U.S.

## Recommendations

Overall findings led towards three recommendations for the research problem. First, the activation process needed a closer look as the COVID-19 Pandemic was new to the world. It is recommended that activations be screened at two levels. This may sound redundant but the method would allow the command to know if providers/medical professionals work at multiple hospitals as well as verifying that the Soldiers are working in the hospitals. In addition, this would also help when the mobilization window is short as it will increase the accuracy of data presented to the leadership. Alternately, U.S. Army North along with MEDCOM could conduct data verification that compares what the Soldier personally reports to local hospitals or medical center employment data. If their employment records matched, then the Soldiers would not be activated with their unit and if it did not match with employment records then the Soldiers would be activated. Some Soldiers may have slipped through the cracks but since takes time for after action reviews to be conducted in activated units, the information would not be available for some time.

Secondly, National Guard medical units could also be utilized more especially since they are overseen by governors as the bulk of the medical response was from the U.S. Army Reserves. Thirdly, medical units from the National Guard and U.S. Reserves

could do joint training in order to have a unity of effort for a medical response instead of conducting two separate responses. The research did not indicate that the National Guard and Reserve medical units were working together. This joint effort would achieve a unity of effort which could result in a more robust response. Again, this may come out in future studies through after-action reviews.

## Areas for Further Research

In order to better understand the impacts of activation, it is recommended that research on the impact of active-duty medical units on the COVID-19 Pandemic is warranted, as this was not covered in this research. Active duty, medical providers from medical treatment facilities all across the U.S. deployed to COVID-19 hotspots to augment inundated hospitals and clinics. This could be compared to the reserve and National Guard medical units' response to tailor a DoD response for future pandemics. In this scenario the National Guard could continue to take the lead, followed by the U.S. Army Reserves, and Active-Duty would serve as an advising role. If all three components, government agencies, and non-government agencies are working together achieving a unity of effort which would reduce the duplication of effort across the DoD.

Another area that needs to be researched is what effect did civilian travel nurses, doctors, and other medical assets have on COVID-19 hotspots. Civilian medical providers traveled across the country to help COVID-19 hotspots or to find work.[1] If the civilian hospitals were not in a COVID-19 hotspot then it was not making money as hospitals were not giving civilians the option for elective surgeries, which generated a signification portion of hospital revenue. This forced, out of work medical providers to

travel to COVID-19 hotspot to seek employment opportunities or to help citizens suffering from COVID-19 complications.[2] Researching traveling medical professionals' impacts on the local economy and their response to the COVID-19 Pandemic maybe worthwhile. Traveling medical professionals' response and the military medical unit response could be compared and contrasted in future studies to see which set best met the needs of the community as well as how responses could be improved for future pandemics.

## Summary

Furthermore, it would be practical to research the relationship that existed between military medical units and FEMA. During national disasters FEMA always heads the response.[3] What was not clear was the continuity of the responses between FEMA and the military. FEMA and military medical units could practice responding to notional events in order to tailor or package response teams to be activated for an event. These response teams could be designed to fit future pandemics, epidemics, or national disasters. This would combine entities like FEMA and military medical units' resources for a more robust response. The response teams could improve the operational relationships with civilian and military partners at the local, state, regional and national levels. As the world has not seen a pandemic on this level since the 1918 Spanish Flu Pandemic.[4] In order to be prepared for future pandemics, after action reviews have to be conducted with lessons learned implemented during the next response. A pandemic or natural disaster is destined to occur again in the future. As a country, we must be

prepared and ready to preserve our nation's interest, protect the citizens of the U.S., and plan in detail a whole of government response.

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[1] Ebert, "Medical Headhunters Drawing Thousands of Nurses to Virus Hotspots."

[2] Ibid.

[3] U.S. Congress, House, *FEMA's Natural Disaster Preparedness and Response Efforts during the Coronavirus Pandemic*.

[4] Shortridge, "The 1918 'Spanish' Flu," 384–385.

# APPENDIX A

## RESERVE AND NATIONAL GUARD MEDICAL CAPABILITIES

Appendix A outlines the medical capabilities of all medical units in the Army to include Reserve and National Guard medical capabilities.

Table 4. Reserve and National Guard Medical Capabilities

| **Organization** | **Capabilities** |
|---|---|
| Field Hospital (32 bed) | 1. Operating up to 72 hours with its initial basic load of supply.<br>2. Hospitalization for up to 32 patients consisting of one (1) ward providing intensive nursing care for up to twelve (12) patients and one (1) ward providing intermediate nursing care for up to twenty (20) patients.<br>3. Surgical capability, including general, orthopedic, and obstetrics-gynecological based on two operating room tables capable of providing 36 operating room hours per day.<br>4. Provides a medical materiel set radiology, computerized tomography which enables the hospital to perform computerized tomography examinations. |
| Hospital Augmentation Detachment (Surg 24 Bed) | 1. Augmentation of surgical capability for thoracic, orthopedic, and oral maxillofacial surgery based on two (2) operating room tables for a total of thirty-six (36) operating table hours per day.<br>2. Augmentation of hospitalization with up to 24 patients consisting of two (2) wards providing intensive care nursing |
| Hospital Augmentation Detachment Medical (32 Bed) | 1. Augmentation to the Field Hospital with hospitalization for up to 32 patients consisting of one (1) ward providing intensive care nursing for up to 12 patients, requiring the most intensive monitoring/care, and one (1) ward providing intermediate care nursing for up to twenty (20) patients<br>2. Emergency dental care and essential dental care designed to prevent potential dental emergencies<br>3. Augmentation to the Specialty Clinic of the Field Hospital with added psych, community health nursing, and PT capabilities |
| Hospital Augmentation Detachment (ICW 60 Bed) | Hospitalization for up to 60 patients consisting of three (3) wards providing intermediate nursing care.<br>(3) ICWs (each ICW consists of 20 beds). |
| Medical Detachment, Minimal Care | 1. Augmentation of the hospital to which attached to provide hospitalization and minimal nursing for up to 120 patients.<br>2. The minimum care detachment provides nursing, physical therapy, and occupational therapy services. |
| Hospital Augmentation Team, Head & Neck | 1. Provides initial and secondary ear, nose and throat surgery.<br>2. Provides initial and secondary neurosurgery.<br>3. Provides initial and secondary eye surgery. |
| Medical Team, Optometry | 1. Medical Team, Optometry consisting of six personnel that can be divided into two teams (Optometry Teams A and B).<br>2. Provide optometry support limited to eye examination, spectacle fabrication, frame assembly, and repair services to brigade and non-brigade units in the area of operations as far forward as possible<br>3. Initial diagnosis and management of eye injuries.<br>4. Examinations to detect, prevent, diagnose, treat, and manage ocular related disorders, injuries, diseases, and visual dysfunctions. |
| Dental Company (Area Support) | 1. Far Forward operational dental care to small and forward deployed troop concentrations. This section is<br>composed of 3 Forward Support Treatment Sections. Each section is composed of 6 Treatment Teams for a total<br>of 18 forward treatment teams for area support.<br>2. Operational dental care, consisting of emergency dental care and essential dental care.<br>3. Reinforcement and reconstitution of the BCT and Armored Cavalry Regiment dental assets. |

| | |
|---|---|
| Medical Detachment, Combat & Operational Stress Control | 1. When provided logistical and administrative support by a hospital, holding/restoration capability of 50 soldiers for up to 3 days.<br>1. Neuropsychiatric care, triage and stabilization.<br>2. The COSC Medical Detachment has the capability to deploy a Forward Support Section supporting a division as required. The supported unit provides command and control for the forward support section. Both support sections have the capability to break down into six 3-man teams. |
| Medical Detachment, Preventive Medicine | 1. Direct pest management.<br>2. Direct medical entomology consultation.<br>3. Collection of water and ice samples for CBRN surveillance.<br>4. Food service sanitation inspections of field feeding sites.<br>5. Monitoring of water and field ice production and distribution.<br>6. Collection of water, soil, and air samples from sources that may pose environmental, occupational, or industrial hazards to troops for definitive analysis.<br>7. Training and certification for field sanitation team and food service personnel. |
| Area Medical Laboratory | 1. Analytical, investigative and consultative capabilities to identify CBRN threat agents in biomedical specimens and other samples from the AO.<br>2. Data and data analysis to support medical analysis and operational decisions.<br>3. Medical laboratory analysis to support the diagnosis of zoonotic and significant animal diseases that impact on military operations. |
| Medical Detachment, Veterinary Service Support | 1. Role 1 and 2 veterinary medical and resuscitative surgical care.<br>2. Level III comprehensive canine veterinary medical/surgical care.<br>3. Food safety, quality, and sanitation inspections.<br>4. Levels I and II food microbiological and chemical laboratory diagnostics.<br>5. Endemic zoonotic and foreign animal disease epidemiology surveillance and control. |
| Medical Logistics Company | 1. Class VIII support (based on Class VIII consumption rate of 1.20 lbs per person per day).<br>2. Processing (receive, classify, and issue) of up to 13 short tons of Class VIII supplies.<br>3. 220 field level medical maintenance and repair man-hours per day.<br>4. Storage for up to 51 short tons of Class VIII supply.<br>5. Capability to deploy one Early Entry team, three medical maintenance contact repair teams, and three forward distribution teams. |
| Medical Detachment, Blood Support | 1. 72-hours, limited self-sustainment during initial operations.<br>2. Receives and stores up to 5,100 refrigerated and/or frozen blood products from CONUS or MTFs.<br>3. Establishes the theater blood distribution plan within the JOA, including storage levels and locations, and the schedule of re-supply.<br>4. Collects, processes and tests whole blood and apheresis platelet from the available donor pool when needed. |
| Medical Logistics Management Center | 1. Reviews and analyzes demands, and computes Theater Army requirements for Class VIII supplies, medical equipment, medical equipment maintenance, and optical fabrication<br>2. Monitors the operation and mission command of Medical Logistics units in all areas of operation. |
| Medical Team, Forward Resuscitative & Surgical and Medical Team, Forward Resuscitative & Surgical (ABN) | 1. Emergency treatment to receive, triage, stabilize and prepare 30 incoming casualties for surgery over a 72 hr period<br>2. Post-op care manages 8 patients > 6 hours post-surgery.<br>3. Two resuscitative and surgical elements, capable of supporting split based operations, each consisting of administration/supply, surgical and resuscitative sections (10 personnel). In this configuration the FRST provides emergency treatment to receive, triage, and prepare 12 incoming casualties for surgery over a 72-hour period; provides the required surgery and continued postoperative care for critically wounded/injured patients with organic MES. Postoperative care can manage 4 patients over 6 hours post-surgery.<br>4. Two surgical elements, capable of supporting very short duration (24 hours) operations, consisting of only a surgical element (6 personnel). In its smallest configuration, the single surgical element provides emergency treatment to receive, triage, and prepare 4 incoming casualties for surgery; provides the required surgery and limited continued post-operative care for those critically wounded/injured patients over a period of 24 hours with its organic MES.<br>5. Surgical augmentation of Role 3 MTFs surgical capability.<br>1. A single-lift evacuation of 96 litter patients or 192 ambulatory |
| Medical Company, Ground Ambulance | 1. A single-lift evacuation of 96 litter patients or 192 ambulatory patients.<br>2. Reinforcement of Brigade medical company evacuation assets.<br>3. Vehicle refueling support for the HHD, Multifunctional Medical Battalion when collocated.<br>4. Reinforcement of Brigade medical company evacuation assets. |

| | |
|---|---|
| Medical Company (Area Support) | 1. Patient holding for up to 40 patients per ASMC.<br>2. Emergency dental care, pharmacy, and mental health support<br>3. Evacuation of patients from units within the ASMC's AO to the treatment squads of the ASMC<br>4. Treatment of patients with disease and minor injuries, triage of mass casualties, initial resuscitation/stabilization, advanced trauma life support, and preparation for further evacuation of ill, injured, and wounded patients who are incapable of returning to duty within 72 hours |
| HHD, Medical Battalion (Multifunctional) | 1. Provides command and control, staff planning, supervision of operations, medical and general logistics support as required, and administration of the assigned and attached units.<br>2. Task organization of medical assets. |
| HHC, Medical Brigade | 1. Provides command and control of theater medical units providing Army Health System support for BCTs, Division/Corps, Joint and Multinational Forces.<br>2. Coordination with the MEDCOM (DS) Theater Patient Movement Center or supporting Theater Patient Movement Requirements Center for medical regulating and medical evacuation from MMBs and hospitals to supporting Theater Army Units (MTFs) and CONUS. |
| HHC, MEDCOM (Deployment Support) | 1. Command and control of theater medical units.<br>2. Coordination and integration of strategic capabilities from the sustaining base to units in the Theater AO. |
| Medical Company, Brigade Support Battalion | 1. Treatment of patients with DNBI, COSR, triage of MASCAL, ATM, initial resuscitation and stabilization, and preparation for further evacuation of patients incapable of returning to duty.<br>2. Ground evacuation for patients from the BAS and designated CCPs to the BSMC.<br>3. Medical laboratory and radiology services commensurate with Role 2 MTFs.<br>4. Patient holding for up to 20 patients able to return to duty within 72 hours. |
| **Legend**<br>AO - area of operation PT - physical therapy<br>ICW - intensive care ward Surg - surgical<br>HHD- headquarters, headquarters detachment DNBI - disease and non-battle injury<br>COSC - Combat & Operational Stress Control CONUS - continental United States<br>BCT - brigade combat team JOA - joint operations area<br>CBRN - chemical, biological, radiological, and nuclear MTF - medical treatment facility<br>ABN - airborne HHC - headquarters, headquarters company<br>FRST - forward resuscitative surgical team ASMC - medical company (area support)<br>ATM - advanced trauma management HHD- headquarters, headquarters detachment<br>BAS - battalion aid station MASCAL - mass casualty<br>BSMC - brigade support medical company MEDCOM - medical command<br>MES - medical equipment set MMB - medical battalion (multifunctional)<br>CCP - casualty collection point | |

*Source:* Created by author using data from Headquarters, Department of the Army, Army Techniques Publication 4-02.55, *Army Health System Support Planning* (Washington, DC: Army Publishing Directorate, 2020), https://fas.org/irp/doddir/army/atp4-02-55.pdf.

# BIBLIOGRAPHY

## Articles


Allison-Aipa, Timothy S., Gabriel M. De La Rosa, Melba C. Stetz, and Carl A. Castro. "The Impact of National Guard Activation for Homeland Defense: Employers' Perspective." *Military Medicine* 170, no. 10 (October 2005): 846–850. https://doi.org/10.7205/MILMED.170.10.846.

Appleton, Michael. "Hurricane Katrina." History. Updated August 9, 2019. https://www.history.com/topics/natural-disasters-and-environment/hurricane-katrina.

Berthelot, Roberta. "The Army Response to Hurricane Katrina." U.S. Army, September 10, 2010. https://www.army.mil/article/45029/the_army_response_to_hurricane_katrina#:~:text=The%20surge%20along%20the%20Louisiana%20coast%20would%20push,places%20and%20inundate%20New%20Orleans%20and%20surrounding%20parishes.

Carroll, Chris. "National Guard, Reserve Units for Ebola Fight Identified." *Stars and Stripes*, November 17, 2014. https://www.stripes.com/news/national-guard-reserve-units-for-ebola-fight-identified-1.314614.

Chen, Grace L., Elaine W. Lamirande, Xing Cheng, Fernando Torres-Velez, Marlene Orandle, Hong Jin, George Kemble, and Kanta Subbarao. "Evaluation of Three Live Attenuated H2 Pandemic Influenza Vaccine Candidates in Mice and Ferrets." *Journal of Virology* 88, no. 5 (March 2014): 2867-2876. https://jvi.asm.org/content/jvi/88/5/2867.full.pdf.

Cucinotta, Domenico, and Vanelli Maurizio. "WHO Declares COVID-19 a Pandemic." *Acta Bio-Medica* 91, no. 1 (March 2020): 157–160. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7569573/.

Ebert, Alex. "Medical Headhunters Drawing Thousands of Nurses to Virus Hotspots." Bloomberg Law, April 20, 2020. https://news.bloomberglaw.com/health-law-and-business/medical-headhunters-drawing-thousands-of-nurses-to-virus-hotspots.

Jeffery, Diana D., Martin Cohen, Arnold Brooks, Andrea Linton, Richard Gromadzki, and Christine Hunter. "Impact of the 2009 Influenza (H1N1) Pandemic on the United States Military Health Care System." *Military Medicine* 178, no. 6 (June 2013): 653–658. https://academic.oup.com/milmed/article/178/6/653/4320197.

Jester, Barbara, Timothy M. Uyeki, Daniel B. Jernigan, Terrence M. Tumpey. "Historical and Clinical Aspects of the 1918 H1N1 Pandemic in the United States." *Virology* 527 (January 2019): 32-37. https://pubmed.ncbi.nlm.nih.gov/30453209/.

Kilbourne, Edwin D. “Influenza Pandemics of the 20th Century.” *Emerging Infectious Diseases* 12, no. 1 (January 2006): 9-14. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3291411/.

Klebnikov, Sergei. “Trump Declares A National Emergency Under The Stafford Act-Here’s What That Actually Allows Him To Do.” *Forbes*, March 13, 2020. Accessed December 15, 2020. https://www.forbes.com/sites/sergeiklebnikov/2020/03/13/trump-declares-a-national-emergency-under-the-stafford-act-heres-what-that-actually-allows-him-to-do/?sh=7e097c325c48.

Lacdan, Joe. “Army Deploys Medical Task Forces to Help Hard-Hit Communities.” U.S. Army Reserve, April 13, 2020. Accessed December 20, 2020. https://www.usar.army.mil/News/Article/2146985/army-deploys-medical-task-forces-to-help-hard-hit-communities/.

Naifeh, James A, Robert J. Ursano, Ronald C. Kessler, Oscar I. Gonzalez, Carol S. Fullerton, Holly B. Herberman Mash, Charlotte A. Riggs-Donovan, Tsz Hin Hinz Ng, Gary H. Wynn, Hieu M. Dinh, Tzu-Cheg Kao, Nancy A. Sampson, and Murray B. Stein. “Suicide Attempts among Activated Soldiers in the U.S. Army Reserve Components.” *BMC Psychiatry* 19, no. 31 (January 2019): 1-11. https://doi.org/10.1186/s12888-018-1978-2.

Orrell, John. “Hurricane Katrina Response: National Guard’s ‘Finest Hour’.” U.S. Army, August 27, 2010. https://www.army.mil/article/44368/hurricane_katrina_response_national_guards_finest_hour.

Oster, Alexandra M., Gloria J. Kang, Amy E. Cha, Vladislav Beresovsky et al. “Trends in Number and Distribution of COVID-19 Hotspot Counties - United States, March 8-July 15, 2020.” *Morbidity and Mortality Weekly Report* 69, no. 33 (August 2020): 1127-1132. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7439980/.

Reed, Jim. “National Guard Assists Response to the COVID-19 Pandemic.” National Conference of State Legislatures, April 28, 2020. Accessed December 15, 2020. https://www.ncsl.org/research/ military-and-veterans-affairs/national-guard-activation-in-every-state-assisting-response-to-the-covid-19-pandemic.aspx.

Reid, Ann H., Thomas G. Fanning, Johan V. Hultin, and Jeffery K. Taubenberger. “Origin and Evolution of the 1918 ‘Spanish’ Influenza Virus Hemagglutinin Gene.” *Proceedings of the National Academy of Sciences of the United States of America* 96, no. 4 (February 1999): 1651–1656. https://doi.org/10.1073/pnas.96.4.1651.

Reid, Ann H., Jeffery K. Taubenberger, and Thomas G. Fanning. “The 1918 Spanish Influenza: Integrating History and Biology.” *Microbes and Infection* 3, no. 1 (January 2001): 81−87. https://doi.org/10.1016/s1286-4579(00)01351-4.

Saunders-Hastings, Patrick R., and Daniel Krewski. “Reviewing the History of Pandemic Influenza: Understanding Patterns of Emergence and Transmission.” *Pathogens* 5, no. 4 (December 2016): 1-19. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5198166/.

Scott, Kenneth. “San Antonio Army Reserve Nurse Assists with Federal COVID Response in Arizona.” U.S. Army Reserve, March 15, 2021. https://www.usar.army.mil/News/Article/2537290/san-antonio-army-reserve-nurse-assists-with-federal-covid-response-in-arizona/.

Shortridge, Kennedy F. “The 1918 ‘Spanish’ Flu: Pearls from Swine?” *Nature Medicine* 5 (April 1999): 384–385. https://doi.org/10.1038/7383.

Snyderman, Judith. “DOD Officials: Military Will Have Enough H1N1 Vaccine.” U.S. Air Force, November 2, 2009. https://www.af.mil/News/Article-Display/Article/118661/dod-officials-military-will-have-enough-h1n1-vaccine/.

Soucy, Jon. “Guard’s Role in Disaster Response Defined More Clearly.” U.S. Army, March 3, 2012. https://www.army.mil/article/74990/guards_role_in_disaster_response_defined_more_clearly.

Taylor, Anthony L. “Army Reserve Chicago-Based Command Acquires New Mission.” U.S. Army, September 20, 2020. https://www.army.mil/article/239099/army_reserve_chicago_based_command_acquires_new_mission.

Trilla, Antoni, Guillem Trilla, and Carolyn Daer. “The 1918 ‘Spanish Flu’ in Spain.” *Clinical Infectious Diseases* 47, no. 5 (September 2008): 668-673. https://doi.org/10.1086/590567.

U.S. Army National Guard. “National Guard Response to COVID-19 and Civil Unrest.” June 1, 2020. https://www.nationalguard.mil/Resources/Press-Releases/Article/2212990/national-guard-response-to-covid-19-and-civil-unrest/.

U.S. Department of Defense. “Hagel Mobilizes Reserve Forces in Support of Operation United Assistance.” *DOD News*, November 14, 2014. Accessed February 20, 2021. https://www.defense.gov/Explore/News/Article/Article/603652/hagel-mobilizes-reserve-forces-in-support-of-operation-united-assistance.

U.S. President. Executive Order 13911, “Delegating Additional Authority under the defense Production Act of 1950 With Respect to Health and Medical Resources To Respond to the Spread of COVID–19.” The White House, Washington, DC, March 27, 2020. https://www.presidency.ucsb.edu/documents/executive-order-13911-delegating-additional-authority-under-the-defense-production-act.

Winnefeld, James, and Craig R. McKinley. “The Right Way to Activate the National Guard.” *The Atlantic*, March 22, 2020. Accessed December 10, 2020. https://www.theatlantic.com/ideas/archive/2020/03/right-way-activate-national-guard/608524/.

Government Documents

Assistant Secretary of Defense. Memorandum, Subject: Implementation Guidance for Presidential Memorandum on Providing Federal Support for Governor’s Use of the National Guard to Respond to COVID-19 dated April 20, 2020. Department of Defense, Washington, DC, April 24, 2020. https://prhome.defense.gov/Portals/52/Implementation%20Guidance_PM7_24Apr2020.pdf.

———. Memorandum, Subject: Military Personnel Guidance for Department of Defense Components in Responding to Corona virus Disease 2019. Department of Defense, Washington, DC, March 23, 2020. https://media.defense.gov/2020/Mar/26/2002270634/-1/-1/1/Military-Personnel-Guidance-for-Department-of-Defense-Components-in-Responding-to-Coronavirus-Disease-2019.pdf.

De La Hoya, Dino. “Cactus COVID-19 Task Force Protects Reserve Force.” U.S. Department of Defense, October 8, 2020. https://www.defense.gov/Explore/Features/Story/Article/2374032/cactus-covid-19-task-force-protects-reserve-force/.

Federal Emergency Management Agency. “COVID-19 Disaster Declarations.” Accessed February 20, 2021. https://www.fema.gov/disasters/coronavirus/disaster-declarations.

Headquarters, Department of the Army. Army Techniques Publication 4-02.55, *Army Health System Support Planning*. Washington, DC: Army Publishing Directorate, 2020. https://fas.org/irp/doddir/army/atp4-02-55.pdf.

Joint Staff J-7, Joint Coalition and Operations Analysis. *Operation UNITED ASSISTANCE: The DOD Response to Ebola in West Africa*. Suffolk, VA: Joint Staff J-7, January 6, 2016. https://www.jcs.mil/Portals/36/Documents/Doctrine/ebola/OUA_report_jan2016.pdf.

Kapp, Lawrence, and Don J. Jansen. *The Role of the Department of Defense during a Flu Pandemic.* Congressional Research Service Report for Congress. Washington, DC: Library of Congress, June 4, 2009. https://fas.org/sgp/crs/natsec/R40619.pdf.

Lister, Sarah A., Kavya Sekar, Agata Dabrowska, Frank Gottron, and Amanda K. Sarata. *Overview of U.S. Domestic Response to Coronavirus Disease 2019 (COVID-19).* Congressional Research Service Report for Congress. Washington, DC: Library of Congress, updated March 2, 2020. https://crsreports.congress.gov/product/pdf/R/R46219/.

Mendez, Bryce H.P. "Military Medical Care: Mitigating Impacts from Medical Unit Deployments." Congressional Research Service (CRS) Insight, CRS, Washington, DC, updated November 21, 2018. https://crsreports.congress.gov/product/pdf/IN/IN10999/3#:~:text=Military%20Medical%20Care%3A%20Mitigating%20Impacts%20From%20Medical%20Unit,a%20deployable%20medical%20unit.%20In%20certain%20instances%2C%20MTF.

Morris, Sara, Joseph Siemandel, and Alyson Teeter. "Washington State's Military Department Responds to COVID-19 Pandemic." U.S. Department of Defense, July 30, 2020. https://www.defense.gov/Explore/Features/Story/Article/2292515/washington-states-military-department-responds-to-covid-19-pandemic/.

Office of the Press Secretary, The White House. "FACT SHEET: U.S. Response to the Ebola Epidemic in West Africa." Press Release, September 16, 2014. https://obamawhitehouse.archives.gov/the-press-office/2014/09/16/fact-sheet-us-response-Ebola-epidemic-west-africa.

Robert T. Stafford Disaster Relief and Emergency Assistance Act, as Amended, and Related Authorities. Public Law 93-288, *US Code* 42, May 2019, 5121 et seq. https://www.fema.gov/sites/default/files/2020-03/stafford-act_2019.pdf.

Secretary of Defense. Memorandum, Subject: Delegation of Authority for Reserve Component Activation Authorities during the Coronavirus Disease 2019 Response. Department of Defense, Washington, DC, April 10, 2020. https://prhome.defense.gov/Portals/52/Delegation%20of%20Authority%20for%20Reserve%20Component%20Activation%20Authorities.pdf.

———. Memorandum, Subject: Guidance on Activating the National Guard, Reserve, and Individual Ready Reserve for Coronavirus Disease Response. Department of Defense, Washington, DC, April 2, 2020. https://prhome.defense.gov/Portals/52/Guidance%20on%20Activating%20the%20National%20Guard%20Reserve%20and%20IRR%20for%20COVID-19%20OSD003539-20%20RES%20Final%201.pdf.

U.S. Army National Guard. "National Guard National Response to COVID-19." May 15, 2020. Accessed December 27, 2020. https://www.nationalguard.mil/Resources/Press-Releases/Article/2212977/national-guard-response-to-covid-19/.

U.S. Congress. House. *Combating Ebola in West Africa: The International Response: Hearing before the Committee on Oversight and Government Reform*. 113th Cong., 2nd sess., November 13, 2014. https://www.govinfo.gov/content/pkg/CHRG-113hhrg91450/html/CHRG-113hhrg91450.htm.

———. *The Ebola Crisis: Coordination of a Multi-Agency Response: Hearing before the Committee on Oversight and Government Reform.* 113th Cong., 2nd sess., October 24, 2014. https://www.govinfo.gov/content/pkg/CHRG-113hhrg94053/html/CHRG-113hhrg94053.htm.

———. *FEMA's Natural Disaster Preparedness and Response Efforts during the Coronavirus Pandemic*: *Testimony of Peter Gaynor, Administrator, Federal Emergency Management Agency, U.S. Department of Homeland Security, before the Committee on Oversight and Reform, Subcommittee on the Environment.* Washington, DC, July 24, 2020. https://www.fema.gov/fact-sheet/femas-natural-disaster-preparedness-and-response-efforts-during-coronavirus-pandemic.

U.S. Department of Health and Human Services (HHS). "An HHS Retrospective on the 2009 H1N1 Influenza Pandemic to Advance All Hazards Preparedness." Office of the Assistant Secretary for Preparedness and Response, HHS, Washington, DC, revised June 15, 2012. https://www.phe.gov/Preparedness/mcm/h1n1-retrospective/Documents/h1n1-retrospective.pdf.

U.S. Government Accountability Office (GAO). GAO-06-808T, "Hurricane Katrina: Better Plans and Exercises Need to Guide the Military's Response to Catastrophic Natural Disasters." Statement of the Record by Sharon Pickup, Director Defense Capabilities and Management. Statement for the Record to the Subcommittee on Terrorism Unconventional Threats and Capabilities, Committee on Armed Services, House of Representatives. GAO, Washington, DC, May 25, 2006. https://www.govinfo.gov/content/pkg/GAOREPORTS-GAO-06-808T/html/GAOREPORTS-GAO-06-808T.htm.

———. GAO-06-1109T, "Reserve Forces: Army National Guard and Army Reserve Readiness for 21st Century Challenges." Statement of the Record by Janet A. St. Laurent, Director Defense Capabilities and Management. Statement for the Record to the Commission on the National Guard and Reserves, United States Government Accountability Office, House of Representatives. GAO, Washington, DC, September 21, 2006. https://www.govinfo.gov/content/pkg/GAOREPORTS-GAO-06-1109T/html/GAOREPORTS-GAO-06-1109T.htm.

U.S. National Archives and Records Administration. "The Constitution of the United States: A Transcription." Accessed May 1, 2021. https://www.archives.gov/founding-docs/constitution-transcript?_ga=2.185195817.149552491.1619854242-441124904.1619854242.

U.S. President. "EO to Order the Selected Reserve and Certain Members of the Individual Ready Reserve of the Armed Forces to Active Duty." The White House, Washington, DC, March 27, 2020. https://trumpwhitehouse.archives.gov/presidential-actions/eo-order-selected-reserve-certain-members-individual-ready-reserve-armed-forces-active-duty/.

———. *The Federal Response to Hurricane Katrina: Lessons Learned.* Washington, DC: The White House, February 2006. https://georgewbush-whitehouse.archives.gov/reports/katrina-lessons-learned/chapter4.html.

———. Memorandum, Subject: Providing Continued Federal Support for Governors' Use of the National Guard to Respond to Covid-19 and to Facilitate Economic Recovery. The White House, Washington, DC, May 8, 2020. https://trumpwhitehouse.archives.gov/presidential-actions/memo-providing-continued-federal-support-governors-use-national-guard-respondto-covid-19-facilitate-economic-recovery/.

Wombwell, James A. *Army Support during the Hurricane Katrina Disaster*. The Long War Series: Occasional Paper 29. Fort Leavenworth, KS: U.S. Army Combined Arms Center, Combat Studies Institute Press, January 2009. https://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/wombwell.pdf.

Books

Creswell, John W. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. 2nd ed. Thousand Oaks, CA: SAGE Publications, 2007.

———. *Research Design: Qualitative, Quantitative, and Mixed Method Approaches.* 3rd ed. Thousand Oaks, CA: SAGE Publications, 2009.

Yin, Robert. K. *Case Study Research: Design and Method*. 3rd ed. Thousand Oaks, CA: SAGE Publications, 2003.

Internet Sources

American Hospital Association. "Coronavirus COVID-19: Organizational Preparedness and Capacity Planning." September 29, 2020. Accessed May 6, 2021. https://www.aha.org/issue-landing-page/2020-09-29-coronavirus-covid-19-organizational-preparedness-and-capacity.

Centers for Disease Control and Prevention. "2009 H1N1 Flu ('Swine Flu') and You." U.S. Department of Health & Human Services, February 10, 2010. https://www.cdc.gov/h1n1flu/qa.htm.

———. "The 2009 H1N1 Pandemic: Summary Highlights, April 2009-April 2010." U.S. Department of Health & Human Services, updated June 16, 2010. https://www.cdc.gov/h1n1flu/cdcresponse.htm.

———. "About COVID-19." U.S. Department of Health & Human Services, September 1, 2020. https://www.cdc.gov/coronavirus/2019-ncov/cdcresponse/about-COVID-19.html.

———. “About Flu.” U.S. Department of Health & Human Services, September 5, 2019. https://www.cdc.gov/flu/about/index.html.

———. “About Variants of the Virus That Causes COVID-19.” U.S. Department of Health & Human Services, February 12, 2021. https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant.html.

———. “Coronavirus (COVID-19): Frequently Asked Questions.” U.S. Department of Health & Human Services, March 6, 2021. https://www.cdc.gov/coronavirus/2019-ncov/faq.html.

———. “COVID-19 Overview and Infection Prevention and Control Priorities in Non-US Healthcare Settings.” U.S. Department of Health & Human Services, February 26, 2021. https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/overview/index.html.

———. “Ebola (Ebola Virus Disease): 2014-2016 Ebola Outbreak in West Africa.” U.S. Department of Health & Human Services, March 8, 2019. https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html.

———. “Ebola (Ebola Virus Disease): Transmission.” U.S. Department of Health & Human Services, January 14, 2021. https://www.cdc.gov/vhf/ebola/transmission/index.html.

———. “How to Protect Yourself & Others.” U.S. Department of Health & Human Services, April 11, 2021. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html.

———. “Influenza (Flu): 2009 H1N1 Pandemic (H1N1pdm09 Virus).” U.S. Department of Health & Human Services, June 11, 2019. https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html.

———. “Influenza (Flu): Questions and Answers.” U.S. Department of Health & Human Services, May 15, 2017. https://www.cdc.gov/flu/pandemic-resources/basics/faq.html.

———. “Influenza (Flu): Similarities and Differences between Flu and COVID-19.” U.S. Department of Health & Human Services, May 7, 2021. https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm.

———. “Mission, Role and Pledge.” U.S. Department of Health & Human Services, May 13, 2019. https://www.cdc.gov/about/organization/mission.htm.

———. “Origin of 2009 H1N1 Flu (Swine Flu): Questions and Answers.” U.S. Department of Health & Human Services, November 25, 2009. https://www.cdc.gov/h1n1flu/information_h1n1_virus_qa.htm.

———. “United States COVID-10 Cases, Deaths, and Laboratory Testing (NAATs) by State, Territory, and Jurisdiction.” U.S. Department of Health & Human Services. Accessed March 16, 2021. https://covid.cdc.gov/covid-data-tracker/#cases_totalcases.

Editors of Encyclopedia Britannica. “Hurricane Katrina.” *Encyclopedia Britannica*, last updated September 23, 2020. https://www.britannica.com/event/Hurricane-Katrina.

History.com Editors. “Pandemics That Changed History.” History, updated December 21, 2020. https://www.history.com/topics/middle-ages/pandemics-timeline.

Lexico. “Influenza.” Accessed April 30, 2021. https://www.lexico.com/en/definition/influenza.

Merriam-Webster. “‘Pandemic’ vs. ‘Epidemic’.” Accessed March 16, 2021. https://www.merriam-webster.com/words-at-play/epidemic-vs-pandemic-difference.

Military Health System. “Operation United Assistance.” Accessed February 4, 2021. https://health.mil/Military-Health-Topics/Health-Readiness/Pandemic-Diseases/Ebola/Operation-United-Assistance?type=Fact%2BSheets.

National Cancer Institute at the National Institutes of Health. “World Health Organization.” U.S. Department of Health and Human Services. Accessed April 30, 2021. https://www.cancer.gov/publications/dictionaries/cancer-terms/def/world-health-organization.

National Guard Association of the United States (NGAUS). “Understanding the Guard’s Duty Status.” NGAUS Fact Sheet. Accessed November 30, 2020. http://giveanhour.org/wp-content/uploads/Guard-Status-9.27.18.pdf.

Northeast Medical Area Readiness Support Group. “Our Story.” Accessed November 25, 2020. https://www.govserv.org/US/Staten-Island/486343761434851/Northeast-Medical-Area-Readiness-Support-Group.

Peitersen, Laura E., Calli S. Levin, and Allison G. Jones. *Department of Defense Biological Threat Responses to the 2009-2010 H1N1 Influenza Outbreak: A Real-World Exercise*. The Counterproliferation Papers, Future Warfare Series No. 51. Maxwell Air Force Base, AL: Air University, USAF Counterproliferation Center, April 2011. https://media.defense.gov/2019/Apr/11/2002115515/-1/-1/0/51DODBIOTHREAT.PDF.

South Carolina National Guard. “South Carolina National Guard App.” Accessed August 3, 2021. https://www.scguard.ng.mil/Resources/South-Carolina-National-Guard-App/.

U.S. Army Human Resources Command. “IMA Program Overview.” March 8, 2021. https://www.hrc.army.mil/STAFF/IMA%20Program%20Overview.

U.S. Army Reserve. “3rd Medical Command (Deployment Support): About Us ‘Desert Medics’.” Accessed April 13, 2021. https://www.usar.army.mil/Commands/Functional/3rd-MCDS/About-Us/.

———. “America’s Army Reserve Backs up Our Medical Professionals.” May 4, 2020. https://www.usar.army.mil/News/Videos/videoid/750996/.

———. “Army Reserve Medical Command.” Accessed February 4, 2021. https://www.usar.army.mil/Commands/Functional/ARMEDCOM/About-Us/.

———. “COVID-19 Response.” Infographic, May 20, 2020. https://www.usar.army.mil/Portals/98/Images/COVID19/COVID-Infographic-Updated-21-02-03.pdf?ver=AqUqazw1t3SfGB2hQAM3Zg%3d%3d.

———. “Reserve Unit Locations.” Accessed December 9, 2020. https://www.usar.army.mil/Locate-a-Reserve-Unit/Reserve-Unit-Locations/.

U.S. Army Reserve Command. “Urban Augmentation Medical Task Forces (UAMTF).” U.S. Army Reserve, April 5, 2020. https://www.usar.army.mil/News/News-Display/Article/2137735/urban-augmentation-medical-task-forces-uamtf/.

U.S. Northern Command (USNORTHCOM). “About USNORTHCOM.” Accessed November 27, 2020. https://www.northcom.mil/About-USNORTHCOM/.

U.S. President. “Remarks by President Trump and Vice President Pence in a Video Teleconference with Governors on COVID-19.” The White House, Washington, DC, March 19, 2020. https://trumpwhitehouse.archives.gov/briefings-statements/remarks-president-trump-vice-president-pence-video-teleconference-governors-covid-19/.

World Health Organization. “Coronavirus.” Accessed July 17, 2021. https://www.who.int/health-topics/coronavirus#tab=tab_3.

———. “Our Values, Our DNA.” Accessed December 13, 2020. https://www.who.int/about/who-we-are/our-values.

———. “What Is a Pandemic?” March 12, 2020. https://www.who.int/csr/disease/swineflu/frequently_asked_questions/pandemic/en.