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The US Government and Department of Defense have plans to counter a pandemic and return the country to normal while reducing the impacts of the disease. These plans address psychological health, but only in a limited manner. The US Government and Department of Defense's response to the COVID-19 pandemic has been primarily focused on containing the virus and reducing the number of deaths and damage to the economy, with very limited attention paid to the mental health impacts, in both the population and military. Historical cases suggest that the psychological impacts can be wide ranging and enduring if not treated properly and the country does not recover from the pandemic in a deliberate fashion. While some emerging research could suggest this for the US population and military, researchers have not conducted specific studies into this particular field.

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MASTER OF MILITARY STUDIES

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MASTER OF MILITARY STUDIES

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## Executive Summary

**Title:** The Psychological Impacts of the COVID-19 Pandemic on the US Military

**Author:** Major Timothy Berger, United States Marine Corps

**Thesis:** The US military's mental health has been degraded by the COVID-19 pandemic and mitigation measures and may be degraded for a significant period of time.

**Discussion:** The US Government and Department of Defense have plans to counter a pandemic and return the country to normal while reducing the impacts of the disease. These plans address psychological health, but only in a limited manner. The US Government and Department of Defense's response to the COVID-19 pandemic has been primarily focused on containing the virus and reducing the number of deaths and damage to the economy, with very limited attention paid to the mental health impacts, in both the population and military. Historical cases suggest that the psychological impacts can be wide ranging and enduring if not treated properly and the country does not recover from the pandemic in a deliberate fashion. While some emerging research could suggest this for the US population and military, researchers have not conducted specific studies into this particular field.

**Conclusion:** The COVID-19 pandemic has had a significant impact on many aspects of American life, and will likely have similar impacts on its military, though research has not shown this to be true at this point.

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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## *Preface*

My interest in this subject was spurred by the sudden onset of the pandemic and how much of a knee jerk reaction we as a global community seemed to have to it. Even though I was deployed when COVID-19 reached the U.S., we would still hear frequent stories about how drastically life was different back at home, and how we would not be going back to the America we left. It was a daily challenge for the leadership of Combat Logistics Detachment 27 (CLD-27) and me to relay accurate information to our Marines and Sailors and ensure them we were doing everything we could to make our transition home as smooth as possible. I believe we were fairly lucky that we were only extended in Kuwait for about a month and a half, and that the Marines and Sailors were able to interact with each other during their quarantine period back at Camp Pendleton. Other units did not follow the same plan we did, and hearing about the variety of policies and procedures being employed and their effect on servicemembers across the Department of Defense, I knew it must be taking a toll on everyone's mental health. Unfortunately, the pandemic has been so severe that the focus has been on reducing the spread of the virus and helping those who have been infected recover, as opposed to its psychological impacts. Therefore, research has been sparse and the data that have been collected have not been fully analyzed. Regardless of who I spoke to, at what level of the chain of command, and at which agency, they all echoed these same findings.

If others have not realized this already, I hope that this will at least spur some more deliberate and critical thinking into how to better manage a global force during a global pandemic. As resilient as the majority of servicemembers are, we are not superhuman, and do not have an unlimited reserve of willpower to get us through any challenge. Most of our resiliency is derived

from those we serve with, which means that taking that away (by isolating us) during our most challenging times (leaving for and returning from deployments) is a recipe for disaster. I feel very blessed and fortunate that I had the Marines and Sailors that I did and the leadership around me to support CLD-27 in our return home, but I know not every military unit is as lucky. My hope is that in the future, regardless of unit, home station, and type of deployment, no servicemembers will have to worry about what is going to happen when they return home. They will know that they will be well received, cared for, and transitioned back to the lives they left, despite whatever madness may be occurring in the world around them.

## Introduction

The COVID-19 pandemic has had an enormous impact on the world in every aspect.[a] The most notable are the physical health of the global population and the international economy. But these are not the only areas in which the pandemic is wreaking havoc. As people around the world are told to remain home and quarantine or isolate themselves in order to prevent or at least slow down the spread of the virus, they are also incurring psychological impacts that are not receiving the same level of attention as the physical impacts. This prioritization of physiological health and reducing the spread of the virus over psychological impacts is especially true of the United States military, which has continued its global movement of forces while instituting various mitigation measures, throughout the pandemic. For an organization already subject to a significant mental health challenge, the COVID-19 pandemic has further stressed the force. Servicemembers must continue their regular pre-deployment training events and exercises, deployments overseas to combat zones, and returning to an environment which likely changed significantly since their departure, and now they must do that while trying to maintain physical distancing measures, quarantining, and trying to keep their families, loved ones, and themselves healthy.

As with any large organization, the US military must carefully consider its priorities in order to appropriately manage resources. Being one of many components of the United States Government (USG), the US military is subject to the rules, regulations, and policies of the president and their administration. While this provides a vast array of resources for it to draw

[a] In late 2019, a novel coronavirus, SARS-CoV-2, was identified and determined to have the potential for global spread. By early spring 2020, the World Health Organization (WHO) declared the resulting disease, COVID-19, a global pandemic. The disease spread rapidly in the US for a wide range of reasons, including weak public health infrastructure, restricted access to medical care, regional variations in government and private sector response, and inconsistent public reactions to recommended actions to slow the spread, such as social distancing and wearing masks. At the time this thesis was written, COVID-19 had killed more than 500,000 people in the US. Vaccines were developed very quickly and were being distributed, but the ultimate end state of the pandemic was still unclear.

from, it also subjects the military to the bureaucratic red tape that characterizes so much of the USG today. One of the primary responsibilities of the military is to take care of its servicemembers, the sons and daughters of the American citizens. The great resources provided by the government ensure the military can do this. However, the bureaucracy of the USG also creates challenges in the creation and implementation of policies and regulations, which are needed to utilize those resources. In an emergent situation such as a global pandemic, the military may not have the ability to simultaneously overcome the challenges associated with creating and implementing new policies and procedures while also maintaining its normal operational tempo. When COVID-19 became a consideration in everything the military did, accommodations for the pandemic took priority over other things which then suffered because of those adjustments.

US military servicemembers are trained from day one to handle stress. The rationale is straightforward: combat is stressful, the military must be able to function effectively in combat, therefore, servicemembers must be trained to function effectively in stressful situations. This rationale is not only a basic tenet of being in the military, but it is also part of the challenge and one of the draws for young Americans, to be able to show they accepted and overcame the challenge of completing bootcamp and becoming a member of the US military. However, the resilience against stress developed during bootcamp is not infinite. A common refrain heard throughout the Marine Corps when a less than ideal situation arises is that “they’re Marines, they can handle it.” While this is true and rarely will a Marine admit they are boing overworked, they are not superhuman and do not have an unlimited capacity for handling stress. Fortunately, Marine Corps leadership acknowledges this and has equipped units with the tools to ensure their personnel, and families, can endure challenging times and continue to contribute to the mission

throughout that time and after. Many Marine Corps units have a Deployment Readiness Coordinator (DRC) to assist the commander in communicating with families, organizing events, and facilitating the flow of information during a unit's deployment. However, when COVID-19 became another challenge to overcome, it stressed the system almost to the breaking point. Even though the USG, Department of Defense (DoD), and Marine Corps (USMC) have plans for handling a situation like this, they were inadequately prepared and the plans were not implemented to the best extent. As a result, the US military's mental health has been degraded by the COVID-19 pandemic and mitigation measures and may be degraded for a significant period of time.

This paper seeks to examine how the COVID-19 pandemic and the measures implemented to mitigate its spread have impacted the mental health of the US military. It will explore the plans and policies of the USG at several echelons to determine if and how mental health was accounted for, and if in the USG's response it carried out those plans and policies as designed. It will then relate those findings to pandemic psychiatry as studied and described by experts. Historical examples will be used to determine if any parallels can be drawn and estimates made as to what COVID-19's psychological impact will be. The emerging research on COVID-19 will then be examined, and how it could translate to the US military. Finally, recommendations will be offered regarding how to better incorporate measures for maintaining the mental health of the US military during a pandemic.

## U.S. Government Guidance for Pandemic Response

The USG has a comprehensive guide for responding to an influenza pandemic that was published by the Homeland Security Council in 2006, the "National Strategy for Pandemic

Influenza."[1] Its nine chapters and three appendices describe a wide range of topics necessary for the prevention and control of a pandemic. While its focus is on what the USG will do, it also outlines the actions that local governments will have to take in their own communities. It even states that "The center of gravity of the pandemic response, however, will be in communities."[2] Even though it acknowledges the primacy of local governments in fighting a pandemic, it covers the support the USG will provide to the states, tribal nations, and communities that make up the United States.

This strategy addresses some psychological and psychosocial concerns, but largely focuses on how they will impact the overall response to the pandemic, as opposed to individual concerns.[3] The strategy's guidance for planning for additional mental health care providers is tied into its guidance for all additional health care personnel, which is to use the Medical Reserve Corps and the Emergency System for the Advanced Registration of Volunteer Health Professionals (ESAR-VHP) Programs to ensure local governments are able to mobilize the personnel they need during a pandemic.[4] This shows its limited focus on psychological concerns, and that they are lumped in with the other additional health care personnel who will be needed. It also provides limited guidance for organizations, businesses, schools, faith based and community organizations, and families. However, this guidance is simply to ensure that psychological and psychosocial concerns are planned for as part of the overall response and does not provide specific instructions on what to plan for.

The strategy also affirms the need for quarantine and isolation as measures to restrict the spread of a pandemic. It discusses the potential for quarantines to be imposed, especially for travelers, and that coordination will be required at the international level. Further, it emphasizes the efficacy of quarantine in slowing the spread of a pandemic, and that it will be part of a larger

public health response to minimize the effects of the pandemic. However, it does not address any of the potential ramifications of implementing quarantines, or any considerations for how to handle quarantines or those possible ramifications. If those who implement quarantines are not familiar with any of those considerations, this guidance would not be enough to ensure they were implemented properly.

As one of the major departments of the USG, the DoD has its own pandemic response plan for pandemic influenza that was published in September 2006. It has three primary goals, to provide planning guidance on how the DoD will prepare and respond to the pandemic and its internal effects on the department; how the DoD will support the overall response by the USG; and how it will address other security concerns, such as humanitarian relief operations, that may come about as a result of the pandemic.[5] In those three realms, it further identifies 13 priority action areas on which it will focus its efforts. Already at the DoD level, the department is acknowledging the vast scope of the response and what it needs to do to be fully prepared for a pandemic. Because the DoD acknowledges that it is possible it will not be able to fully complete all of the tasks set forth in the National Strategy, it has set internal priorities for what it will plan for. The highest priority being protecting the health and safety of personnel and resources, then determining and maintaining essential functions in a pandemic, supporting federal, state, and local governments in their response, and finally effective communications. In these priorities, it recognizes quarantine as a measure that will be used to help contain and mitigate the spread of the pandemic. The plan first refers to quarantine as something the DoD will have to help civil authorities enforce as part of the broader national response. It also mentions that military commanders may need to implement quarantines and isolation strategies in order to contain and limit the spread of a pandemic on base.

The DoD plan only refers to mental health twice which reveals that mental health is not a serious consideration in the plan. For the tasks to its various subordinate elements, the DoD tasks the military departments and agencies to ensure the "installation commanders plan for mental health and chaplain support for emergency workers."[6] Then in the section detailing how to maintain continuity of operation (COOP), when describing the reconstitution phase and returning to normal operations, an organization must "consider providing counseling and other mental health and social services resources."[7] While it is at least acknowledged as something the DoD may have to deal with, it does not appear to be a serious concern. The focus is more on the installations and ensuring they are able to support the operating forces and maintain operational capability. Even though the DoD recommends mental health care planning for the supporting establishment, it appears to be an afterthought and not something seriously considered for any other subordinate element.

Marine Corps Order 6220.1, USMC Pandemic Influenza (PI) Response Plan, signed on 6 November 2009, goes into a little more detail than the DoD and USG plans, as it has a narrower focus than either of them. It outlines the key tasks for the USMC during each of the DoD phases of response and identifies the installations as the center of gravity for the Marines Corps' response. The installations being the main effort instead of the operating forces is different from what one would expect, because the mission is to prepare for, respond to, and recover from PI,[8] which would have a much greater impact on the operating forces. Also, the operating forces are the primary concern of readiness and component of responding to crises, so the installations would act in support of them. The second half of the mission statement states that the USMC will support government efforts, which would make sense for the installations to do, in supporting the

local communities. This shows that the USMC has a slightly more detailed plan, but it is still generic and only broadly addresses mental health readiness and response for the force.

The USMC plan provides much more detail about planning for quarantine and isolation. It describes a variety of measures which need to be considered, such as security, basic needs, and transportation. It also specifically mentions the need to plan for mental health support for those subject to quarantine or isolation. Not only does it identify the need for psychological support for potential patients, but also for emergency workers, as it acknowledges the additional strain they will be under working during a pandemic. Additionally, the MCO lays out a PI preparedness and response planning checklist for its medical treatment facilities (MTFs). While this is specific to the MTFs it could be used by other subordinate units to ensure they cover all the necessary tasks when creating their own PI response plans.

The USG overall has a framework for how it would respond to a global pandemic and try to reduce its impact on the American population. While some plans are more detailed than others, especially in the realm of mental health, they all account for it and acknowledge it is something that needs to be planned for. However, as with all plans, they are only effective if implemented properly, which for a large organization like the USG, is not always possible.

## The U.S. Government's Response to COVID-19

The wide variety of accounts describing the USG response to the COVID-19 make it difficult to succinctly depict it here. Fortunately, the Government Accountability Office (GAO) was charged with overseeing the implementation and execution of the money allocated as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act, and they have published bi-monthly reports on its execution starting in June 2020. These reports are freely available to the

public and go into detail about how effectively the government has implemented the COVID-19 relief acts passed by Congress. Even though the reports focus primarily on how funds have been obligated and expended, they still provide some insight into how effective the whole of government response has been.

The GAO published its most recent report on 28 January 2021, and the report highlights several areas which the GAO found to be delinquent in previous reports which still were not adequately addressed. Further, it identifies 13 new recommendations for executive action the USG should take to improve the nation's response to the pandemic.[9] These recommendations cover the entire breadth of the USG but focus mainly on the Office of the Assistant Secretary for Preparedness and Response, the Food and Drug Administration, and the Department of Health and Human Services (HHS).[10] As with the pandemic response plans described above, psychological and behavioral health were mentioned only a few times in more than 500 pages of text. This further shows the lack of attention to mental health from the USG and how it was more focused on reducing the spread of the virus than on other health impacts from it.

One of the instances it talks about psychological health is the use of telehealth by the Department of Veterans' Affairs (VA) to avoid face-to-face visits with their patients. This is one of the positive aspects of the report, in that the VA was already familiar with using telehealth to provide care to veterans, and with additional funding, it was able to expand that care without unneeded risk to the providers or the patients.[11] This shows that at least one aspect of the USG was dealing with mental health issues, and they were being somewhat successful. However, it was in a limited aspect in only one of the many departments of the USG.

Another instance where psychological health was deliberately accounted for as part of the CARES Act was additional resources to "mitigate the negative psychosocial impact of social

isolation."[12] While the Act provided $50 million for this initiative, it is difficult to determine how big of an impact it will have across the nation. Further, while this is an important measure, it is only for Aging and Disability Resource Centers as part of the Older Americans Act of 1965[13], which means none of it went to the US military. Even though it is noteworthy that money was spent in this way, it was in a very narrow space, and not enough to acknowledge the greater potential psychological impacts of the pandemic.

As part of its reporting for how much of the CARES Act funded various aspects of its response, the HHS included the amount appropriated, obligated, and expended by the Substance Abuse and Mental Health Services Administration, which was $425 million, $423.3 million, and $50.8 million, respectively.[14] As with the amount spent on the Aging and Disability Resource Centers, it seems like a lot, but is only 0.17% of the total amount appropriated to HHS.[15] Also, with mental health services sharing the funding with substance abuse services, the two are immediately considered as linked, which is not a fair assessment. While that topic goes beyond the scope of this paper, it is still important to note that HHS has a single administration for substance abuse and mental health, and that they are not independent agencies. Further, the distribution of funds this single administration received to respond to the COVID-19 pandemic was miniscule compared to its other agencies, showing the lack of attention paid to it by the HHS, Congress, and presidential administration.

The GAO report acknowledges it is incomplete in its findings and lists 103 areas in which it has ongoing work.[16] Of these areas, several are noteworthy in that they will provide future information relevant to this topic. They include the military health system response to COVID-19, DOD depot COVID-19 impacts, and behavioral health impacts. This at least shows the GAO understands the limitations of its work and is trying to gain a more complete picture of

the impact of COVID-19. As with many other facets of the government response, the GAO must prioritize what it studies, and the military health system, DOD depots, and behavioral health impacts are things which were not as important.

As with the USG response plans, it makes sense that the priority is on the physical health of the population, so much of the focus was on developing a vaccine. However, the impacts of a pandemic go far beyond that, and can have lasting impacts elsewhere as well. With pandemics being a part of human history, they have been studied and written about before, such as in Honigsbaum's *"A History of the Great Influenza* Pandemics,[17] Price-Smith's C*ontagion and Chaos,*[18] and Nathan Wolfe's *The Viral Storm*.[19] Therefore, research exists to provide guidance as to what the ramifications will be of a global pandemic. The psychological impacts may not get the same level of attention as the physical, but they are equally important and arguably more difficult to treat.

## Current Research on Pandemic Psychiatry

The *Textbook of Disaster Psychiatry* has a specific chapter dedicated to pandemics and health care emergencies. It notes that one of the most important factors of a pandemic is that they are more devastating than any other type of disaster.[20] This is due to the global nature of a pandemic, the human toll that it takes, and the impacts those losses have on other aspects of the international community. This devastation, along with the increasing prevalence of infectious disease outbreaks in recent years and therefore their greater publicity, results in psychological stressors and behavioral responses to a pandemic. Further, with media now prevalent in modern society, it also plays a role in how the public reacts to a pandemic. Even though the textbook highlights how important of an issue the psychological impacts of a pandemic are, it also

acknowledges the dearth of data and research on the psychological and behavioral impacts of pandemics on modern societies. Regardless, even with limited resources, the textbook covers the most relevant literature on global infectious disease outbreaks. From those outbreaks it highlights the most important features and lessons learned from them, and how they each can contribute to the three phases of pandemic response and recovery, being preparedness, early pandemic response, and later pandemic response and recovery.[21] Each of these phases has unique components to address, but the importance of communication and maintaining contact with everyone in a community, from those who are sick, to the medical personnel who take care of them, and the general population seems to be universal through all of them. This is to mitigate the public's perception of risk throughout a pandemic, which generally determines their behavior, as opposed to the actual risk they are exposed to.

In preparation for a pandemic, educating and preparing the community and leadership are most important, and then sustaining that preparedness. As it is extremely difficult to determine when an outbreak might occur, sustaining that preparedness is the most challenging. The education must focus on facts, including what is known and not known, and what people can do to prepare.[22] This knowledge of the various possibilities of what can occur during a pandemic provides at least a baseline level of understanding when the community must respond to an outbreak, implement the various measures necessary to contain it, and treat those who are sick.

When an outbreak occurs, it is even more important to ensure the timely and accurate dissemination of information, including what the authorities do and do not know about the disease. This not only continues to keep the public informed and prepared, but also involves them in the process and plan for fighting the pandemic. These communications must include a broad spectrum of information, such as the fear of contagion, risk, dangers to family and pets,

and mistrust of the government.[23] Without addressing these concerns up front, it allows the public to speculate and come to their own conclusions, which then undermines the authority of those trying to manage the larger response to the pandemic. Further, the information being disseminated must be consistent, regardless of the source. Government officials, politicians, public health officials, and other public figures need to all communicate the same message. This will reduce confusion, reinforce trust, and maintain the credibility of the government response. The combination of all of these considerations can normalize reactions and help to foster hope, resilience, and natural recovery.[24]

Those who are responsible for implementing isolation or quarantine or other methods of controlling the pandemic must give special attention to the people subject to those measures. Aside from the psychological challenges associated with isolation on its own, such as depression, acute stress disorder, post-traumatic stress disorder (PTSD), sleep disturbances, and anxiety, health care workers providing care while using personal protective equipment (PPE) can be especially stressed because of the separation it creates between them and their patients.[25] While these measures are necessary to protect the greater population and reduce transmission, they create conflicting emotions in the family and friends of an isolated patient, who want to provide support but also remain healthy. In these cases, further education is recommended for health care providers, including how to enhance visiting hours and use technology to connect patients with their loved ones virtually.[26] Throughout the pandemic response, surveillance of the mental health of the population is important to ensure resources are directed and employed where they are needed most.

During later pandemic response and recovery, the textbook focuses on instilling a sense of normalcy and reestablishing routines to foster resiliency.[27] These routines can help to

reinforce the status quo and get people back to a mindset where they are no longer in distress. Again, communication from authorities is important in this, by reassuring the population of reduced risk and mitigating fear of infection. This time is also an opportunity for a community to grow and learn from the disaster, so it can be stronger, smarter, and safer for the future. These activities on their own will aid in fostering resiliency in the community, and a community which embarks on these efforts as a whole will reap even greater benefits from them.

Another resource which more directly addresses the importance of recovery efforts following an epidemic is Monica Schoch-Spana's *An Epidemic Recovery Framework to Jump-start Analysis, Planning, and Action on a Neglected Aspect of Global Health Security*.[28] While it does not directly address the psychological impacts and importance of recovery following an epidemic, the measures she recommends infer that psychological healing is an important aspect of recovery. One of the most important parts of this is understanding that at whatever level of community the epidemic infected (e.g., town, state, region, country), returning to business as usual once it subsides is not realistic, and it will not be a straightforward, step-by-step process.[29] Especially after an epidemic, a type of disaster in which physical damage to the environment is minimal, reconstituting "a sense of safety, social connections, faith in institutions, and economic exchange" will characterize the recovery as opposed to material reconstruction.[30] She therefore recommends addressing "the larger social, economic, physical, and natural systems…that help foster the recovery of affected groups and individuals."[31] Further, recovery must be treated as both restoration and transformation; ensuring people are able to return to their normal lives, while also ensuring the lessons learned from the epidemic are incorporated into future disaster response plans.[32]

Schoch-Spana, as part of a Johns Hopkins Center for Health Security project team, makes further recommendations for building healthcare resiliency against disasters in *A Framework for Healthcare Disaster Resilience*.[33] While the report does not focus solely on catastrophic health events, such as pandemics, the recommendations are echoed across all the disaster types the researchers study. The most applicable, especially to the realm of psychological health, is that of building a "culture of resilience."[34] The community support to such a culture in helping the health care sector become more resilient against health care disasters could have a variety of secondary affects as well. These could include more confidence in the health care system, more confidence in the support the community could provide, and a better functioning daily health care system. This "culture of resilience" could extend beyond the health care centers directly involved and be a means of ensuring the whole community is prepared to respond to the next disaster it encounters.

The lessons in the *Textbook of Disaster Psychiatry* are drawn from several historical examples. While they all show part of the psychological response to a pandemic, none of them specifically focus on the military. The research in this regard is even more sparse, but two examples have at least some commonalities with the COVID-19 pandemic. The 1918 flu and the Ebola outbreak in western Africa in 2013-2014 each have some commonality to the COVID-19 pandemic which make them useful cases to determine how COVID-19 may impact the US military.

## Historical Examples of Pandemics

While it may seem to many people the COVID-19 pandemic is the first time the world has ever dealt with a disaster like this, history proves them wrong. Humans have dealt with

pandemics for thousands of years, and while each is unique, they all share similar qualities. These commonalities enable the world's health experts to plan and prepare and try to ensure the next pandemic is less impactful than the last.

The most recent global disease comparable to COVID-19 was the 1918 flu. Even though that occurred more than a century ago, it shares a lot of similarities with COVID-19. While the disease itself is similar to COVID-19, the world which it infected was very different. The global community was in the midst of World War I, which cast a great shadow over the challenges associated with the pandemic. As the war was at the forefront of everyone's minds, the flu was an afterthought, and people could not be bothered with it.[35] With the lack of concern and inability of the federal government to coordinate a response,[36] communities across the United States implemented measures sporadically, and therefore with mixed results. Some of the most common intervention measures were the closures of public spaces where people could gather, and public gatherings in general.[37] These measures were not only the most common, but also seemed to have the greatest impact. These interventions were not just implemented in civil society, but military bases employed them as well. They attempted to reduce the spread of the disease through prohibiting mass gatherings and also prepared for its inevitable arrival on base by designating certain areas as overflow hospital beds and quarantining units and areas of camps to prevent them from being infected. Altogether these measures had some effect, but ultimately the 1918 flu spread across the nation, as servicemembers returning from the war brought it home with them to every corner of the country.

One of the notable impacts of the 1918 flu was its effect on the psychological health of the US military. As if the death toll was not enough, with more men killed by the flu than in battle during WW1,[38] it also increased absenteeism and crushed the morale of the armed forces.[39]

With the military simultaneously fighting a war overseas and fighting to keep the troops healthy, it simply could not keep up with both. The limited medical capabilities of the era also prevented doctors from treating their patients effectively, and they could simply provide comfort as patients suffered through the disease. These factors, in addition to the lack of understanding of what caused the flu and how it could be prevented, created the sense of fear and uncertainty throughout the military and civilian population. However, the evidence to support discussions of mental health during this time is limited. A comprehensive analysis of the behavioral and mental health of the nation during the 1918 influenza pandemic was not done at the time because the tools needed to do that did not exist and the medical community's understanding of mental health was still rudimentary.

The 2013-2014 Ebola outbreak in western Africa also provides some insight into the potential psychological impacts of COVID-19 on the US military because US servicemembers were deployed to support the US response. Because of the high profile of the mission and the publicity it received, military leaders took many precautions to prevent the disease from returning to the US. One of those measures was the quarantining of the entire force that deployed to western Africa.[40] The unique nature of the situation allowed researchers to conduct a study on their mental health and attitudes toward their leadership while they were in quarantine. Because of the size of the unit and their ability to prepare, psychological impacts were minimal, with the most noticeable challenge being sleep problems.[41] However, this is difficult to extrapolate to the scale of COVID-19. With the entire global force needing to be quarantined upon return from deployments, bases across the country need additional space to do that. Also, servicemembers did not deploy in anticipation of being quarantined upon their return, as those deploying in support of the Ebola response did. This expectation management for the troops and their families

can have a significant effect. In the same vein, the leadership was fully prepared and could prepare their subordinates for what they would go through when they returned. Unfortunately, military leaders were not as fortunate when returning from deployments during COVID-19 and had to make adjustments in the midst of their returns to ensure their units were properly cared for.

These historical examples provide some insight into the potential psychological impacts of COVID-19. From the 1918 flu, researchers know that fear and uncertainty contributed to psychological health problems in the population as much as the flu itself. The Ebola outbreak showed that well informed and prepared leadership can make a significant difference in the mental health of their units. These findings can inform the hypotheses and research questions of current researchers. While research has been sparse up to this point, there are some relevant studies which can serve as a starting point.

## Emerging Research

At this time, researchers have not specifically investigated the psychological impacts of COVID-19 on the US military. The sudden onset and dispersion of the disease prevented any trials from being initiated immediately, so nothing has been published to date. However, as the world enters its second year of the pandemic, those types of studies may begin to emerge. Therefore, the research examined here can only allude to potential impacts on the US military and how further research could be conducted.

Studies on the US population and other groups have been conducted and provide some insight into the possible impacts on the US military. Because the armed forces are a representation of the nation, similar patterns may emerge in the military as have arisen in the

civilian population. Four studies of adults in the US are the most relevant and provide some insight into the larger impact of COVID-19 on the mental health of the population.

The first compares the prevalence of anxiety and depressive symptoms from 2019 and 2020.[42] Researchers used the National Health Interview Survey (NHIS) and Household Pulse Survey (HPS) to collect responses at five times: from January – June 2019 they used the NHIS, and from the end of April through the end of May 2020 they used the HPS in four iterations, in total collecting 336,525 responses across the five time periods.[43] They did not have any data on the demographics of the respondents, only that they are adults in the US. They found that the respondents were more than three times as likely to screen positive for depressive disorders, anxiety disorders, or both, and more than one in three screening positive for both during the pandemic in April and May 2020 than in 2019.[44] Even though the survey looked at a small percentage of the population and the demographics cannot be compared to the military because they are unknown, this study does indicate that in general the US population was in a deteriorated mental health state during the pandemic, and this could translate to the military population as well.

The next relevant study examines depressive symptoms in US adults before and during the COVID-19 pandemic. The researchers used data from the COVID-19 and Life Stressors Impact on Mental Health and Well-being study, conducted from 31 March to 13 April 2020 for their assessment during the pandemic, and the National Health and Nutrition Examination Survey, conducted from 2017 to 2018, for their estimates before the pandemic.[45] The sample size was much smaller in this study, with 1,441 respondents during COVID-19 and 5,065 before the pandemic. However, the study does break out more specific demographic information, with quantities and percentages tied to sex, age, race, education, marital status, household income, and

household savings. This allows for a somewhat more detailed analysis of the results, but with fewer participants, it is less likely to be generalizable to the greater population. However, in each of these categories the prevalence of depressive symptoms was higher during COVID-19 than before.[46] Also, across the subject group, the prevalence for depressive symptoms was three times higher during the pandemic than before. As with the first study, these same results could translate to the military community as well.

The third study examined the reporting of depression in adults in the US, again comparing information from before the pandemic to information collected during it. As with the other studies, the participants completed surveys in March and April of 2020, with 6,819 responding, and these results were compared to the National Health and Nutrition Examination Survey (NHANES) taken in 2017-2018, which had 5,075 respondents.[47] The researchers also examined NHANES data from 2007-2018 to assess any potential trends in the surveys. They further collected data on the participants' demographics, including age, sex, race, education, and household income. Again, with such a small sample size it is difficult to make any concrete conclusions, but the results show a similar pattern as the other studies. Compared to 2017-2018 when 8.7% of US adults reported depressive symptoms, 10.6% reported symptoms in March 2020 and 14.4% in April 2020.[48] As this was the very beginning of the pandemic, it is hard to determine if that trend continued or how it changed throughout the pandemic, but the initial results are significant, especially since they echo those of the other two studies shown.

Finally, researchers conducted a similar comparison of data from April 2018 and April 2020 to determine the prevalence of psychological distress and loneliness among US adults. The researchers used the Johns Hopkins COVID-19 Civic Life and Public Health Survey compared to a National Health Interview Survey (NHIS) conducted in April 2018.[49] Overall they had fewer

respondents in 2020 with 1,468, but 25,417 from the NHIS in 2018. They did collect similar demographic data as the other studies and maintained a similar distribution across the US population. Further, their results echo those of the other studies, with 3.9% reporting symptoms of serious psychological distress in 2018 and 13.6% in 2020.[50] One factor to consider in this study is that the symptoms were highest among adults 18-29 years old and in households with income less than $35,000 per year. These demographics are very similar to the majority of the active-duty military,[51] and therefore could be cause for concern. However, the results cannot directly be translated to the US military as many other factors are at play.

While these studies do not point directly to the US military being more depressed or suffering serious psychological distress because of the pandemic, they are indicative of what the nation as a whole is experiencing. Many factors prevent this from translating to impacts on the military population, but it is an important point to consider. Further, even if the servicemembers themselves are not suffering from increased levels of depression, anxiety, or psychological distress, their families and friends are the civilian population who are, which can take a toll as well. All of these factors must be considered when determining if COVID-19 has had an impact and to what extent, and how it can have an impact further in the future.

## Impacts on the US military

Even though COVID-19 has been spreading through the US for over a year, research pertaining to the psychological effects on the US military is ongoing and inconclusive. This is because the data that have been collected are still being analyzed by psychologists and researchers. Because of the sudden onset of the pandemic many military psychologists were not entirely prepared to collect, handle, or analyze the data as soon as they were available. This has

made developing hypotheses and results and theories based on that data very difficult. At the same time, more and more data are being collected as the pandemic continues. While psychologists have begun analyzing the data that have been collected, and some results have been published, it will take time for the behavioral health community to reach a consensus on how the pandemic has impacted different parts of the population. As the country and the world get the pandemic under control this will change and research will be published to show the various psychological impacts it had on the global population, and specifically the military. With vaccine distribution increasing every day and fewer and fewer people being infected, this will hopefully occur sometime this year. However, as psychological impacts are not always identified or manifest immediately, mental health specialists will continue to deal with the effects.

The potential impacts on the military will likely echo those described above in the research conducted thus far. However, this is difficult to determine due to several factors which make the military unique. First, military training is designed to prepare servicemembers for stressful situations so they can function effectively in combat. This creates resiliency which in general reduces the amount of mental health challenges encountered by miltiary forces. Next, military leadership is trained to be engaged and involved with their subordinates, more so than is expected in a traditional occupation. This additional level of care further enhances their resiliency and gives them another layer of support beyond what the average citizen has. Those in the military also have a variety of resources available to them if they encounter mental health challenges. Not only is the chain of command used to handle low level issues, but it also enables servicemembers to seek other sources of support, such as Chaplains, behavioral health specialists, and psychologists. These resources are available throughout the military and its health system, which is free to access by all servicemembers. However, as indicated by the

studies of the general US population, the military demographic could be more prone to depression or psychological distress due to the pandemic. This is because of the age range in which most servicemembers fall and their paygrades. Further, as the military population is drawn from the greater US population, their families, friends, and loved ones are likely to suffer from mental health challenges during the pandemic. Even though servicemembers may not be directly impacted, their concern for their loved ones and potential inability to support them because they are stationed far from home could have a negative impact. Ultimately, it will take time for psychologists and researchers to study the impacts of COVID-19 on the US military, but as it has had effected the US and global population, it will likely have an effect on the military population as well.

## Recommendations

As the COVID-19 pandemic is the first global pandemic of this scale to occur in more than a century, much can be learned from it that will enable better preparations for the future. But as COVID-19 still infects people across the globe, many recommendations can be implemented now to maintain the psychological health of the US military until the pandemic is over. The *Textbook of Disaster Psychiatry* has a host of recommendations to ensure proper preparation for a pandemic, but the ones that stand out the most are communication with the public and leadership on education and preparedness for a pandemic.[52] For the DoD and US military, this should be fairly straightforward to implement. As shown earlier, the federal government, DoD, and Marine Corps all have pandemic response plans, even though they may not be very current. As the DoD already practices and trains for a variety of other disaster responses, adding pandemics to that should not be a significant challenge. Problems may arise

because a pandemic can last months or years and a drill cannot last that long as it would impede regular operations. However, military units regularly train for several weeks at a time so they could implement a training schedule in which they jump ahead in the timeline from the pandemic's onset, to its peak, and finally to later response and recovery. With the military capturing many lessons learned during COVID-19 it has the ability to incorporate them into its plans and policies now while they are still fresh.

As mental health is only briefly mentioned in the USG's and DoD's plans, they both would benefit from expanding these sections to better account for the impact of mental health on pandemic preparedness, response, and recovery. The DoD has an instruction on maintaining psychological health in military operations, and while it is only ten pages long, the DoD Implementation Plan for Pandemic Influenza does not reference it at all.[53] Even this modest step would at least indicate that the DoD recognizes that operational stress will be a factor during a pandemic, and it needs to be properly planned for at all levels.

The same is also true for the Marine Corps' Pandemic Influenza Response Plan. While it does more than the DoD plan in terms of highlighting the need for mental health and psychological support, it also does not refer to its own Combat Operational Stress Control (COSC) Program.[54] The Marine Corps Order on COSC is much more detailed than the DoD Instruction, and provides a framework for subordinate units to establish and implement their own programs. Again, if the USMC's PI Response Plan referred to its own COSC Program it would at least indicate that it acknowledges it is necessary to plan to maintain the psychological health of the force during a pandemic. It could go further by writing some of those details into the PI Response Plan and indicating where COSC teams would be best incorporated into the planning and execution of the PI Response Plan.

For those servicemembers who have already suffered some kind of mental health problem during the pandemic, a wide range of resources are available to help them recover. As the military has been working through the challenges of PTSD for many years, many people have researched the topic and written many books about it. While trauma from a pandemic is different than trauma from combat, many underlying principles are similar, and the treatment could be similar as well. Even though the following resources are oriented more towards recovering from stress after war, combat, and deployment, they still offer some useful tools that could be adapted to treat the stress induced by a pandemic. One that offers more broad guidance and strategies for dealing with stress is *Strategies for Managing Stress After War*.[55] Its lessons and activities are designed for servicemembers returning from Operation Iraqi Freedom and Operation Enduring Freedom, but the overall stress management tools it provides could be applicable for those dealing with stress in any situation. It also has a companion guidebook, *Clinician's Guide to Treating Stress After War*,[56] which helps mental health professionals to aid servicemembers in working through the previously mentioned guidebook.

A book that offers a wider range of tools is *The Trauma Tool Kit*.[57] It is designed to be used both by a servicemember who is trying to overcome PTSD, as well as their family and friends. As the name states, it is a tool kit, with a variety of methods to aid in healing from trauma. The common thread between them is that they are all non-traditional medicine and are based on a holistic approach to healing. One chapter offers techniques on healing the physical body through nutrition, vitamins, essential oil therapy, massage, and chiropractic care. Another on healing the energy body with acupuncture, Chinese herbs, crystals and stones, and smudging. Two chapters devoted to healing the thinking mind and the wisdom mind offer various expressive therapies, types of meditation, and prayer and mantra to change how the patient views

themselves and their trauma. Because the mental health challenges associated with a pandemic may not escalate to require medical support, this book could be useful for those who have not reached that level yet, but still need assistance in coping with some form of trauma. Many of the techniques the author describes can be preventive as well, so including them as part of COSC could be beneficial.

Because the DoD already has an instruction for maintaining psychological health in military operations, it has baseline to work from in incorporating that into other policies. The challenge will be for the leadership in ensuring it is not overlooked. As military servicemembers are trained to handle stress in combat situations, it makes sense that their leaders would assume they can handle stress in other situations as well. The challenge is in finding a balance between how much psychological health should be emphasized without making it seem like the entire DoD is stressed out and on the verge of a mental breakdown. Engaged leadership is a large part of this, and ensuring leaders have the training and resources they need to appropriately handle any concerns is critical as well. Especially in unusual situations, such as a pandemic, leaders need to be more engaged with their troops and ensuring they are able to execute their mission effectively. Even though the focus will be on the mission, just as much focus needs to be on the servicemembers and how they are managing the stress associated with a novel situation. As long as military leaders are engaged and aware of the mental health of their subordinates, they'll be able to identify any potential challenges early and implement the best measures to ensure the psychological health of the force is maintained and they are able to execute their mission to the best of their abilities.

## Conclusion

This paper has shown that the USG has a robust plan for responding to pandemics but does not go far enough in addressing the mental health challenges that will arise. Through examining the current USG, DoD, and USMC plans, what the USG did in response to COVID-19, and what psychiatrists recommend they should do, the USG response has been inadequate and needs to be reevaluated to ensure the same mistakes are not repeated. Further, as researchers analyze and publish their findings, the true mental health impacts will emerge and better inform any modifications to the current plans and policies and future pandemic response efforts.

Fortunately, many of the tools required for a more comprehensive response already exist in the DoD, but they are only applied to those who are preparing for a deployment, deployed, or have recently returned from a deployment. This is logical as that is the military's primary function, but it overlooks the many other things the military does in support of the USG and its citizens. Simply applying the tools the military and USG already have to the many other contingency and response plans of the DoD would be a step forward in ensuring military personnel have the mental health support they need in all situations. With further research those plans can be more developed and specialized so that the right support is provided to the right people at the right time, and resources are not needlessly expended. Because the research is limited at this time that level of detail cannot be established yet, but as researchers conduct more studies and publish their findings the military will be able to better implement the tools and resources it already has.

Even though some studies have already been conducted on the civilian population, research focused on the military population and especially those who were directly affected by the pandemic will be greatly beneficial. This includes not only those who supported pandemic

response operations but also those whose training and deployments were impacted. As the pandemic is now entering its second year this will include a large portion of the force, but the possible ramifications are great enough that a large scope for the research is necessary. It will be difficult to collect specific data on the units and personnel who deployed and redeployed during the first year of the pandemic, but the regular data collected during that time can at least inform and provide some indication of any changes in the mental health of the force during that time. Military psychiatrists use that information to develop research plans now so that in the future when another pandemic occurs, they can begin collecting data immediately to get a better indication of how it is impacting the military.

Even though the pandemic has had a significant impact on every aspect of life, it has also created many opportunities to learn and improve how the global population will respond the next time one arises. So much data and information have been collected it would be folly to let it go to waste and not improve the various plans and policies to reduce the amount of loss and suffering that occurred due to COVID-19. While scientists around the world cannot predict when the next pandemic will strike, they can at least implement the things they have learned during this one. It will require more research and study and discussions to determine the best way forward, but it will be worth it to ensure a better response to the next one.

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