

*The mental state of Americans amid the COVID-19 crisis:  
How socially vulnerable populations face greater disparities  
during and after a crisis*

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**ABSTRACT**

*The coronavirus-2019 (COVID-19) public health crisis has accentuated divides and caused millions of Americans to suffer from increased mental health challenges. Although these challenges are seen throughout the country, socially vulnerable populations including frontline workers, older adults, and children, among others, face increased risk of mental health issues. There has been a notable mental health crisis in the country due to the isolation, stay-at-home orders, and preventive measures put in place to curb the spread. This study investigates the mental health challenges that socially vulnerable populations often face during crises and presents the factors affecting these populations during (and following) the COVID-19 pandemic. Based on an analysis of these factors, several recommendations are made to aid emergency managers, public health officials, policymakers, and academics in better addressing mental health challenges as we continue to battle COVID-19 and in preparation for future public health crises.*

*Key words: COVID-19, mental health, public health, socially vulnerable populations*

**INTRODUCTION**

In March 2020, the US government triggered lockdowns, social distancing, and other measures recommended by public health officials to help curb the spread of COVID-19. The abruptness of the virus's entry into the US has dramatically altered people's daily routines, work, families, travel, and leisure

activities to a degree that many have never experienced.<sup>1</sup> For over a year, the world has been in turmoil due to the COVID-19 pandemic and concurrent issues that have surfaced. Over 500,000 people have lost their lives in the US alone, with over one-third of adults reporting heightened mental health challenges as they deal with the impact of COVID-19.<sup>2</sup> Before COVID-19, over 45 million Americans suffered from mental illness, ranging from anxiety to substance abuse, making them more vulnerable due to financial hardships, social isolation, collective grief, and fear to name a few, many of which were emphasized by systematic inequalities.<sup>3</sup> Given the ongoing threat, increases in anxiety and mental health issues are to be expected. Yet, coupled with the long-term nature of the pandemic, social isolation, and the need for many to work and learn from home such mental health issues are accentuated, even more so for socially vulnerable populations.<sup>4</sup>

Although anyone can face mental health challenges, there are major disparities whereupon socially vulnerable populations are at increased risk of mental health issues, prior to, during, and after a crisis.<sup>5,6</sup> Wisner et al. define social vulnerability as "the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impacts of a natural hazard."<sup>7</sup> Furthermore, social vulnerability involves a variety of factors<sup>8</sup> that put populations "at risk of poor physical, psychological, and/or social health."<sup>9</sup> Populations are at a greater risk of social vulnerability given financial state, race, social support networks, personal limitations, and

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access to resources, which are accentuated by persistent stressors present in each factor.<sup>10</sup> The global divides (digital, racial, etc.) accentuate social vulnerability, which during times of crisis lead to increased mental health issues. During the COVID-19 health crisis, the definition of socially vulnerable population entails the elderly, children, frontline workers, essential workers, racial and ethnic groups, women, unpaid caregivers, people with disabilities, the socially isolated, homeless, and those living in group settings, among others.<sup>11</sup> As stay-at-home orders, social isolation, and work from home orders remain, although to a lesser degree than a year ago, one can argue that mental health challenges can (and do) affect the public as a whole. Despite socially vulnerable populations facing increased risk of mental health challenges due to changes caused by COVID-19, as exemplified through this paper, one would be remised to discount the millions that are suffering heightened levels of mental struggles in the face of the pandemic. Yet, it is essential to understand and adequately aid socially vulnerable populations in their ability to respond and recover from the crisis to improve societal health as a whole. The success of the country's recovery revolves around an individual's ability to overcome the emotions and interruptions they have faced.

After over a year of social isolation and fear of the unknown, families and individuals are continuing to suffer the long-lasting effects of a global public health crisis. Although a vaccine exists and is being administered, the mental health of the population, especially socially vulnerable people, will continue to suffer due to unemployment, food insecurity, medical bills, and government leadership shift.<sup>12</sup> Social distancing, isolation, mask-wearing, and other preventive strategies will be long-lasting beyond the vaccine, resulting in long-term mental health complications.<sup>13</sup>

To our knowledge, there is limited research on the impact of COVID-19 on the mental health of socially vulnerable populations in the US. The goal of this study is to provide individuals, academics, government leaders, emergency managers, first responders, public health officials, and policymakers advice on how to not only identify but also address disparities accentuated by COVID-19. We identified the factors

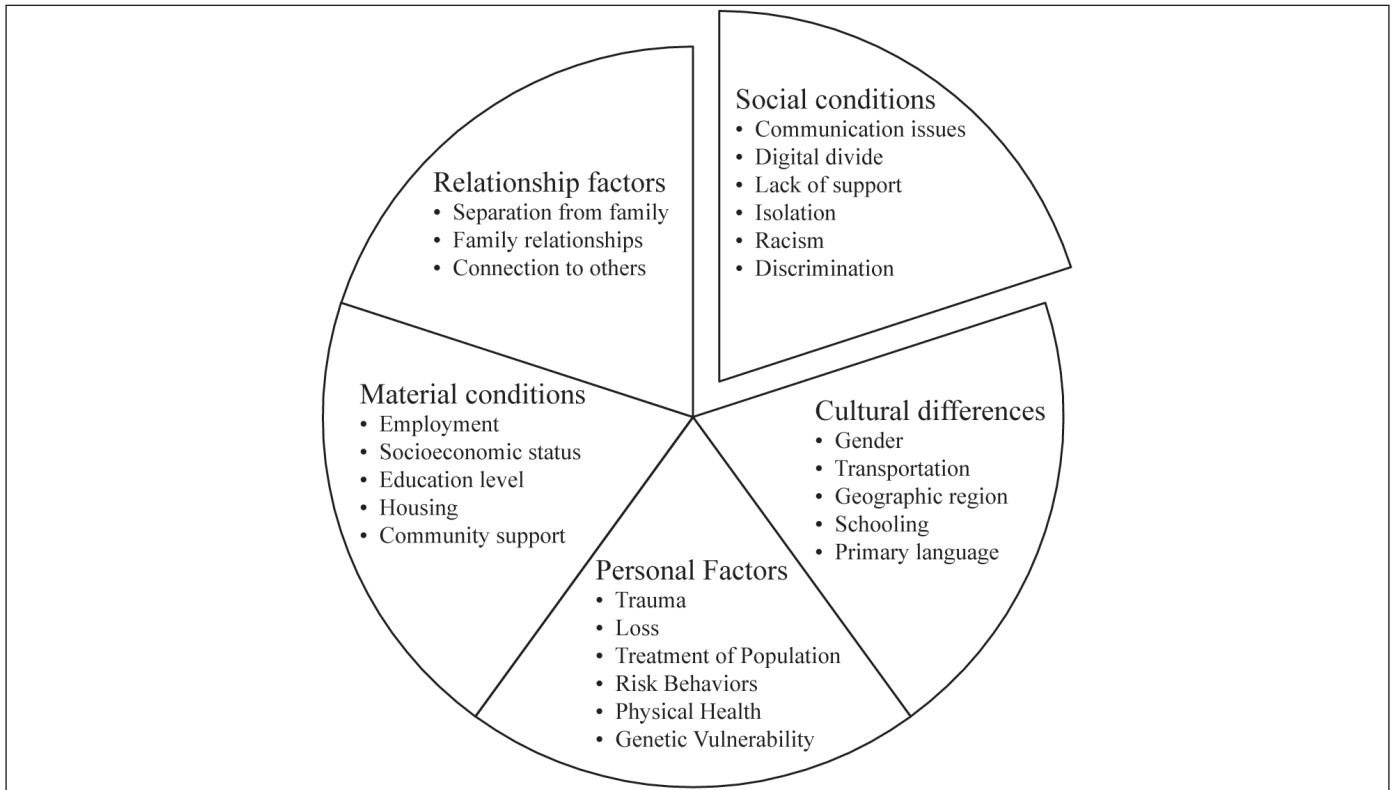
that impact the mental health of socially vulnerable populations and outlined the mental health issues faced by said populations during the COVID-19 pandemic. We have also provided recommendations on how to adequately respond to mental health challenges during and post COVID-19. This study contributes to (1) an understanding of the mental health challenges and risk factors faced by certain populations and (2) providing recommendations to aid in preparing and recovering from the mental health crisis arising from the pandemic.

#### **FACTORS AFFECTING SOCIALLY VULNERABLE POPULATIONS' MENTAL HEALTH**

Mental health challenges are rooted in disaster risks. According to Tierney, "disaster risks are not so much a function of geographic location and hazard exposure as they are of societal conditions such as poverty and good governance."<sup>65</sup> Therefore, mental health challenges are directly related to the systematic inequalities and inequities that socially vulnerable populations face. Investigating the factors affecting the socially vulnerable populations' health is not new. Countless researchers have tried to develop an understanding of what leads to social vulnerabilities to a given crisis.<sup>14,15</sup> Although a host of factors exist affecting the socially vulnerable populations' mental health on a typical day, many of these factors are accentuated or expanded in the face of a crisis.

Socially vulnerable populations are at an increased risk of mental health issues in crisis.<sup>16,17</sup> COVID-19 exposed many misunderstood disparities leading to not only deaths and financial struggles but also a major uptick in mental health illnesses. In crises, socially vulnerable populations suffer due to systemic inequities. The varying degrees of technology access, socioeconomic status, race, living conditions, employment, and various other factors of individuals can alter their mental health. Figure 1 shows the factors that affect social vulnerability and mental health during crises, which are the material conditions, relationship factors, personal experiences, cultural differences, and social conditions.

Adopting Collis et al. and the World Health Organization's depictions of the factors and subfactors



**Figure 1: Factors and subfactors affecting the socially vulnerable populations' mental health and well-being. Source: adapted from Collis et al and the World Health Organization.<sup>18</sup>**

affecting populations' mental health and well-being, Figure 1 was created considering the unique circumstances of the pandemic. The first and most important factor affecting socially vulnerable populations is social conditions. Without the systematic inequalities and effect of social conditions, individuals would face fewer disproportionate mental health challenges. Within this, communication issues in discussing the pandemic, the digital divide hampering work and school from home environments, lack of physical and resource support, and isolation caused by the pandemic have accentuated mental health challenges. Beyond this, the systemic racism and discrimination throughout society, especially in medical access and treatment, has shown the degree to which socially vulnerable populations, especially minorities, face inequitable healthcare and community services. From there, we see cultural differences of gender, transportation access, geographic region, schooling availability, and primary languages spoken as factors contributing

to the mental health of populations. For example, minority women living in rural areas may have to take on more unpaid care work to aid their children or families, affecting their physical and mental health. Personal factors also play a role in mental health as past trauma, loss, treatment of an individual, risk behaviors, physical health, and genetic vulnerability affect the physical susceptibility of an individual along with their mental state. Material conditions also play a large role in the susceptibility to physical and mental health issues amid the pandemic, as anxiety issues relate directly to employment, financial security and socioeconomic status, education level of those involved, housing, and community support systems in place (like food banks or childcare facilities). The last factor that affects populations mental health are relationship factors whereupon separation from family due to pandemic restrictions, family relationships given the various risk behaviors presented, and connection to others play a dramatic role in one's

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ability to successfully adhere to preventive measures during the pandemic, altering their mental state.

As presented, a host of factors exist that contribute to mental health challenges. Yet, among socially vulnerable populations who already have lower socioeconomic state,<sup>72</sup> unstable unemployment, limited technology access, underlying health conditions, and face systematic injustices, addressing mental health amid a crisis becomes much harder. Lower levels of any combination of these factors lead to an increased risk of mental health issues ranging from anxiety to suicidal thoughts or actions. Say an individual has underlying health conditions making them at higher risk of contracting and getting seriously ill from COVID-19, that they live alone, and rely on public transportation, they are probably faced with increased levels of anxiety and mental health issues. Many of these factors that disproportionately affect portions of the population are deeply rooted in the system, so in addressing the specific factors affecting populations and providing recommendations, one can begin to aid the socially vulnerable before, during, and after a crisis.

#### **MENTAL HEALTH CHALLENGES AMID A CRISIS**

Mental health challenges are common during and following a crisis. Whether man-made or a natural crisis, individuals, especially frontline workers, and socially vulnerable populations face increased physical and mental health challenges.<sup>19,20</sup> Mental health challenges do not solely exist for the duration of a crisis but can have long-term and sometimes lifetime impacts on populations. Many scholars have researched the pre- and post-disaster mental status of populations directly or indirectly affected by a given crisis.<sup>21,22</sup> According to Norris' account of disaster victims, meeting the mental health needs (psychological, physical, and resource-based) of the socially vulnerable is necessary for the success of a societal, community-based, and individual response and recovery from a crisis.

Disasters are known to impact socially vulnerable populations to a higher degree, as said populations are often the most susceptible to detrimental effects or do not have the means to sufficiently respond to

a disaster. During a crisis, the mental health challenges can include depression, post-traumatic stress disorder (PTSD), other anxiety disorders, suicidal ideation/attempt, nicotine dependence, alcohol abuse/dependence, and illicit drug abuse/dependence.<sup>20,23</sup> Zaharn states that such mental health issues are accentuated and often expanded in post-disaster scenarios. Researchers have investigated the mental health challenges surfacing throughout and following a host of crises, like the Global Financial Crisis of 2008–2010, to make a case for the need to jointly study mental health and disasters.<sup>24,25</sup> Likewise, in response to 9/11, the mental health challenges were far-reaching, due to increasing uncertainty, undermining people's assumptions about their personal safety, and evoking a greater sense of vulnerability for the nation.<sup>26</sup> Yet, there is considerable evidence that many individuals who are exposed to highly traumatic or severe crises are resilient and do not suffer from long-term mental health effects.<sup>27</sup> Despite this, it is necessary to understand the prolonged mental health illnesses associated with crisis trigger events.

Although many of the crises we have faced have debilitating effects on countless sectors, the COVID-19 pandemic is like nothing the world has faced in the twenty-first century. Mental health challenges due to COVID-19 are not only far-reaching but also ongoing and given what is known about prior crises will be long-lasting. COVID-19 knows no borders, but socially vulnerable populations, including children, the elderly, minorities, frontline workers, and unpaid caregivers, are at increased risk of contracting and dying from the virus.<sup>28</sup> This increased susceptibility increases the fear of these populations, leading to heightened adverse psychosocial outcomes.<sup>29</sup> Public health crises may affect the mental state of individuals and communities, which translate into emotional responses (distress), unhealthy behaviors (substance abuse), and non-compliance with public health directives (quarantines and vaccinations).<sup>29</sup> The impact of quarantines, isolation, and social distancing on psychological well-being can manifest as anxiety, fear, frustration, loneliness, anger, boredom, insomnia, depression, stress, avoidance behavior, and

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PTSD.<sup>30</sup> Although socially vulnerable populations are at increased risk of suffering psychiatric issues due to the pandemic, they are not alone, as the CDC noted that 75 percent of people aged 18–24 are suffering from at least one adverse mental health symptom due to the prolonged response measures.<sup>31</sup> During COVID-19, the mental health challenges of socially vulnerable populations including the socially isolated, children, elderly, frontline and essential workers, minorities, people with disabilities, and unpaid caregivers shed light on the need to build public health response efforts with these populations in mind.

### *Socially isolated*

Social isolation is an objective lack of social relationships or infrequency of social contact.<sup>32</sup> Due to the restrictions, stay-at-home directives, and socially distancing recommendations during COVID-19, social isolation and loneliness have increased adverse mental and physical health issues. Similar to findings following World War 2, researchers have established a link between one's social environment and mental health, citing social isolation and loneliness as predictors of poor mental health.<sup>33</sup> The socially isolated, who at one point or another were most non-essential American workers, faced increasing mental health challenges including heightened anxiety, fear, and depression, among other anxiety disorders as well as suicidal thoughts and actions.<sup>34</sup> The family and friends of COVID-19 victims must deal with the immense grief and fear rising from that loss, often leading to extreme levels of isolation and loneliness and subsequent mental health challenges. One cannot simply discuss social isolation on its own as issues of socioeconomic status, inequalities, racism, ageism, and disabilities alter the COVID-19 isolation experiences for different people, making it necessary to take a holistic approach to isolation and mental health.

### *Children*

Children are more vulnerable during disasters, often their mental health correlates to that of their parents, with studies finding that following disasters children are more likely to internalize mental health issues and face PTSD, resulting in long-term mental

health challenges.<sup>35,36</sup> Social interaction is essential to a child's formative years but due to the pandemic, schools are closed and virtual and social gatherings are limited. Children who are isolated or in quarantine during COVID-19 are more likely to develop acute stress disorder, adjustment disorder, and face grief, with 30 percent of children exhibiting signs of PTSD.<sup>37</sup> Furthermore, children that are separated from their parents or face the loss of an immediate family member or caregiver have long-term adverse effects on mental health including a greater risk of developing a mood disorder, psychosis, and increases in suicidal tendencies in adulthood.<sup>38</sup>

### *Elderly*

In recent years, the country has seen an increase in the elderly population seeking psychiatric resources, leading to greater challenges when a crisis hits.<sup>39</sup> Following a disaster, elderly individuals are more likely to develop severe mental health challenges like PTSD and psychiatric morbidity, as highlighted in a population-based study following the 2008 Sichuan earthquake.<sup>40</sup> Prior to COVID-19, 25 percent of the US population 65 years and older was considered to be socially isolated, resulting in increased risks of loneliness.<sup>41</sup> According to the National Academies of Sciences, Engineering, and Medicine, social isolation presents a major risk for "premature mortality, comparable to other risk factors such as high blood pressure, smoking, or obesity."<sup>41</sup> Those 60 years and older were deemed to be at high risk as they were more physically and mentally vulnerable to COVID-19, resulting in the preventive measures being of greater importance for said population.<sup>42</sup> One study found that given the restrictions and changes to social interaction, especially for those in nursing or assisted living home, mental health challenges increased with over 37 percent of the elderly experiencing depression and anxiety during the pandemic.<sup>43</sup>

### *Frontline and essential workers*

First responders and those aiding in response to 9/11 showed short-term mental health challenges that turned into long-term issues like acute stress disorder, PTSD, major depressive disorder, panic disorder,



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alcohol and drug abuse and dependence, and generalized anxiety disorder.<sup>44</sup> Similarly, in the Ebola public health crisis, medical personnel experienced similar issues and were at increased risk of developing poor mental health.<sup>27</sup> According to a survey by the CDC, more than 20 percent of essential workers reported suicidal thoughts during the COVID-19 pandemic.<sup>31</sup> Frontline and essential workers are particularly vulnerable due to emotional distress, shortages of personal protective equipment (PPE), longer work hours, greater susceptibility to contracting the virus, and high-pressure work environment leading to PTSD or depression, other anxiety disorders, substance abuse, and suicide; these adverse outcomes are high in ethnic minorities.<sup>45</sup> For these workers, many of the psychological symptoms they suffer are similar to soldiers on the battlefield due to the high-pressure environments and life or death decisions to be made.

### *Minorities*

The social vulnerability of minorities in disasters is a common research topic.<sup>46,47</sup> Several studies have investigated the association between race, ethnicity, and mental health following a disaster, with some reporting that minorities are not at increased risk of suffering mental health challenges<sup>48</sup> in disasters, while others reporting that minorities, including African-American, Hispanic, and non-White adults, are at higher risks of suffering from major depressive or anxiety disorders.<sup>49</sup> In response to COVID-19, the CDC found that 18.6 percent of Hispanic respondents and 15.1 percent of Black respondents faced increased psychiatric issues, often associated with substance abuse and anxiety.<sup>31</sup> Historically, minority groups have higher risks of mental illnesses and physical health needs, resulting in the disproportionality toll they have faced due to COVID-19. Physical and mental health are indivisibly linked, especially given a large portion of frontline and essential workers in the US are minorities.<sup>50</sup> Studies have highlighted that there are increased mental health consequences for those that were infected with COVID-19, which is higher among minorities, resulting in higher rates of PTSD, anxiety and depression, and other psychiatric symptoms.<sup>51</sup>

### *People with disabilities*

Crises affect people with disabilities both disproportionately and negatively as their disability status is often stigmatized leading to increased barriers and greater mental health problems for those that face sensory, cognitive, or psychiatric challenges.<sup>52</sup> Traditional emergency notification services are often unavailable for people with disabilities,<sup>53</sup> where common misconceptions about their ability to respond promptly result in an increased chance of death during crises.<sup>54</sup> Past pandemics emphasize how people with disabilities struggled to access critical health services, which worsens as a health crisis ensues.<sup>55</sup> For people with disabilities and those already suffering from mental illness, the effect of COVID-19 is even more pronounced as social routines are disrupted leading to increased anxiety and depression. Alongside increased feelings of loneliness as social distancing measures continue, said feelings result in increases in physical health problems like heart disease and psychiatric illnesses like dementia.<sup>56</sup>

### *Unpaid caregivers*

Unpaid caregivers are family members or friends that provide informal long-term care for children, parents, or spouses, often affecting that person's ability to work, engage in social interactions and relationships, and maintain good physical and mental health.<sup>57</sup> Women make up over 75 percent of caregivers, with female caregivers spending up to 50 percent more time with their patients than their male counterparts, signaling disproportionate strains and mental health challenges for women as they make up a majority of unpaid caregivers.<sup>58</sup> Seeing as caregiving can be both emotionally and physically demanding, more than 53% of caregivers indicated a decline in physical and mental health, with 40.7 percent having two or more chronic diseases and over 14 percent having coronary heart disease and/or strokes.<sup>57</sup> Unpaid caregivers are often overlooked in the literature, but their role makes them more vulnerable and susceptible to mental health challenges during crises. One study showed that caregivers for adults had three times higher likelihood of reporting adverse conditions and suicidal ideation during COVID-19 compared to before

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the pandemic.<sup>59</sup> According to a study by the CDC, more than 30 percent of unpaid caregivers reported increased substance use during COVID-19.<sup>31</sup>

Using Wisner et al.'s definition of social vulnerability, the above populations are at greater risk of suffering from mental health challenges amid COVID-19 due to systemic inequities that each population faces.<sup>7</sup> It can be argued that during the COVID-19 global pandemic much of the population is socially vulnerable to mental health challenges, due to the unprecedented restrictions leaving some being confined to their homes and socially isolated and others on the frontlines. The mental health challenges stemming from COVID-19 are not selective, but certain populations including but not limited to the ones above are at a greater risk of facing mental health challenges.

#### **RECOMMENDATIONS FOR ADDRESSING MENTAL HEALTH CHALLENGES**

Despite the challenges of COVID-19, there are ways forward and lessons learned from the pandemic. From the analysis of the factors affecting socially vulnerable populations and the particular challenges certain socially vulnerable populations face during crises, we suggest several recommendations to aid emergency managers, first responders, public health officials, government leaders, and others in responding to the pandemic. These recommendations serve to address some of the risk factors and needs of socially vulnerable populations to aid in the recovery from COVID-19 and prepare for and particularly target said populations in future crises.

- Recommendation 1: Improve the dissemination, communication, and content of emergency messages (Factors addressed: social conditions, cultural differences, and personal factors).

Currently, emergency messaging is tailored to those with greater access to technology and those with higher levels of education, leaving out socially vulnerable populations due to language, resource, and access inequities.<sup>60</sup> According to Lemyre, socially vulnerable populations including people with disabilities,

minorities, non-English speakers, and children require special care, planning, and integration of their needs due to the higher susceptibility, higher sensitivity, and system weaknesses.<sup>60</sup> Emergency alert accommodations and tailored messages improve people's ability to adequately respond to a crisis; otherwise, socially vulnerable populations will not only face difficulties in accessing information but acting on it as well.<sup>61</sup> Crisis communication practices and emergency messaging affect the publics' crisis perceptions influencing their emotions, coping strategies, and crisis response acceptance.<sup>62,63</sup> Therefore, poor communication or emergency messaging will negatively affect the publics' crisis perceptions, emotions, and ability to cope, which is already diminished due to the systemic inequities that socially vulnerable populations face leading to mental health challenges.<sup>64-66</sup>

Potential improvements include language accommodations that ensure that messaging is inclusive for people with disabilities and non-English speakers. During a crisis, effective, consistent, and factual information is warranted and expected, so said communications have to be separated from politics<sup>61</sup>; information elicited must account for emotions, as anger, sadness, and fear affect crisis response and news framing of vital information.<sup>62</sup> This is crucial and will require a combination of business and health marketing practices, as inconsistent and misguided messaging has caused problems for populations that already had mistrust in the system or had a tough time searching for reliable information. Similarly, understanding the populations affected, including the preferred channels for gathering vital information, overall digital competency, or mobility challenges is essential for emergency managers and public health officials.<sup>67,68</sup> For example, in responding to the pandemic, one has to take a multifaceted approach to (1) recognize the various channels and modes of delivery necessary for different populations (TV, radio, social media, etc.), (2) acknowledge the digital access and digital use divides that hamper some individuals' ability to get advice or pertinent preventive health information, and (3) transportation or mobility restrictions that some in rural areas or those without a household vehicle may face. As the CDC recommends, communicating during

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a crisis takes balancing trustworthiness and credibility, situational awareness, and several techniques used in public health campaigns (including realistic expectations, clear communication of scientific information, calm temperament, clarity, promising only what can be delivered, taking responsibility where it is due<sup>67,69</sup>).

- Recommendation 2: Improve access to resources for socially vulnerable populations (Factors addressed: social conditions, cultural differences, and personal factors).

COVID-19 exposed the cracks and inefficiencies in the US health system.<sup>70</sup> Socially vulnerable populations, especially minorities, children, and the elderly, face inequities in accessing and successfully using health services due to geographic, financial, or social restrictions. These populations are at risk of not only unequal healthcare access but also greater rates of being uninsured or underinsured and face greater risks of physical medical conditions due to systematic inequities.<sup>71</sup> Potential improvements to the healthcare system include revamping the medical system and making medical access more available. Although this is not something that can be done overnight, it can be strived for and small steps can be taken to achieve greater access for all. Such steps include ensuring stronger communication between private and public hospitals, ensuring medical professionals have the resources and help they need (both in physical resources and mental health support), increasing public awareness of said resources, and providing training on how to adequately seek medical care. Implementing training and providing resources to emergency responders and healthcare providers not only raises awareness and improves their understanding of the populations they serve, but provides guidelines and recommendations on how to cater medical care or response to particular populations (i.e. how to provide medical care to older adults who may face physical or cognitive challenges).<sup>68</sup> For example, emergency responders and medical personnel should know the inequities each subset of the population faces and be trained to

properly use tools or techniques to improve service offerings and communication with those populations.

- Recommendation 3: Increase mental health services for frontline workers (Factors addressed: social conditions, cultural differences, personal factors, material conditions, and relationship factors).

Frontline or essential workers are socially vulnerable populations that are often overlooked outside of a crisis. Frontline and essential workers include but are not limited to doctors and nurses, janitorial staff and maintenance workers, grocery clerks, delivery drivers, and agricultural and factory workers. Frontline workers are not only more susceptible to the virus due to their inability to work from home but also face a greater likelihood to suffer from mental health issues.<sup>45</sup> COVID-19 has had devastating effects on our frontline workers, from the inability to hug their children due to the fear of exposing them to the virus to having to witness a family saying goodbye to a parent, child, or friend on a cell phone. The increased pressures and life-or-death decisions frontline workers are asked to make daily warrant a greater focus on support and ensuring their mental health does not limit their capabilities. These frontline workers, including emergency managers, first responders, and public health officials, are concerned about their health, while simultaneously being required to respond to and care for the public. Potential improvements to improving mental health services for frontline workers include providing frontline workers with greater mental health service access by increasing onsite access to mental health services and implementing regular checks of the frontline workers' mental health by trained professionals. In this, there should be policies in place to allow frontline workers to meet with mental health services when needed and adequate financial support like paid time off and insurance coverage of all services related to strains caused by working amid the pandemic. Due to the common stigma that comes from seeking mental health guidance, there needs to be a public health campaign to promote



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mental health awareness, which can be done with collaboration between the local, state, and federal governments. Within this, mental health support and services should not only be promoted but made part of the culture for and among frontline workers including emergency managers, first responders, and public health officials.

- Recommendation 4: Provide social support to communities (Factors addressed: social conditions, cultural differences, personal factors, material conditions, and relationship factors).

Having social circles or global movements to aid in community mental health is necessary during the pandemic. Individuals are suffering due to the isolation, social distancing, and grief from losing loved ones accentuating the mental health challenges of millions of Americans.<sup>20</sup> Movements have been created across the US to provide support seen through collective message boards or campaigns like #IWearAMaskFor and #MyPandemicSurvivalPlan. Moreover, organizations have partnered with social media platforms to address socially vulnerable populations as seen in the NCDHHS' Prevent and Protect campaign. Many private and public companies like Heineken, Nike, Ikea, Dove, and Honda have created stay home digital campaigns to show support. Cities across the country have lit buildings blue or conducted military flyovers to show respect and love to the frontline workers. We are a connected nation that is willing to help if given the chance as seen in the Adopt a Nurse/Health Care Worker program and the NYS Wall of Masks signifying that none of us are alone in this fight. Although we have had success in providing social supporting as seen through an outpour of financial assistance and "virtual" support, potential improvements involve fostering a whole community approach that entails small businesses to local, state, and federal governments to highlight that individuals are not alone to create a more resilient nation. The response efforts of COVID-19 have been mostly situated with the states, with many of the states and local municipalities working on their own. It would be beneficial to promote

the interagency collaboration of emergency managers, frontline workers, and public health departments to not only create greater response efforts but also ensure stronger communication and increased resource sharing across state borders. For example, it may be beneficial to provide special consideration to areas where socially vulnerable populations reside, focusing response and recovery efforts to those areas that are not only at greater risk but also historically face systematic inequalities. Such collaborations and placements would be more successful given the range of emergency managers, first responders, and public health officials, especially when conducted at the international level, where information and resources are shared to help our neighbors, in turn, improving global resiliency. In continuing to foster public/private partnerships and build response capabilities based solely on science, not in politics, we can build a stronger network for pandemic and future crisis response.

#### **CONCLUSION AND FUTURE RESEARCH**

Given the impact of the COVID-19 pandemic on the psychological health of Americans, understanding the mental health challenges and factors disproportionately affecting socially vulnerable populations, there is a need for recommendations to address the disparities. This paper highlighted the factors and subfactors affecting mental health and how those factors importunately put portions of the population at greater risk. Using this analysis and drawing on the literature, we provide recommendations that help address some of the disparities that socially vulnerable populations face, with an emphasis on mental health challenges. By taking a holistic approach to mental health care and response efforts, individuals will not only be better equipped to react to the pandemic but emergency responders and health care providers will be better able to help themselves and the populations that they serve. This will improve the resilience of not only socially vulnerable populations but the nation as well. Although a vaccine is being rolled out, we as individuals and as a country cannot drop the ball on the unforeseen challenges following a crisis of this scale. The only way the US (and

the world) can truly recover from the pandemic is to consider the health of the entire country, including the physical and mental health of all races, genders, religions, and socioeconomic standing. As a nation, we have shown our resilience time and time again, so this is our time to not only deal with the unfolding crisis of COVID-19 but do so in a way that successfully addresses the mental health needs of everyone and involve emergency managers, first responders, public health officials, and government leaders, so we can rise from the crisis stronger than we were before.

This study investigates the mental health challenges arising from crisis and the factors that disproportionately affect the socially vulnerable, yet there are areas of future research that highlight further contributions that can be made. Future research areas include the following: identifying particular factors that affect each socially vulnerable population and providing recommendations to aid the sub-populations in response and recovery; further investigating how to improve social conditions for socially vulnerable populations, for example engaging them in community activities; conducting focus group interviews to find out how social isolation can be addressed to reduce the anxiety of socially vulnerable populations; testing how social determinants have affected mental health and determine ways to address these inequities to better respond to the crisis; and employing different approaches including interviews, field study, and surveys to address the mental health challenges among Americans.

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