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CHAPTER

COVID-19: A health-care worker’s perspective

Rishi Suresha, Ryan J. Logue, Deepa B. Gotur, and Steven H. Hsu

Texas A&M School of Medicine, College Station, TX, United States, Department of Medicine, Houston Methodist Hospital, Houston, TX, United States, Weill Cornell Medicine, New York, NY, United States

Introduction

The coronavirus disease 2019 (COVID-19) pandemic took the world by surprise in 2020, rapidly overwhelming our societies, economies, and health-care systems. The health-care workers (HCWs), hospital administrators, government leaders, and public health officials all rushed to coordinate the response in order to contain its global spread. Early on, it became clear that the virus was highly contagious and had a longer latent (yet transmissible) period when compared with previous pandemics. During the early dynamics in Wuhan, China, the basic reproductive number ($R_0$) was 2.2–2.7, suggesting a doubling time of number of infected persons of 6–7 days.\(^1\)

The spread of the disease has been further exacerbated by limitations in testing and medical supplies, disconcerting guidelines, conflicting media information, and whether policies are instituted and enforced to attempt to “flatten the curve” as well as the timeliness of health-related political efforts. At the same time, a swarming number of fast-track publications and interventions overwhelmed frontline HCWs with excessive and misrepresented study conclusions that needed to be implemented at the bedside. Some high-profile publications were even retracted limiting further therapeutic options. Facing these uncertainties, HCWs have been battling with immense physical and psychological stress from a surge of clinical work, staff shortage, bed crunch, potential lack of personal protective equipment (PPE) and drugs, and profound ethical conflicts. Above all, HCWs grapple with the risks that the exposure to the virus could have not only for themselves but for their families. By June 2020, The International Council of Nursing reported an estimate of 230,000 infected HCWs and over 600 nurses died based on information collected on 30 countries from national nursing associations, government figures, and media reports.\(^2\) In this chapter, we explore the multitude of challenges confronting the frontline providers during this COVID-19 pandemic.
Legal and ethical dilemmas

Resource scarcity

The COVID-19 crisis and the shortage of resources have generated a multitude of ethically challenging scenarios. Fundamentally, there is a clash between utilitarian and deontological principles in the way that the health-care system approaches the distribution of COVID-related resources. Prior to COVID-19, HCWs treated individuals using a deontological framework. According to that principle, each patient is treated as an individual, and the decision to provide a lifesaving intervention is made exclusively on the individuals and their conditions. The current crisis has necessitated a more utilitarian framework, where the focus is on maximizing saved lives or therapeutic outcomes for the greatest number of people. This means that some individuals would likely not receive potentially lifesaving interventions because of their underlying comorbidities, in favor of utilizing these resources for patients with a higher likelihood of success.

In Italy and Spain, providers were forced to make excruciating decisions regarding resource access to patients based on factors such as comorbidities and severity of respiratory failure. The Italian Society of Anesthesia, Analgesia, Resuscitation and Intensive Care (SIAARTI) of the ethics section described the possible need for a utilitarian approach in which factors like age could be utilized along with comorbidities and functional status to create intensive care unit (ICU) admission criteria. In fact, the SIAARTI guidelines described that each admission to the ICU should be considered a “trial” in which patients are reassessed on a daily basis to determine whether the use of scarce lifesaving resources such as ventilators are properly allocated. Such situations were exceptionally challenging to witness for frontline HCWs who previously had operated using a framework that offered access to all individuals.

A significant amount of attention in the early days of the pandemic was focused on the need for ventilators; however, resource scarcity created moral-ethical problems that went beyond ventilator access. Several investigational drugs that were potentially effective in treating COVID-19 [such as hydroxychloroquine (HCQ), remdesivir, lopinavir-ritonavir, or convalescent plasma] have a limited availability, and sometimes have required the adventure of strict institutional policies to restrict their use to a preselected population.

The scarcity of PPE has also forced HCWs to rethink several aspects of medical management. For example, when a patient requires resuscitation, there is an immediate moral conflict between the importance of early intervention and the need to properly protect oneself prior to entering a COVID-19-positive patient’s room. The amount of time taken to don PPE prior to entering a patient’s room can delay the effectiveness of the resuscitation efforts. Specifically, chest compression generates aerosols if the patient is not already intubated. Therefore prior to attempting resuscitation, it is imperative that the HCW appropriately protect themselves. And then, the prevalence of the disease in some areas has made that in many instances, all patients should be treated as suspected cases thus limiting the celerity or even availability of certain treatments for the entire population.
Pressing a medical team on cardiopulmonary resuscitation (CPR) efforts to restore spontaneous circulation and breathing of a patient certainly utilizes a significant amount of PPE. HCWs have searched for ways to streamline this process to ensure that patient’s wishes are followed while proper PPE is conserved. Discussions regarding advance directives and do-not-resuscitate (DNR) status are initiated early on in a patient’s hospital course. Identifying those who would not want CPR and those who would benefit from CPR can guide in formulating treatment plans and limits. Routine discussions regarding goals of care and code status with patients and their families should be part of the standard practices when treating hospitalized patients with COVID-19, particularly in high-risk patients. Other strategies to ensure safety include having extra PPE in emergency carts, limiting the number of essential staff, using an external mechanical chest compressor and protective barriers over the patient to minimize aerosolization, and using airway intubation by dedicated or most experienced staff.7

The issue of conducting CPR in the context of the COVID-19 pandemic has sparked ongoing debate with viewpoints such as DNR for all COVID-19 patients.3 A professional society like the Belgian Resuscitation Council recommends avoiding CPR when providers’ safety is not met and in those with little chance of good functional outcome.7 Similarly for patients recovering yet requiring long-term ventilation, conflicting recommendations exist on performing tracheostomy. While it can expedite weaning and freeing up an ICU bed, it is also aerosol-generating, requiring enhanced PPE measures. Even outside of the COVID-19 context, there are differences in the timing of tracheostomy. This pandemic has added another uncertainty on the timing of it, (if at all offered) due to sustained positivity of the virological testing.8 Again, these approaches represent a utilitarian mindset to maximize PPE resource utilization while achieving a standard of safety.

Clearly, the ethical and moral circumstances involved in resource allocation are complex. In order for these principles to be applied in a consistent manner, professional societies, institutions, states, and national governing bodies should create guidelines that discuss best practices for managing these complex situations. Furthermore, it would be beneficial to have local ethics committees to assist in making difficult decisions about complicated ethical cases and to ease the burden of HCWs from having to navigate these ethical issues by themselves.

Managing the workforce

The pervasiveness of COVID-19 creates tremendous concern that HCWs of all specialties are likely to be at risk of exposure at work. Various questions have been raised regarding the responsibility in treating potentially COVID-positive patients, especially when doing so places the providers and their families at risk. The American Medical Association Code of Ethics describes the physician’s duty to treat, which states: “Because of their commitment to care for the sick and injured, individual physicians have an obligation to provide urgent medical care during disasters. This ethical obligation holds even in the face of greater than usual risks to their
own safety, health, or life. The code of ethics suggests that it would not necessarily be permissible to excuse oneself from the duties of patient care due to increased personal risk. This generates a sense of *prima facie* obligation to serve, which the frontline HCWs of Wuhan, Italy, New York, and essentially all over the world, did not shy away from when facing the first wave. During the initial phase of pandemic, China summoned the workforce and resources at a national level to support Wuhan, while Italy and the United States recruited volunteers and traveling staff to the major disease epicenters and even graduated trainees ahead of time to join the workforce. Major international medical societies like the Society of Critical Care Medicine reached out to their members and were able to recruit and organize volunteer critical care clinicians to respond to places like New York. Some areas also recruited retired providers to aid with the epidemic. Most of the recruits had different backgrounds and specialties. However, the increased demand for HCWs on the front lines was quickly met by a relative shortage of PPE. Such situations placed HCWs with the dilemma to stand up to the challenge posed by the pandemic, while being concerned for their own safety due to lack of PPE and shortcoming of basic safety.

A significant amount of the workforce falls into the groups considered to be at risk of COVID-19. Approximately 22% of nurses and 29% of physicians in the United States are over the age of 55, placing them at increased risk of severe disease. Furthermore, those with comorbidities such as hypertension, diabetes, obesity, asthma, and immunocompromised states are at even higher risk. HCWs that have either at-risk or high-risk individuals at home are also faced with difficult choices of the possibility of bringing home the virus. Hospitals have addressed this challenge in various ways. Some at-risk staff were asked to minimize contact with patients on the front lines. Others have opted for more individualized approaches, in which HCWs are provided choices regarding whether they would like to stay and treat patients or relocate to another service for less exposure.

The decision to remove oneself from the clinical environment is challenging. Some HCWs have detailed the conflict between the need for themselves and their family to be protected, while serving their obligation to their patients. HCWs that remove themselves from the clinical environment do so feeling slightly uncomfortable or guilty, and even potential perceived bias from others. Even if HCWs recuse themselves from the front line, there are several ways in which they are able to add significant value in the health-care setting. The accelerated shift toward telehealth during the pandemic has allowed for physicians to actively treat patients even during this crisis. Furthermore, some hospitals have allowed some interventional specialties to take call, but not actively round on inpatient units where patients could be COVID-19 positive. Finally, elderly HCWs have a wealth of experience and knowledge, and they are able to provide additional support to their younger colleagues and trainees during this time, including academic conferences and clinical guidance.

While some hospitals have opted to protect those that are at the highest risk of having complications related to COVID-19, others have cautioned against intentionally placing low-risk individuals in high-risk situations. After all, the disease still
carries a significant risk of serious complications in younger low-risk patient population. Managing the workforce in the face of these ethical considerations is challenging and is likely to evolve as the pandemic progresses.

Am I protected?

PPE availability

As COVID-19 exponentially surged in the United States, there were several concerns regarding the availability of proper PPE. During the initial phase of the pandemic, hospital workers were frustrated by the lack of access to PPE, and guidelines regarding its use seemed to be constantly changing. An early estimate in China suggested that infection of HCWs was as high as 29%. This percentage dramatically decreased as hospitals refined their protocols for PPE use. Tragically, HCWs are not spared from succumbing to the disease. By July 2020, the Centers for Disease Control and Prevention (CDC) reported over 90,000 cases of COVID-19 infection in HCWs and at least 500 deaths in the United States.

Initially, some hospitals were forced to come up with emergency solutions to provide necessary PPE, from relying on community donations to working with organizations and even to provide three-dimensional printed face shields. The shortage of N95 respirators has forced HCWs to reuse them following decontamination or after a certain waiting period beyond the manufacturer’s recommendation. Several volunteer groups were created throughout the United States that focused on collecting community resources to provide hospitals with appropriate PPE. Since the start of the pandemic, hospitals have become more efficient with their PPE use, and the CDC guidelines have been refined to allow for reuse of PPE in multiple settings. Nevertheless, the availability of PPE will likely remain a consistent problem throughout the course of the pandemic.

The continually changing CDC guidelines with respect to PPE usage were often a cause for stress and anxiety among providers on the front line, as the recommendations appeared to be constrained by PPE availability rather than by evidence-based practices. For example, at one point during the pandemic, CDC guidelines encouraged HCWs to wear bandanas to protect themselves when masks were not available. In the initial phase of the pandemic and with shortages of masks, CDC also did not recommend the general public to use face masks in an effort to prevent diverting them from health-care facilities. This strategy could have worsened the epidemiological spread. Face masks have also confronted political innuendos which might have some influence in the spread of the disease. In addition, epidemiologic surges and increasing hospital admissions have propelled the enhanced need for more resources, creating in some cases chaotic scenarios that prompted media and general public attention.

In an effort to conserve PPE, hospitals have implemented innovative solutions for the routine care of patients. In the ICU, getting chest X-rays without having the machine enter the room, placing intravenous pumps outside the rooms, nonstandard...
setting hemodialysis, and distant ventilator monitors are feasible and used strategies that have minimized the times that providers spend inside the patient’s room minimizing not only the time of exposure but also, through limiting the number of entries, reducing the use of the scarce PPE’s. Additional measures include reserving the highest levels of PPE, such as N95 or powered air-purifying respirator, for the management of COVID-19 patients and aerosol-generating or lengthy procedures.

Protecting HCWs at work and home

Several studies have demonstrated that COVID-19 can easily contaminate various surfaces inside the hospital. Areas like break rooms and nursing stations, shared computers, and communal phones are particularly susceptible. Thus cleaning of surfaces is required to avoid cross contamination. A recent CDC study found that the shoes that providers wear in the hospital have the potential to carry the virus and serve as possible modes of transmission into the HCW’s home as well. Therefore attention needs to be directed to the movements within the working environment and to and from home, observing that personal gears and belongings need to be cleaned thoroughly and treated with caution.

Caring for patients outside the identified areas deserves a special mention. As HCWs are typically moved to wear sufficient PPE when caring for a COVID-19 patient, this may be laxed if the patient presents no clear diagnosis or rather is admitted with a non-related condition. This portends the danger of transmission as the pandemic progresses and the prevalence becomes increased. Patients could be positive and spreading infection although admitted with other conditions and sometimes the delay in identifying them, whether is because of waiting for a routine test or simply because of the lack of suspicion, endangers the HCW if nonadequate protection is embraced. This might be even more complicated while some institutions might be limiting the use of some PPEs to predetermined areas. Under these conditions, determining whether a patient is positive is imperative to initiate appropriate isolation and to protect staff and other patients. However, testing continues to be an issue in many countries, especially in areas where community outbreaks lead to excessive surge demand. Furthermore, the imperfect sensitivity of approximately 70% in SARS-CoV-2 polymerase chain reaction testing determines a significant number of false negatives. In regions with high number of cases and positive rates, HCWs should exercise standard precautions and assume all patients are COVID-19 in order to appropriately protect and reduce the risk of exposure.

Mental and psychological well-being of HCWs

While COVID-19 presents a real threat of serious physical illness, there is also a significant threat to the mental and psychological well-being of the providers. In previous influenza outbreaks in China, staff absenteeism was a significant issue. Various factors contributed to the shortage and loss of productivity, including numerous absentees with reported upper respiratory tract symptoms, fear of occupational...
hazard, and having caregiving duties at home due to the closing of school and childcare facilities. Workforce preparation and planning during patient surges, staff shortages must be taken into consideration. To account for these deficits, hospitals have hired traveling staff in the United States, redistributed internal workforces, and closely monitored symptomatic staff with explicit guidelines for postexposure testing and return to work policies.

The constant stress of treating COVID-19 patients among ever-changing guidelines, handling significantly more patients than normal, working in suboptimal makeshift settings, and with inadequate PPE, all contribute to overwhelm HCWs and have tangible impacts on their mental health and well-being.32 During this pandemic, HCWs are often required to take more roles including the one handling end-of-life issues in an environment that has proven to be very hostile for patients and families. In an effort to minimize the spread of the virus, hospitals have created limitations on the number of visitors, time allowed for those visits, and most institutions have implemented a no-visitor policy for ICU patients. Thus HCWs engage thoroughly in end-of-life care discussions without the benefit of face-to-face visits. Furthermore, they are called upon to provide comfort and support in the immediate days and hours leading up to a patient’s death. Providers have adapted to these challenges by involving palliative care services early on in hospitalizations to ease the transition toward end-of-life care.24

On a personal level, the pandemic has brought a sense of social isolation as HCWs often distance themselves from their family members for fear of infecting them. Prior to the pandemic, burnout and moral injury were already quite high among HCWs in areas such as the emergency room and ICU. The intense nature of the pandemic amplifies these issues. Hospitals must be proactive in protecting HCWs from the moral and psychological injury that comes with being in these difficult environments.

Institutions have attempted to confront these issues in several different ways. For example, during the initial Wuhan outbreak, the delegated medical teams often incorporated psychologists to help support the staff. Most institutions have provided similar strategies and services to help their staff to cope with the stress, and the CDC has made resources available as well.33 Furthermore, hosting regular town halls, or providing access to mindfulness sessions or telehealth counseling visits, having a dedicated staff center and hotlines for emotional support by psychologists and social workers are proposed to ensure that HCWs receive the help they need.33

What if I get sick?

Despite the proper use of PPE, HCWs are not fully exempt from exposure to COVID-19 and get sick. As nearly a quarter million HCWs are infected by COVID-19 globally has been reported as of June 2020, institutions must plan ahead for those recovered to resume duty.2 Most return-to-work policies have focused on either symptom- or testing-based strategies. For instance, CDC recommends a symptom-based strategy,
providers are excluded from working either until after 10 days since the first symptoms appeared or until 3 days have passed since recovery. In a test-based strategy, healthcare providers are excluded from work until their symptoms resolve, and they receive negative results from two consecutive respiratory specimens.34

In these situations, concerns raise not only for the individual health of the provider but also with regard to potentially exposing their family members. While trying to recover from the disease, providers may have to find alternate accommodations or means of self-isolation to avoid such risk. In many countries including the United States, hotels and local college dormitories have attempted to provide accommodations to healthcare providers helping with the COVID-19 crisis.35–39 Similarly, hospitals in Italy and China provided meals and lodging to frontline HCWs to allow them to ensure proper social distancing.40 One specific hospital in Italy utilized a hotel and set up a system complete with “dirty paths” (where HCWs could travel), regular temperature, and symptom screening to quickly identify potentially infected individuals.40 While these accommodations provide HCWs with the ability to relocate while they are potentially able to transmit the virus, they still face significant challenges in taking care of their responsibilities outside of the hospital. An equally important matter is the possible exposure of the HCW in the “outside” environment and the possibility of bringing the infection to the inside. This has been a common in most areas of the United States where the rate of HCW infection has been similar to the general population in the area.

How to treat the unknown?

Since the beginning of the pandemic, the amount of research and information regarding best practices for the treatment has flooded publications and media. Amidst this deluge of information, it has been challenging for providers to stay up-to-date with their management strategies and care of patients. As of July 1, 2020, there were 27,778 publications indexed in the LitCovid website.41 Further complicating the problem is that studies on the effectiveness of a particular drug can often conflict, leaving the provider unsure of whether it is likely to provide a benefit to the patient. Sometimes, high-profile studies have been ultimately retracted, leading to further confusion.

In the vast majority of clinical situations, there are thorough guidelines for management. However, in this pandemic, the guidelines for treatment are changing constantly based on data that appear at a rapid pace. Noise has been generated by intrinsic factors of the different studies such the number of subjects included, the methodology of the study, and the lack of randomization among others. Some institution studies chose to forgo the use of control groups called by the need for treatment making it difficult to establish real comparable data. In addition, there is hunger and urgency for the consecution of treatment options, and any study has immediate attention in the media.42
Many experimental drugs, some of them new and some old but redirected, have appeared as treatment alternatives. HCWs must consider whether it is appropriate to treat the COVID-19 patients with the experimental drug outside the context of a research protocol. The code of ethics of the physician-patient relationship and those of the investigator-subject relationship may not be aligned. This is a challenging path for physicians in large academic centers who are fulfilling both roles of a researcher and a clinician. Physicians have a fiduciary duty to act in the patient’s best interest and recommend treatments to patients based on their clinical judgment, as long as the treatment is within a reasonable standard of care. Research occurs outside the context of a beneficence-based relationship with a goal of acquisition of generalizable knowledge and, for most research, there is not a clear expectation of benefit for the patient. In a situation where a clinician is facing a patient with life-threatening progression of the disease, the three ethical principles of nonmaleficence, informed consent, and benevolence comes into play. Keeping with the patient’s best interest and on the premises of helping the dying patient, a consenting patient should be provided with treatment that may still be unproven in research studies. The classic example is that of an old drug that treats Ebola, remdesivir which was repurposed to use in the SARS-CoV-2 pandemic and was given emergency use authorization. In academic medical centers, patients often have access to several trials that are seeking to improve outcomes and patient care. In such settings, providers are more likely to be kept up to date with the available therapies that researchers are trying to use. However, community hospitals might struggle to access some of these specialized therapies, limiting their ability to optimally care for their patients. Nevertheless, as the pandemic progresses, access to certain drugs such as HCQ (initially considered to be effective) or remdesivir has been limited, forcing difficult decisions on who qualifies to receive the limited doses that exist.

**Commitment of the HCW on education of the trainees**

The training of medical students, nursing, and allied health professionals was substantially impacted in the United States as a result of COVID-19. Students and trainees were at first not allowed to take care of COVID-19 patients, due to concerns regarding PPE shortage. In March, the American Association of Medical Colleges and the Liaison Committee on Medical Education published a recommendation advising that students be pulled from clinical environments for a few weeks while schools identified alternative learning plans. Students were placed in alternative learning environments, including online learning modules, taking part in didactics, or even seeing patients through telehealth encounters. The decision to restrict trainees from seeing COVID-positive patients is often based on a desire to preserve PPE and to prevent exposure. However, others argue that not allowing students to treat COVID-positive patients deprives them of the learning experience gained from being actively involved in a pandemic. Nevertheless, some schools are finding ways to involve their trainees by assisting with outpatient clinics, with telehealth visits, or helping with inpatients that are not COVID positive. Some have even come up with more novel uses for medical students, such as training them to supplement
respiratory therapists. Finally, even if medical students are not actively involved in treating COVID-positive patients, HCWs can still teach trainees about these patients through patient rounds or in case conferences.

On the contrary, students in the last year of school in hard-hit areas such as New York or Massachusetts were provided the opportunity to graduate early and join the physician workforce. The decisions on whether to allow students to pursue these opportunities were often made on a school-by-school basis and required a state-level involvement in order to provide the appropriate licensure. Countries like Italy passed the Cura Italia decree, which allowed all medical schools in the country to advance their students into the workforce at a much faster rate. Similarly, a UK-wide approach was used to allow British medical students to join the National Health Service earlier than previously would have been possible.

COVID-19 has also profoundly affected residency education. Regularly scheduled didactics and educational opportunities have been disrupted as a result of clinical duties overwhelming senior staff. Initially, the guidance from the Accreditation Council for Graduate Medical Education was for residents to avoid treating COVID-19 patients altogether. However, this was quickly amended to allow residents to see COVID patients, given that they had appropriate training in management and personal protection. Residents working in epicenters often have to support in the field and found themselves fearing the same issues that other HCWs face—such as concerns regarding PPE accessibility and protecting their loved ones—in addition to other issues specific to their role as trainees. For example, they also have to worry about duty hour regulations, patient caps, or the impact of quarantine periods on their eventual graduation. As the pandemic evolves, institutions are finding ways to incorporate the workforce with proper protection and education on how to treat COVID-19.

Physicians as innovators and researchers

This pandemic has given an opportunity to the rapid adaption of innovative solutions to the clinical problems faced at the bedside. For example, HCWs were involved in inventing makeshift ventilators, aerosol containing boxes for use during intubations, or even attempting to use artificial intelligence to diagnose COVID-19 from a computed tomography scan. As the pandemic progressed, there was a rapid shift toward telehealth visits for routine clinical care. These visits also were useful in limiting provider exposure and further communal spread. HCWs throughout the world have embraced their roles as researchers, developing trials that evaluate potential vaccines, repurposing previously used drugs, and developing ideas for novel therapies such as convalescent plasma.

The influence (or “mis-influence”) of social media

As the “infodemic” created a cloudy consensus as to best practice management algorithms, HCWs were also challenged with the profound influence of social media on patients and families. The various social media platforms, with billions of viewers
daily, have the potential to either support or hamper public health efforts. It is estimated that during lockdown, social media traffic was up 61% overall and instant messaging features attracting 50% greater usage than usual. According to a leading social media management company, from March to April 2020, health-care posts increased by 5.3% and conventional media outlet posts increased by 8.9%. With an increase in both social media content and consumer traffic, opinions, viewpoints, and at times misleading information flooded and created sometimes an uneasy environment for the HCW. As an example, a study published in the “British Medical Journal” during the same time period found that 25% of the top 75 viewed COVID-19-related videos on YouTube contained grossly misleading information that was being disseminated to millions of viewers worldwide. In light of such findings, prominent social media platforms have introduced fact-checking protocols for obvious misinformation related to the pandemic.

Despite this, it has been shown that people seek and share content based on preconceived perceptions. For instance, Dr. Rasmus Nielsen, Oxford professor and director at Reuters, found that in numerous developed countries, people who politically leaned left trusted the media more than the government, whereas those who leaned right trusted the government more than the media. In addition to inaccurate, misleading, and conflicting information, social media can also affect the psyche of the viewers. Evidence shows that during the lockdown, using social media to gain information about COVID-19 has led to considerable spread of anxiety related to the pandemic. From the perspective of the HCWs, such a profound dissent among available social media content made it more challenging to be a community leader and educator during the pandemic. While HCWs have been vigilant to scrutinize blatantly incorrect claims, other controversial posts have made it challenging for HCWs to take a stand. Perhaps, the most infamous example of bridging the “infodemic” with social media and politics is that of U.S. President Donald Trump and his early endorsement of an antimalarial medication as a potential COVID-19 treatment. On March 19 and 21, he tweeted messages in favor of immediate approval for HCQ, citing a recent French study that indicated HCQ with azithromycin led to significantly decreased COVID-19 viral loads. However, after various critiques of the study and withdrawal of its trial by WHO, Trump’s top public health advisors including Drs. Anthony Fauci and Rick Bright have declared the message as dangerous. Another example is the declarations of the presidential candidate Joe Biden against the travel ban declared by the U.S. government in January 2020. Usage of media by candidate and diverting the attention from health to political arena was later retracted, in April, by his own campaign.

Divergent views on health policy

Response to the SARS-CoV-2 pandemic has varied across the globe, with health policy ranging from stringent lockdown to attempts at achieving herd immunity. Nevertheless, there were challenging sociopolitical and economic decisions made to optimize health-care management, political response, and financial policy.
Being the epicenter of the viral outbreak, the Chinese government officials were criticized for controlling and censorship of information at the expense of public safety. As early as December 31, 2019, Western outlets such as “The New York Times” were reporting on a possible novel viral outbreak, while Chinese citizens were largely unaware. Doctors including Li Wenliang warned of a novel virus similar to SARS. After he sent a text message warning his colleagues to wear appropriate PPE, he was called to the Chinese Public Security Bureau to discuss his concerns. He later succumbed to complications from the SARS-CoV-2 virus.

As the virus spread out of China during the initial phases of the pandemic, neighboring East Asian countries were forced to act swiftly to mitigate the spread of the pandemic. Notably, Taiwan (seven deaths as of late June 2020) quickly closed its borders, halted the export of surgical masks, and the government implemented contract tracing and mobile SIM tracking to identify that those relegated to quarantine were actually following the rules. Health officials in Taiwan held public briefing sessions daily and implemented that businesses screen entrance with temperature monitoring and require customers to use hand sanitizer prior to access.

By the time the virus had reached Europe, there was little time for advanced planning to contain the virus. In the short span from February 21 to March 22, 2020, Italy went from identifying the first case of COVID-19 to complete shutdown of the country. Early on, the Italian officials recognized that they were unable to deliver population-centric care. Emergency declarations were met with skepticism. This was not unique to Italy, as an alarming degree of similar mindset spread through Europe and North America. As the general public and policymakers dabbled in partial policy solutions, the virus spread at alarming rates. Ultimately, the Italian missteps in the early phases of the pandemic helped the rest of the world to understand two major key factors to mitigating viral spread. As quoted by the head of the Italian Protezione Civile, “the virus moves faster than bureaucracy,” underscoring the essence of time. Secondly, the number of resources, both human and economic, required to beat the virus requires a war-like mobilization.

In the United States, the earliest wave of the SARS-CoV-2 pandemic was reported in Washington state, followed shortly after with devastatingly high rates of infection in New York state. On March 10, 2020, New York governor Andrew Cuomo established the nation’s first coronavirus containment zone in New Rochelle, followed 6 days later by a tri-state coalition between New York, New Jersey, and Connecticut that formulated the rules of a shutdown. In the subsequent weeks, cases eventually amassed 370,000 with the official death toll over 23,000 people. Further responses from individual state governors and the federal government have been controversial to date. The pandemic has left policymakers at odds in regard to the responsibility of the public health response, as state governors have adapted individualized plans regarding closing, “lockdown,” and reopening. The federal response included President Donald Trump signing bill H.R. 6074 to support national efforts to combat the virus, as well as The Families First Coronavirus Response Act. The latter bill required private health-care plans to provide coverage for COVID-19 testing and visits, paid sick leave for COVID-19, funding for women, infants, and
children, as well as increased funding for Medicaid. Finally, federal government agencies such as the CDC and the United States Department of Labor have outlined extensive recommendations regarding recommendations for PPE and safe work practices.

Finally, some countries have adopted a more “laissez-faire” approach to containing the SARS-CoV-2 outbreak. Namely, Sweden has opted for minimal restrictions and advocated for personal responsibility. This approach led many to hope that the country would reach herd immunity as quickly as possible. As of May 2020, Sweden’s rate of daily new cases and cumulative deaths per million have outpaced other Scandinavian countries threefold. To date, Swedish hospitals have managed the onslaught of COVID-19 patients. As countries around the world look to reopen and stimulate economic growth during the pandemic, some have looked to Sweden as an exemplary model. The World Health Organization’s (WHO) top experts have pointed to Sweden’s social responsibility model as an ideal model as countries begin to come out of isolation.

Early in the pandemic, the public health message of “flattening the curve” proved effective, leading to the shutdown of public places to ensure that hospitals did not become overwhelmed. During the government shutdown, hospitals planned measures to increase their surge capacity, improve management strategies, and acquire more PPE. However, the indefinite closure of certain industries placed thousands of people in a precarious financial position. Increased economic pressure prompted local and state governments to begin reopening the economy, which expectedly led to an increase in cases. Though several states in the United States placed restrictions on the amount of people allowed in various establishments, these guidelines quickly became impossible to enforce. Furthermore, a substantial number of people are also refusing to wear masks when in public, further exacerbating the current spread of disease. In these situations, HCWs have a responsibility to the general population to advocate for public health measures. Most people are not on the front lines and cannot see the direct impacts of the current pandemic. HCWs should share their knowledge and experiences with others to encourage proper social distancing, hand hygiene, and mask wearing among the general public.

Given these conditions, it is no surprise that a second wave of infections is threatening to overwhelm hospital systems. In some projections, the second wave appears to be positioned to lead to more infections than the first. In Houston, Texas, home of the largest medical center in the world, the cases dramatically increased after reopening businesses, threatening ICU capacity. Interestingly, it appears that this second wave of hospitalizations is made up of a much younger patient population than the initial wave. This suggests that public health messaging likely needs to be improved to reach younger individuals who may feel that the virus is not likely to cause them serious harm. Hospitals and clinicians have made substantive progress in rising to the challenge posed by COVID-19; however, ultimate control of this virus is likely going to require the coordinated efforts of government, public health officials, and health-care systems.
Conclusion

The COVID-19 pandemic has created various challenges for HCWs. As health-care institutions and governments struggled to control the first wave of infections, HCWs were placed in situations where their own health and safety came into conflict with their desire to serve their patients. Many were forced to make personal decisions about whether to continue to work during this pandemic, and those that stayed were faced with significant ethical dilemmas never faced before in their careers. Furthermore, the continuously changing guidelines and the limited PPE availability have placed an extra strain on HCWs in terms of their ability to protect themselves and their families at home. The mental and emotional burdens of being on the front lines of the COVID-19 response will likely need to be continually managed for the duration of the pandemic. While initially overwhelmed, health-care systems have rapidly adapted, from increasing access to PPE to improving planning for patient surges. Overall, as a result of this pandemic, HCWs have seen a shift from their primary roles from being clinicians to also being educators, researchers, and public health advocates.

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