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ABSTRACT

The COVID-19 pandemic has negatively impacted countries around the globe with an escalation of health-related suffering, loss of life, disrupted education, and ongoing economic hardship. The United States economy, educational system, and environment have been strained and will require a renewed focus on public policies to address the environmental impact of the pandemic, advance equity, and leverage technology to benefit all communities. This manuscript summarizes the key issues that require timely policy responses and engagement from nursing. Although the global community is facing similar hardships, this manuscript will focus on the American Academy of Nursing’s Policy Priorities for 2021 to 2022 to provide direction for policy engagement and nursing action to aid in the US recovery.

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Introduction

Throughout 2020, the SARS-CoV-2 virus spread rapidly across the globe, infecting over 449 million people and subsequently leading to 6 million deaths worldwide (Johns Hopkins University [JHU], 2022). COVID-19 has caused a public health and socioeconomic crisis throughout the United States (US). As of March 8, 2022, more than 79 million confirmed infections and over 961,000 deaths have affected the US economy, environment, and education sectors in a profound way (JHU, 2022). Nurses in all settings continue to be at the forefront of COVID-19 prevention, management, emergency response, strategic planning, and workforce sustainability efforts.

COVID-19 has laid bare longstanding disparities that affect the physical, social, and economic health of minoritized communities (Marshall, 2020). The pattern of disproportion and inequity was described by Wen and Sadeghi (2020) as “acute on chronic,” meaning that an acute illness often is worse in those who have longstanding, often untreated medical conditions. Access to care, especially for persons living in health professional shortage areas, workforce issues such as personnel shortages, and the nurse’s role in community health, call for nurse leadership at all levels in the US and across the globe. It is also becoming increasingly clear that consideration of social and environmental determinants of health must drive policy, research, education, and practice. In fact, it is the only way we will meet the United Nations Sustainable Development Goals by 2030 (United Nations, n.d.).
The American Academy of Nursing’s (AAN) Policy Priorities for 2021 to 2022 clearly define the ways in which economic, environmental, and educational sectors must engage to “advance health equity, champion wellness, promote innovation and sustainability and reduce patient, provider and health system burden” (American Academy of Nursing, 2020). The impact of the AAN priorities and the ability to focus the nursing profession’s creativity and energy are tantamount to the global recovery from this pandemic (AAN, 2020). This manuscript arose out of collaboration between the American Academy of Nursing Expert Panel on Global Nursing and Health and the Expert Panel on Environmental and Public Health to summarize the key issues that require timely policy responses and engagement from nursing.

**Economic Impact**

COVID-19 has had a significant impact on the global economy. The pandemic initially reduced global trade flow by more than 25 percent as a consequence of export bans or arbitrary export licenses with a resultant significant impact on trade-dependent developing and emerging economies (Jackson et al., 2020). While the full economic effect will not be known until the pandemic is well behind us, global trading policies are recognized as crucial in diminishing the economic damage caused by COVID-19 (Low, 2020). The disease impact has caused retail, hospitality, entertainment businesses, and major industries to shut their doors, primary health care facilities to be overburdened, and almost 2 billion people to become unemployed worldwide. The United Nations International Labour Organization predicts that 1.6 billion informal economy workers could have their livelihoods impacted further, with a projected loss of nearly 305 million full-time jobs or roughly half of the global workforce (Kretchmer, 2020).

In addition to job loss, this illness’s effects are felt in areas directly related to the economy, specifically in the occupational health arena. There is a connection between global occupational health and safety, subsequent effects of the pandemic, and the economy (Lucchini & London, 2014). Workers in occupations that require direct contact and close physical proximity to clients or other workers such as grocery stores, retail, restaurants, bars, barbers, manicurists, meat packing, public transportation, and health care workers are at higher risk for becoming infected. (Burdorf et al., 2020). While other workers may work from home and reduce their chances of infection, these close proximity workers will have an increased risk.

COVID-19 has also had a great impact on women and minoritized populations. Women’s economic and productive lives have disproportionately been more affected than men because women usually earn and save less, are employed in jobs that are less secure, have little social protection, and are more likely to be the head of the household in single-parent homes (United Nations, 2020). Women are unduly burdened during the COVID-19 pandemic because they have unequal access to economic, health, and social resources and are more likely to be the primary caregivers within the family (Shauntice et al., 2020). Likewise, minoritized populations have been severely impacted by COVID-19. This pandemic has exposed preexisting racial disparities in health care (Aleligne et al., 2021). A disproportionate number of COVID-19 related hospitalizations and deaths have been noted among Black/African Americans, Hispanic/Latinos, and American Indian/Alaska Native communities. (Yehia et al., 2020). Hospitalizations and death among minoritized populations greatly affects the workforce and ultimately the economy. The adequacy of the workforce, childcare availability, internet access, and sick leave policies must be considered when determining the impact of COVID-19 on the economy and workers’ health and safety.

**Workforce**

In early 2020, after seeing the impact of COVID-19 on China and Italy, many countries decided to reduce opportunities for disease spread by closing businesses considered non-essential to prevent further infections and save lives. The global economy’s lockdown caused unemployment at levels unseen in almost 100 years, with the potential for an increase in poverty and widening inequities that will last for generations. The US unemployment rate was 3.9% at the end of 2021 but in mid-year 2020 and early 2021 it was as high as 6.1%, up from 5.3% at year-end 2019. Though the unemployment rate has improved, it is still higher than the pre-pandemic rate of 3.5% in February of 2020, with 4.2 million fewer jobs in October 2021 compared to February 2020 (US Bureau of Labor Statistics, 2021; US Center on Budget and Policy Priorities, 2022). For workers in low paying jobs, the likelihood of job loss was significantly increased during the pandemic, with job loss for low paying jobs fifteen times more than high paying job categories (US Center on Budget and Policy Priorities, 2022). It is estimated that over 30 million Americans temporarily lost their jobs or were furloughed, but many of those workers may be permanently laid off and unable to find suitable full-time employment (OECD, 2020). In the US, unemployed individuals frequently find themselves without health insurance, which limits their access to health care. The Robert Wood Johnson Foundation estimates that up to 10.1 million Americans will no longer have employer-funded health coverage insurance as a direct result of the COVID-19 pandemic. Providing insurance for the recently unemployed is challenging since many will not be able to afford the cost of private premium coverage (Stolberg, 2020). It is anticipated that the US Affordable Care Act can provide coverage for four out of five unemployed individuals if it remains intact and
fully funded. The unemployed and uninsured have experienced this pandemic on multiple levels with increasing food insecurity, inadequate housing, and struggles with childcare caused by school closures. As the pandemic progressed within the US, significant economic hardship continued even into the fall of 2021 with an estimated 20 million US households experiencing food insecurity and being behind on rent or mortgage payments in spite of supports provided through the US Federal Government response via the American Rescue Plan of March 2021 (US Center on Budget and Policy Priorities, 2022). Black/African American and Hispanic/Latino families experienced food insufficiency at rates twice that of white households (US Center on Budget and Policy Priorities, 2022). In addition to economic hardship and food insecurity, increased disease burden from COVID-19 created additional hardships for minoritized communities. Long-standing disparities along racial and ethnic lines have been exposed, with people of color being five times more likely to require hospitalization if they are infected and experiencing disproportionate levels of disease and loss (Hardin & Mason, 2020).

Undocumented immigrants contribute to the US economy by providing work in such areas as agriculture, domestic work, and the service industries (Open Society, 2021). In fact, undocumented immigrants impact the economy by contributing billions of dollars a year in taxes and through their enormous spending power (fwd.us, 2020; King, 2021). Although, they are considered essential workers, undocumented immigrants have been affected by the pandemic and have not been provided any resources readily available to documented immigrants and US citizens. These immigrants have been found to be at increased risk for COVID-19 and its sequela, including lack of access to health care and increased risk for contagion due to crowded working and/or living conditions. Undocumented immigrant workers do not have paid sick leave and may choose to return to work while ill to avoid losing their livelihood (King, 2021).

The US unemployment rate improved as COVID-19 restrictions have eased but US businesses are now struggling to fill job vacancies (Rugaber, 2021). Many businesses are having difficulty finding enough workers to keep up with the economy’s swift rebounding in 2021. The National Federation of Independent Business (2021) reported that 42% of business owners had job openings that went unfilled. These business owners struggled during the pandemic and now cannot increase their business productivity due to lack of human resources. Without necessary employees, businesses have had to limit their hours of operation to get through the pandemic and its after-effects (Fox, 2021). Reasons for the shortage of manpower vary and include potential workers who are unvaccinated, lack of childcare preventing parents from returning to work, and hesitancy to return to a job that has risks for getting infected with COVID-19 (Fox, 2021).

### Essential Worker Designation

The lock downs and partial lock downs of most areas have resulted in the designation of essential workers, identified as crucial to the country’s economy and well-being. These employees are expected to work to fulfill various roles that contribute to the economy. Businesses and employees engaged in sectors of the economy deemed necessary for daily life are predominantly in health care services, energy provision, food service, agriculture, and transportation. The designation of an essential business varies widely but will include: supermarkets/grocers, farms and food manufacturers, restaurants for take-out and delivery, hospitals, health care providers, pharmacies, banks, post offices, law enforcement, gas stations, car repair shops, convenience stores, laundromats, and transportation hubs such as airports and bus stations (Lin, 2020). Essential business employees are expected to report for work rather than shelter at home but may face personal barriers to employment such as fear of contracting COVID-19, lack of childcare availability, or inability to afford childcare or transportation. These barriers have personal as well as community consequences that affect businesses and the broader economy.

Just like there are expectations for essential employees to report to work, the business employers are expected to provide protections for these essential workers by assuring that the working environment is safe for all essential workers. The Occupational Safety and Health Administration’s has established mandatory and recommended safety and health standards that provide guidance to the employers of essential workers during the COVID-19 pandemic. These are intended to assist the employers in providing a safe and healthful workplace free of any hazards that can cause injury or death (United States Department of Labor [USDL], 2021). This guidance directs employers to identify those workers who are most at-risk to take steps to prevent exposure and infection regardless of their vaccination status. The guidance also incorporates CDC’s recommendations regarding fully vaccinated vs. nonvaccinated workers to assist workers in protecting themselves (USDL 2021). The Wage and Hour Division of USDL requires that Federal Laws such as the Fair Labor Standards Act and the Family and Medical Leave Act be followed by employers. These laws protect the workers regarding their wages and hours worked and job-protected leave during the pandemic (USDL, 2021a).

### Availability of Childcare and the Economy

Workers may experience barriers to returning to work due to the unavailability of childcare providers. Childcare centers that provide services to essential workers have been permitted to continue to operate; however, some centers have closed because of fear of contracting the virus. The unavailability of childcare centers is
a significant hindrance to parents who work from home or who must return to work. The issue of lack of childcare availability must be addressed. One study of the impact on nurses during the COVID-19 pandemic found that 70% did not have anyone else in the household who could provide childcare. Since the pandemic restrictions began, 62% reported that annual leave was being used to provide childcare. Some of the nurses wrote that they were sometimes refused childcare because of their work and fear of being a COVID-19 risk (Sheaghdha, 2020). Gender disparities in the workforce exist for all women employed before the pandemic because they are usually the primary childcare provider. It is anticipated that many women, perhaps in the millions, will be compelled to leave the workforce to take care of their children, who may be attending school via remote learning at home. Those companies using technology to address the work environment that allows working from home will stay competitive in the business sector. In contrast, others with more inflexible leave and staffing policies may struggle to remain viable (Sand, 2020). Childcare center employees and childcare center owners have also been impacted economically since financial stability has been reduced or is non-existent.

Sick Leave Policies

Sick leave benefits are the most significant expense for employers, even surpassing the cost of health care benefits (Reinberg, 2020). During the COVID-19 pandemic, the need for persons to quarantine for an extended period when potentially exposed to the infection further stresses the employee’s finances and the company’s bottom line. Sick leave policies may not be in place or provide enough coverage to allow employees to miss work if they are ill or if members of their household get ill. Robust sick leave policies reduce the possibility of employees returning to work too soon because they fear the loss of income if they stay home to care for themselves or others. Workers who lack adequate sick leave are almost twice as likely to return to work while contagious, which would pose a threat to others in the workforce and negatively impact the company’s reputation and financial standing. Additionally, caregivers and parents of young children who do not have adequate paid leave may contribute to the number of children sent back to childcare centers or schools contagious. A study conducted to assess the availability of paid sick leave in 193 United Nations member states demonstrated that there are critical gaps that jeopardize health and economic security. Of the member states included in the study, 27% do not guarantee paid sick leave, and 58% do not have specific provisions for sick leave (Heymann et al., 2020). Employers who urgently assess sick leave policies and caregiver priorities and make changes in the wake of this COVID-19 pandemic are likely to mitigate costs by retaining valuable employees and complying with potential legislation, health, and safety issues (Reinberg, 2020).

The AAN advocates for policies that reduce disparities in the workforce, health care system, and the community at large. AAN's support for paid family leave, increased access to health care for all, and improved public health measures must be reemphasized as we recover from COVID-19 (AAN, 2020).

Educational Impact

When it was clear that the COVID-19 pandemic had the potential to spread ferociously through the population, one of the first efforts to “flatten the curve” was to close schools to in-person instruction. Closures and the subsequent instantaneous pivot to remote learning occurred in educational settings from preschool to higher education. These building closures continued for the remainder of the school year, and then thoughts turned to how schools at all levels might be opened safely for the new school year. These decisions were fraught with controversy, with politicians, government, teachers, families, and students experiencing varying responses to the idea. The pandemic, and therefore potential solutions, looked different depending on the country or part of the country. In the US, the rules and regulations often changed from county to county and town to town.

When considering the effects of and policy solutions to a disruption in normal educational activities, some issues should be contemplated through the lens of the public school system – or pre-kindergarten through grade 12- or expanded to encompass higher education. There are three broad areas within education that need to be examined as factors driving education policy in these circumstances. They are safe access, knowledge acquisition, and social and developmental growth. Each of them is important whether the type of education is preschool or graduate school. The final factor to be considered is the regulatory policies that exist at the time of the crisis and their amenability to adapt or change to meet the crisis.

Safe Access

The first factor is safe access. In the pandemic, access to brick-and-mortar buildings was not impeded, as it might have been in a natural disaster. In this case, the question was based on the spread of the disease and whether the existing spaces could be modified to accommodate students’ and staff safety. Could the students and staff serve as carriers of the disease to the larger population? In a natural disaster, evacuation has been one of the actions; where are the students, and can they be reached to provide learning? Here, students were dispersed to wherever home was; thus, access was a necessity. The Pew Research Center notes that “93% of American adults use the Internet (2022,
based on 2020 data). However, several issues still ensue. For example, in a household with multiple working adults and school-age children, there may not be enough hardware or quiet spaces for all to engage simultaneously. Further, 15% of adults have smartphones but do not use broadband at home (Pew Research Center, 2022). McDonald (2021) contends that even newly developed public technology systems may rely on internet access rather than smartphone platforms, exacerbating the digital divide. Thus, many students may not be well served by on-line classroom encounters. As conversations regarding school reopenings proceeded, some teachers, concerned about others and their safety chose to retire, leave, or be privately hired to teach individuals or small group pods (Smith, 2020). This leaves the school systems not only short of the required number of teachers to teach in socially distanced classrooms and online, but the exodus of experienced teachers may strongly disrupt the mentorship that is so crucial to new practitioners. Safe access remains an issue in higher education, as well. In light of evolving knowledge about the transmission of coronavirus, higher education is utilizing a myriad of strategies to continue safe student access to education. Following guidelines, these include, but are not limited to social distancing and masking while on campus, rearranging dorms to accommodate new public health demands, increased screening and testing of all persons who are on campus, and offering distance education for some if not all educational offerings (CDC, 2020). The latter strategy again raises the aforementioned issues of electronic access and the need to educate learners about cybersecurity at an early age and thereafter (Rahman 2020) to avoid cybersecurity attacks that can further disrupt the educational process. For international scholars in the US, the closing of international borders and uncertain visa status related to US policies on distance education complicated an already stressful pandemic experience. Partial campus closures with limitations and restrictions in the normal support structures for housing, food, and health care services created additional hardship and disruption in the higher education learning milieu (Redden, 2020).

Knowledge Acquisition

The second factor is knowledge acquisition. The evolution in education has brought us to the current emphasis on active learning (Harris & Bacon, 2019; Hwang et al., 2019). Prior to the pandemic, active learning was the primary learning modality for preschool children and a clear emphasis in primary grades. As students moved up the educational ladder, purely cognitive rather than active learning was emphasized. It has long been held in academic circles that the teaching/learning strategies should be chosen to complement both the content to be learned and the students’ preferred learning style. Thus, laboratory and clinical learning are emphasized in professions such as nursing, while other disciplines may have focused on traditional lectures to present the required content. Innovations are gaining ground, such as the flipped classroom where homework becomes more pre-learning rather than practice of what was presented in lecture, and former lecture times become in-depth explorations of complex concepts rather than a litany of content to be learned. Even asynchronous learning modules are being redesigned with strategies such as Universal Design for Learning, a methodology that aims to accommodate various learning styles and needs (Basham et al., 2020). While a bit cumbersome for teachers initially, these innovations can be more easily adapted to crisis situations than traditional classrooms. Within the confines of the response of education to the pandemic, classes are held outdoors, for example, to manage social distancing while presenting exciting opportunities for active learning (Green Schoolyards America, 2020). In professional programs, such as nursing, the use of virtual reality and simulation are emerging as strong prospects for critical thinking in clinical applications, notwithstanding the continuing need for experiences with live patients (Fealy et al., 2019).

The issue of decreased learning due to changes related to COVID-19 also needs to be considered. Azevedo et al. (2020) used modeling to predict learning loss and, therefore, economic losses resulting from school closures during the pandemic. Kohn (2020) posits that "reduced exposure to academic content doesn’t necessarily diminish students’ intellectual development," while Natanson (2020) notes that a school district in Virginia demonstrated increased failures in K-12 courses since moving to online learning. Despite the varying opinions within the discussion, there is continuing and increased emphasis on standardized testing as the primary measure of learning to generalize outcomes. As the population becomes more diverse, it is difficult to design methods that accurately measure learning. However, it is clear that the possible outcomes are inconsistent or not yet known.

Social and Developmental Growth

Social and developmental growth is the third factor to consider. Many curricula are based on simple to complex, understanding that clear comprehension of the former is necessary to understand the latter. The accurate measurement of learning is a topic of some controversy (see the previous discussion on learning vs. testing success); however, there is no doubt that failure to learn to read, for example, can have lifelong social and developmental repercussions. Other social growth areas include social interactions, guidelines for working and playing with others, and empathy development. Some technology-related learning activities for these skills are available (Wu et al., 2020). Results of a Canadian study of adolescents found that stress related to COVID-19 increased loneliness and depressive symptoms, especially in
Combination with the increased use of social media (Ellis, Dumas, & Forbes, 2020). Alterations in milestone events such as social progress through educational programs (e.g., the transfer from kindergarten to grade 1) or in-person graduation celebrations may change how individuals cope with future life events. Planning becomes a myriad of contingencies from which a path forward is chosen based on decisions over which the majority of the population has little control. This continued uncertainty of all facets of education and life has contributed to ongoing and exacerbated levels of anxiety in teachers and learners alike. The final educational and societal outcomes of the pandemic will only be known after the fact when research is completed.

Overlaying each of these factors is the regulatory milieu. Nationally, the Department of Education, through regulations and funding, exerts its influence on education policies. Regionally, accreditation bodies such as the Higher Learning Commission outline policies and regulations that govern educational offerings and activities. Finally, discipline-specific accreditation bodies, such as the Commission on Collegiate Nursing Education, and State Boards of Nursing, outline minimum requirements and standards for excellence. For example, is it the time (days or hours) spent in school attendance or clinical nursing activities that is the guiding framework, or is it the outcomes? Which are the most desired results? It has been suggested that the pandemic crisis will hasten movement towards changing our academic expectations, outcomes, and evaluation methods (Vegas & Winthrop, 2020). Time and research will reveal the ultimate consequences of educational decisions formulated and applied during the pandemic. This era presents an opportunity for reinvention and innovation while mitigating potentially negative results. The pandemic has clearly demonstrated the centrality of education in achieving safe and healthy lives.

Environmental Impact

The health of the environment and human health are deeply interconnected. For example, human activities have contributed to degradation of the environment, posing threats to Earth’s natural systems. Loss of biodiversity, altered land use, deforestation, and migration of humans into previously wild habitat have precipitated the rise of zoonotic diseases and have contributed to the COVID-19 pandemic (Myers & Frumkin, 2020). Increased human population, patterns of human migration, climate change, increases in single-use products, development of antimicrobial resistance, altered nutritional value of major crops, and pollution of air, water, and soil are also factoring that impact human health and resiliency to emerging infectious diseases (Lancet Editors, 2020). Conversely, we have also seen that an emphasis on working from home, shutting down many businesses, and tourism has reduced air pollution and slightly decreased greenhouse gasses if only for a time. These unanticipated consequences of the pandemic have demonstrated the impact that even a temporary change can make in allowing the natural environment to have a reprieve from the burdens of our current consumerism and growth paradigms. AAN policy priorities (AAN, 2020) related to climate change, migrant health and safety, and optimizing technology to benefit communities’ health and wellness provide an essential lens through which to view the health impacts of disruption of the planet’s natural systems and COVID-19 and other emerging infectious diseases.

Migration

The prevalence of international travel has been implicated as a component to the further worldwide spread of COVID-19. Especially important is the return of citizens to their home nation from identified Covid-19 hotspots. In considering the impact of migration on the pandemic, one must also consider the plight of international migrant workers. Approximately 150 million global international migrant workers, of whom 95% live in five WHO regions affected by COVID-19 (Liem et al., 2020), can face severe systemic barriers such as a lack of health insurance to access treatment during global pandemics when they are unable to return to their home countries. They may also experience crowded living conditions and may not have access to adequate hygiene and sanitation, making them much more vulnerable to the virus (Kluge et al., 2020; Koh, 2020). Critical components to global migration are the dual drivers of food insecurity and conflict, often caused by economic instability (Fleetwood, 2020; Huizar et al., 2020; Mesa Vieira et al., 2020; Torero, 2020). Currently, related to supply chain issues, farmers worldwide are experiencing difficulties getting their products to markets and consumers. The dumping of milk and euthanasia of livestock in America’s heartland with concurrent shortages of meat and eggs for consumers nationwide illustrate the need to reconnect the producers with the consumers of food and necessities to avert a greater economic and humanitarian crisis (Hayes et al., 2020; He et al., 2020; Torero, 2020). As the pandemic recedes and economies attempt to reset and move forward, focus will need to be paid to the connection of technology and innovation to facilitate the resurgence of the supply chain and prevention of subsequent waves of the coronavirus.

Technology

The novel coronavirus has had an uneven impact on health in the technological age. On the one hand, the COVID-19 pandemic has opened up a new world
of telemedicine, remote patient monitoring, and virtual office visits. Using technology such as computers, tablets, advanced robotics, and cell phones can support health care practitioners and patients through virtual visits and health counseling. Telemedicine connects the convenience of low cost, accessibility of health-related information, and communication using the Internet, but is limited in its scope related to the distribution of technology resources.

Utilizing technology to track and predict population movement and disease clusters has been a useful tool during the current pandemic. A cohort study of county-level cell phone data across the US revealed that decreased cell phone activity in workplace and retail locations was associated with lower rates of growth in COVID-19 cases in the specified geographic area, which may provide a methodology to anticipate future trends (Sehra et al., 2020). The use of cell phone data to speed contact tracing has been suggested as another option to slow this contagion by allowing for identification and isolation of potentially exposed individuals (Ferretti et al., 2020; He et al., 2020). Privacy concerns and data security issues will need to be considered in the utilization of this progressing technology so that the balance of public health and personal privacy can be achieved.

Social distancing measures are one of the most important strategies in preventing the spread of COVID-19. Videoconferencing and distance learning have provided a window into the outside world, even while staying more than 6 feet apart, and have demonstrated that perhaps some working-from-home options may be sustainable. Delivery services, in-home grocery shopping, and pharmacy services are all facilitated through increasingly more efficient use of technology. Through the use of innovative technology, the recovery phase post-pandemic will be accelerated by increased supply chain management and coordination of vaccines and health care delivery (He et al., 2020). However, an important caveat is that although technology can be a great driver in the road to recovery, the availability of technology and internet-related supports may be limited. Even in areas where smartphone ownership and usage are high, internet access may be sparse, expensive, or of poor quality.

Technology has also provided a view of what the world looks like during a pandemic. Satellite imaging, aerial photography, and scientific instruments have provided a glimpse into the impact of reduced carbon emissions and fewer tourists on fragile ecosystems and major cities alike (Xu et al., 2020; Zangari et al., 2020). The reduction in commuters, decreased number of cars on the road, diminished manufacturing, and decreased air travel have resulted in some unintended positive consequences such as reducing air, water, and manufacturing pollutants (Aydn et al., 2020; Bashir et al., 2020; Espejo et al., 2020; Le et al., 2020; Liu et al., 2020; Xu et al., 2020; Zangari et al., 2020)

**Single-Use Plastic and Disinfection**

Increased utilization of single-use plastic (SUP) products, personal protective equipment, and plastic shopping bags during COVID-19 are having a deleterious effect on the efforts to reduce the use of plastic containing products (Silva et al., 2020). Because of the extreme contagion of SARS-CoV-2, all medical waste in many municipalities is being considered a biohazard requiring incineration and subsequent landfill of the residue, leading to additional environmental insult. Many municipalities that had instituted policies against or fees for SUP usage rolled back those regulations in light of the COVID-19 outbreak. For example, New York halted its proposed ban on plastic bags, California and Oregon suspended their ban, and seven other states postponed their ban on SUPs (Parashar & Hait, 2021).

The need for additional disinfection during the pandemic via chemical agents is being emphasized in homes, businesses, and public transit. Although many of these chemicals meet Environmental Protection Agency standards, they have also been found to negatively impact health for susceptible individuals and increase environmental damage to fragile ecosystems when they contact water or soil (Silva et al., 2020). As we recover from COVID-19, it will be necessary to reevaluate the long-term scenario for our decisions and how to best mitigate the damage left behind.

AAN Priorities emphasizing responsible climate policies and reducing environmental toxins must be reengaged following the pandemic (AAN, 2020). Through the utilization of innovative technology, the sharing of health care information, and telehealth services access to health care can be improved. By urgently addressing structural racism and longstanding disparities in the social determinants of health, the AAN commitment to improving health for all can be a powerful driver of change. AAN’s particular focus on populations at risk mandates that the fragility of the migrant workforce and the consequence of the pandemic on their health and financial stability must be compassionately and effectively addressed to avoid further humanitarian crises (AAN, 2020).

**Discussion**

It is apparent that the COVID-19 pandemic had a significant impact on the US that will require an increased emphasis by policy makers and health care organizations to address the disparities and issues identified. AAN policy priorities (AAN, 2020) related to climate change, migrant health and safety, and optimizing technology to benefit communities’ health and wellness provide an essential lens through which to view the health impacts of disruption of the planet’s natural systems during COVID-19. Several actions that align with the AAN Policy Priorities must be taken to
address the pandemic’s impact on education, the environment, and the economy. As we reflect on lessons learned from this pandemic, a focus on the AAN Policy Priorities to Advance Health Equity, Promote Innovation and Sustainability, and to Reduce Patient, Provider and System Burden may benefit from increased reliance on new technologies, a recommitment to sustainable environmental policies, and a reimagining of health care policies.

Recommendation #1: Leverage technology to impact and improve health care access and remote work solutions (AAN Policy Priorities to Advance Health Equity, Promote Innovation and Sustainability, and to Reduce Patient, Provider and System Burden.) Throughout the pandemic, we witnessed a movement to increased use of technology to provide health care and educational opportunities to persons unable to have in person interactions. We have learned through those experiences that the use of technology can increase access to care and expand the reach of providers geographically. This improvement of geographic reach could be utilized to reduce the regions designated as health care provider shortage areas and improve access to care for minoritized and marginalized communities. Additionally, where language barriers impact access to care, technology can provide a culturally competent health care provider to communities where English is not the primary language. While this will require some reimagining of how we provide care, this is an area worthy of exploration.

Technology can also be leveraged to improve access to remote educational opportunities and employment to provide a healthier environment for all students and employees during times of crisis. While schools and businesses were forced to quickly change to a distance footing during the height of the pandemic, a reflective review of the processes and modalities that were effective vs. evaluation of what was not helpful is necessary. Broader use of effective technologies would allow persons to remain home when ill rather than return to work or school and risk infecting others. Additionally, federal attention to increase access to broadband internet for all is imperative.

Through the use of technology, adjustments to the work week and work from home options to decrease environmental impact should be considered. As we witnessed during the pandemic, the environmental impact of reduced carbon emissions can be realized. Collaboration between policy makers and business with creativity in formation of the solutions could have a dramatic impact on work-life balance and environmental impact.

Recommendation #2: Improve policies to expand health care for all (AAN Policy Priority to Advance Health Equity). The pandemic illuminated the disparities within our health care system and focused our society on the realization that communities of color bear a disproportionate burden of disease for COVID-19 and other comorbidities. Actions to begin to address these intolerable inequalities include health care legislation that will provide affordable health care for all, mandated sick leave policies in all places of employment, and governmental provisions or subsidies to address child care unavailability for working parents. There also needs to be extensive reinvestment in public health infrastructure and adequate protection of benefits for those who have recovered from COVID-19 but may still suffer long term health impacts.

Racial, ethnic, and other socioeconomic disparities must be addressed. Nurses must address the social determinants of health at individual, national, and international levels across domains of clinical practice, education, research, advocacy, leadership development, and through strategic multisectoral partnerships that drive health equity (Rosa et al., 2021a). As many low- and middle-income countries continue to suffer the devastating impacts of COVID-19, a global commitment to social justice and health equity is a moral imperative for the nursing workforce.

Recommendation #3: Commit to sustainable environmental policies (AAN Policy Priority to Promote Innovation and Sustainability). The agreements of the Paris Climate Accord need to be upheld and exceeded. Strict environmental regulations need to be implemented after COVID-19 to foster the recovery of vulnerable watersheds, protect air quality, and restore forests and other natural resources. A renewed focus on adherence to Environmental Protection Agency standards for chemical use in home and public spaces and recommitment to policies directed at the reduction of single use plastics must be reengaged. A healthy environment is humanity’s first line of defense against emerging diseases. Nurses must recognize their role in advancing environmental health in alignment with the major global health agenda items of our times, such as the United Nations (UN) Sustainable Development Goals (Rosa et al., 2019; Rosa et al., 2021b).

Recommendation #4: Concentration on public policies focused on equity (AAN Policy Priority to Advance Health Equity). Public policies change as new knowledge is uncovered. Early in the disease process, scientists determined that droplets spread the virus; with more research, we learned that aerosol particles cause even greater spread and masks and social distancing became part of official policies. Issues of testing, isolation, and quarantine have become more important with evolving knowledge. Complex ethical questions address the distribution of resources. Controversial policies about reopening the economy present a real-life conundrum: separation (at work, school, home) vs. integration (speed and breadth of restart). Additionally, the way in which issues of equity, minoritized communities, immigration, and health care intersect must be addressed in a consistent policy focus in order to finally address structural racism and its relationship to the disproportionality of disease distribution within the US.

The voice of nursing is a critical component to any policy discussion that focuses on health care and the reduction of disparities within our health care systems and organizations. Through the AAN Policy Priorities,
the Academy has provided a clear path forward to improve the health and wellbeing of all communities and populations. Consistent, passionate, and committed nursing leadership is critical in assuring resources, education, and policies are fairly discussed and distributed as we move towards the restructuring brought on by the COVID-19 pandemic.

Author Contributions

Karen S. Moore: Conceptualization, Writing Original draft, review and editing, Supervision; Carolina G. Huerta: Conceptualization, Writing Original draft, review and editing; Lynnette Leeseburg Stamler: Conceptualization, Writing Original draft, review and editing; Jeri A. Milstead: Conceptualization, Writing Original draft, review and editing; Constance Visovsky: Conceptualization, Writing Original draft, review and editing; Teddie M. Potter: Writing - Original draft, review and editing

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